

PROPONENT'S ENVIRONMENTAL ASSESSMENT SUPPLEMENT

for the

Vine 69/12 kV Substation Project



February 2015

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CHAPTER 1 – PEA SUPPLEMENT SUMMARY

As part of the application for a Permit to Construct the proposed Vine 69/12 Kilovolt (kV) Substation Project (Proposed Project), San Diego Gas & Electric Company (SDG&E) filed a Proponent’s Environmental Assessment (PEA) with the California Public Utilities Commission (CPUC) on May 27, 2014. This PEA Supplement has been prepared to inform the CPUC of refinements that must be made to the original distribution design for the Proposed Project. Specifically, Kettner Boulevard, between West Palm Street and West Laurel Street is too congested with existing underground facilities to accommodate the proposed 12 kV duct banks. The original design also required the use of existing conduit within West Laurel Street. Upon further review of this location, SDG&E has discovered that there is no spare conduit for use by the Proposed Project within West Laurel Street. During the redesign process, SDG&E has elected to split the relocated 12 kV distribution circuits geographically, utilizing additional routes when compared to the original PEA. These additional routes reduce the potential of a catastrophic failure of multiple circuits which feed critical loads in downtown and the surrounding areas. These routes will also provide spare conduit for future system expansion and minimize the required trenching along West Laurel Street and Kettner Boulevard.

As a result of this redesign, four of the distribution circuits originally proposed within existing conduit within West Laurel Street are now proposed in a combination of existing and new conduit within Vine, India, Sassafras, West Redwood, Columbia, West Laurel, and State Streets. The remaining circuits will require the use of existing and proposed conduit within Kettner Boulevard, West Palm Street, and Pacific Highway. This PEA Supplement also documents the potential environmental impacts from these design changes.

1.0 PROJECT COMPONENTS

The Proposed Project will continue to include the construction of the proposed Vine Substation, the looping in of an existing 69 kV power line to the proposed Vine Substation, and the extension of an existing telecommunication system. The Proposed Project will also involve the relocation of nine 12 kV distribution circuits into the proposed Vine Substation.

1.1 PROJECT LOCATION

The Proposed Project site is located within the City of San Diego, California. The proposed Vine Substation, which is the primary component of the Proposed Project, is situated approximately two miles northwest of downtown San Diego, and directly adjacent to and east of the San Diego International Airport (also known as Lindbergh Field). The location of the Proposed Project is depicted in Figure 2-1: Project Location Map in Chapter 2 – Project Description. The four Proposed Project components are depicted in Figure 2-2: Project Overview Map and described in more detail in Chapter 2 – Project Description.

1.2 PROJECT NEED AND ALTERNATIVES

As described further in Chapter 2 – Project Purpose and Need of the original PEA, the Proposed Project is being proposed to meet the following four objectives:

- Objective 1: Maintain existing substation and distribution system reliability standards.
- Objective 2: Provide substation and circuit tie capacity that will provide additional reliability for existing and future system needs.
- Objective 3: Meet the area’s long-term electric distribution capacity needs by constructing a substation near planned load growth.
- Objective 4: Utilize existing SDG&E-owned land previously purchased for substation use to meet the scheduled in-service date.

Various substation site alternatives and existing system alternatives were considered during the development of the Proposed Project. The Proposed Project was ultimately selected because it best meets all of the Proposed Project objectives and is the most cost effective when compared to all alternatives.

1.3 AGENCY COORDINATION

As described in the original PEA, SDG&E had discussed the Proposed Project with the City of San Diego Development Services Office, San Diego Planning Groups, San Diego City Public Utilities Department, and the San Diego City Council. The San Diego Metropolitan Transit System and Native American Heritage Commission were also contacted. Since the original PEA was filed, SDG&E has continued coordinating with the City of San Diego through a meet and confer meeting to discuss the revised 12 kV distribution routes. SDG&E has also discussed the Proposed Project with the San Diego Association of Governments, California High Speed Rail Authority, and United States Fish and Wildlife Service.

1.4 PEA SUPPLEMENT CONTENTS

This PEA Supplement was prepared in accordance with the PEA Checklist issued by the CPUC on November 24, 2008, and is divided into the following four sections:

- Chapter 1 – PEA Supplement Summary discusses the contents and conclusions of the PEA Supplement and describes SDG&E’s ongoing and past coordination efforts.
- Chapter 2 – Project Description provides a detailed description of the Proposed Project. This discussion includes specifics regarding the following:
 - The Proposed Project location
 - The existing system
 - Proposed Project components
 - Permanent and temporary land/right-of-way requirements
 - Construction methods
 - The construction schedule
 - Federal and local permits that will be obtained for the Proposed Project

- A summary of the new and/or revised applicant-proposed measures (APMs) that will be implemented as part of the Proposed Project in order to reduce impacts from the modified 12 kV distribution relocation design
- Chapter 3 – Environmental Impact Assessment Summary includes an environmental impact assessment summary and a discussion of any changes to the existing conditions and the potential and anticipated impacts resulting from the revised 12 kV distribution routes for each of the following resource areas:
 - Aesthetics
 - Agriculture and Forestry Resources
 - Air Quality
 - Biological Resources
 - Cultural Resources
 - Geology and Soils
 - Greenhouse Gas (GHG) Emissions
 - Hazards and Hazardous Materials
 - Hydrology and Water Quality
 - Land Use and Planning
 - Mineral Resources
 - Noise
 - Population and Housing
 - Public Services
 - Recreation
 - Transportation and Traffic
 - Utilities and Service Systems

As in the original PEA, the required updates to the existing conditions, impacts, and APMs for each resource area in Chapter 3 – Environmental Impact Assessment Summary have been combined. This chapter also includes Section 3.18 Cumulative Analysis, which discusses past, present, and reasonably foreseeable future projects within the updated Proposed Project area, as well as the Proposed Project’s potential to contribute to a significant cumulative effect with the inclusion of the 12 kV distribution relocation modifications.

- Chapter 4 – Detailed Discussion of Significant Impacts identifies that there are no potentially significant impacts that will result from the Proposed Project with the revised 12 kV distribution routes and discusses the Proposed Project’s potential to induce growth in the area.

1.5 PEA SUPPLEMENT CONCLUSIONS

The PEA Supplement analyzes the potential environmental impacts associated with construction, operation, and maintenance of the modified 12 kV distribution relocation design. The following 15 resource areas will not be impacted by the Proposed Project or will experience less-than-significant impacts:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Geology and Soils
- GHG Emissions
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

The Proposed Project will result in new potentially significant impacts, which were not addressed in the original PEA, to the two remaining resource areas. These impacts will be reduced to a less-than-significant level with the implementation of the APMs and ordinary construction restrictions that were identified in the original PEA or modifications to these APMs to address these new impacts. These impacts are summarized as follows:

- Cultural Resources – Potential for discovery and damage to a historic trolley line and sewer pipe from excavation activities
- Noise – Temporary impacts associated with noise from the operation of heavy construction equipment within residential areas along the modified 12 kV distribution relocation routes

1.6 ISSUES TO BE RESOLVED

Since the filing of the original PEA, there are no new existing issues that require resolution.

CHAPTER 2 – PROJECT DESCRIPTION

San Diego Gas & Electric Company (SDG&E) filed a Proponent’s Environmental Assessment (PEA) as part of its application for a Permit to Construct the proposed Vine 69/12 Kilovolt (kV) Substation Project (Proposed Project) with the California Public Utilities Commission on May 27, 2014. As described in Chapter 1 – PEA Supplement Summary, SDG&E has identified the need for refinements to the original distribution design for the Proposed Project. Due to the congestion within Kettner Boulevard, between West Palm Street and West Laurel Street, and the lack of existing conduit within West Laurel Street, the Proposed Project required a redesign. During the redesign process, SDG&E elected to split the relocated 12 kV distribution circuits geographically, to reduce the potential of a catastrophic failure of multiple circuits which feed critical loads in downtown and the surrounding areas. These routes will also provide spare conduit for future system expansion and minimize the required trenching along West Laurel Street and Kettner Boulevard.

As a result of this redesign, four of the distribution circuits originally proposed within existing conduit within West Laurel Street are now proposed in a combination of existing and new conduit within Vine, India, Sassafras, West Redwood, Columbia, West Laurel, and State Streets. The remaining circuits will require the use of existing and proposed conduit within Kettner Boulevard, West Palm Street, and Pacific Highway. SDG&E has prepared this PEA Supplement to document the refinements and to evaluate their potential environmental impacts.

2.0 PROJECT LOCATION

As described in the original PEA, the Proposed Project is located in the southwestern portion of the City of San Diego, California. Specifically, the Proposed Project is approximately two miles northwest of downtown San Diego and directly adjacent to and east of the San Diego International Airport (also known as Lindberg Field). The main activity associated with the Proposed Project involves the construction of the proposed Vine Substation, which will be located at 3548 Kettner Boulevard—at the corner of Vine Street and Kettner Boulevard. The Proposed Project will also involve the relocation of distribution circuits, loop-in of an existing 69 kV power line, and the upgrade of an existing telecommunication system.

The Proposed Project is divided into the following four major components:

1. Construction of the proposed Vine Substation
2. Installation/relocation of distribution circuits
3. Construction of a 69 kV loop-in
4. Upgrade of an existing telecommunication system

The location of the Proposed Project is depicted in Figure 2-1: Project Location Map, and the four Proposed Project components are depicted in Figure 2-2: Project Overview Map.

For the purposes of this document, the discussion of the Proposed Project will focus on the changes to the 12 kV distribution relocation. As discussed in the original PEA, a telecommunication cable will still be installed between the proposed Vine Substation and the existing Kettner Substation. This cable will be installed within new conduits collocated in the

new 12 kV duct banks within Kettner Boulevard. Because the 12 kV distribution duct bank and vault locations have been updated as the design process has advanced, the locations of these telecommunication facilities within Kettner Boulevard have also been revised, as appropriate. All work between the proposed Vine Substation and the Kettner Substation will continue to be conducted within Kettner Boulevard. The refinements also include the placement of telecommunication conduit within the proposed new 12 kV duct bank within West Palm Street. Because this conduit will be installed within or directly adjacent to the 12 kV duct banks, the impacts associated with this telecommunications conduit will be addressed by the 12 kV analysis and it will not be discussed further. In addition, the proposed Vine Substation and 69 kV loop-in designs will not change. As a result, these components will also not be discussed further.

2.0.0 12 kV Distribution Relocation

As described in the original PEA and indicated in Table 2-1: Distribution Relocation Summary, approximately nine existing distribution circuits will be intercepted and relocated to the proposed Vine Substation. As part of the relocation process, some of the circuits will be renumbered.¹

Table 2-1: Distribution Relocation Summary

Existing Distribution Circuit Number	Approximate Interception Point ²	Proposed Distribution Circuit Number
135	Kettner Boulevard and Sassafras Street	135
138	State Street and Maple Street	138
139	Sassafras Street and India Street	1479
	West Laurel Street and State Street	139
367	Adjacent to the Kettner Substation	367
457	West Laurel Street and Pacific Highway	457
458	Adjacent to the proposed Vine Substation	458
108	Kettner Boulevard and Ivy Street	1481A
	Pacific Highway and West Hawthorn Street	1481B
113	Reynard Way and West Maple Street	1482
102	Kettner Boulevard and West Hawthorn Street	1483

¹ C139 will be split into C1479 and C139 and the final configuration will include 10 circuit numbers.

² The final interception points and duct bank design will be determined upon final engineering of the Proposed Project and are subject to change.

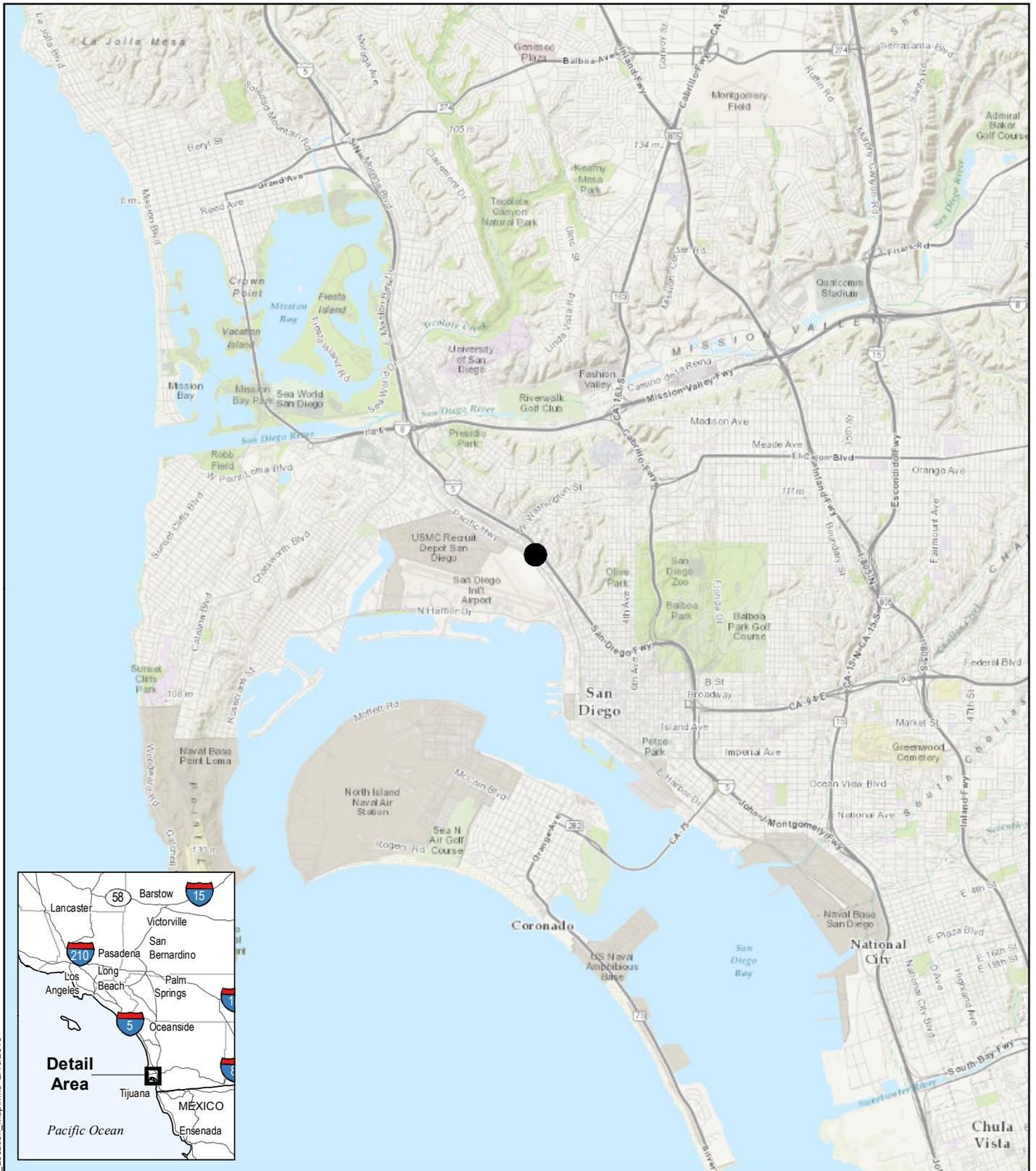
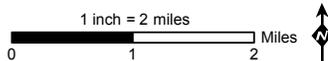


Figure 2-1: Project Location Map

Vine 69/12 kV Substation Project

● Project Location



The relocated distribution circuits will generally travel within public rights-of-way (ROW) along the following streets:

- Kettner Boulevard between Vine Street and West Hawthorn Street;
- Vine Street between California Street and India Street;
- India Street between Vine Street and West Redwood Street;
- West Redwood Street between India Street and Columbia Street;
- Columbia Street between West Redwood Street and State Street;
- West Laurel Street between Kettner Boulevard and State Street; and
- State Street between West Laurel Street and Maple Street.

As described in the original PEA, existing uses along the relocated circuits within Kettner Boulevard include Interstate (I-) 5 to the east and rental car facilities, offices, and airport parking lots to the west. Along India Street, existing uses include a gas station, a rental car facility, residential uses, and a mix of commercial and industrial uses. Existing uses along West Redwood Street and Columbia Street are predominately residential, with I-5 to the west. Along West Laurel Street, uses consist of offices, parking lots, and residences. Along State Street, existing uses include offices and residences. The relocation process will utilize a combination of existing and new underground distribution conduit, as depicted in Figure 2-2: Project Overview Map and in Attachment 2-A: Detailed Project Components Map. A comparison between the Proposed Project as presented in the original PEA and the revised design has been included as Figure 2-3: 12 kV Distribution Route Design Comparison Map.

The distribution circuits will primarily be relocated and/or newly installed entirely within the franchise position of City of San Diego public streets, and no additional ROW will be acquired in these locations. The distribution route will cross the Metropolitan Transit System (MTS) railroad at West Palm Street, which will require a Right-of-Entry Permit. A total of approximately 9,720 feet of new duct bank will be installed during the relocation. Up to an additional 500 feet of new duct bank will be installed to facilitate the connection of these new duct banks with existing underground conduit and aboveground facilities.

In addition to the new underground duct banks, approximately 10,000 feet of existing duct bank will be utilized during the relocation.³ These existing facilities are located within the following roadways:

- Pacific Highway, between West Palm Street and West Laurel Street;
- Pacific Highway, between West Laurel Street and West Hawthorn Street;
- Kettner Boulevard, between West Palm Street and West Hawthorn Street;
- West Laurel Street, between Kettner Boulevard and State Street; and
- State Street, between West Laurel Street and West Maple Street.

³ Existing cable will be utilized within the duct banks along West Laurel Street, between Kettner Boulevard and State Street. In the remaining locations, new cable will be installed into existing, empty duct banks.

2.1 EXISTING SYSTEM

Figure 2-4: Existing System Configuration and Figure 2-5: Proposed System Configuration provide schematic diagrams of the existing system and the revised system as it will be configured with the updated 12 kV distribution design, respectively. As shown in Figure 2-4: Existing System Configuration, one existing tie-line (TL)—TL604—connects the Kettner Substation to the Old Town Substation. Six existing distribution lines—Circuit (C) 135, C138, C139, C367, C457 and C458—currently connect to the Kettner Substation. The remaining three distribution lines that will be relocated—C108, C113, and C102—originate at the Station B Substation. As shown in Figure 2-5: Proposed System Configuration, TL604 will be looped into the proposed Vine Substation from the Old Town Substation, and a new tie-line—TL6976—will be created, connecting the proposed Vine Substation to the Kettner Substation. In addition, all nine of the distribution circuits will be relocated from either the Kettner Substation or the Station B Substation to the proposed Vine Substation, creating C1479 and C1481 through C1483.

2.2 PROJECT OBJECTIVES

Section 3.2 Project Objectives of the original PEA describes the objectives of the Proposed Project identified by SDG&E. The 12 kV distribution design changes do not affect the objectives of the Proposed Project. Chapter 2 – Project Purpose and Need of the original PEA provides additional details regarding the Proposed Project’s objectives.

2.3 PROJECT CAPACITY

The updated 12 kV distribution design will not change the Proposed Project’s capacity, as described in the original PEA.

2.4 PROPOSED PROJECT

2.4.0 12 kV Distribution Relocation

Underground Duct Bank

As described previously, approximately 10,220 feet of new underground duct banks will be installed to facilitate the relocation of the distribution circuits from existing substations to the proposed Vine Substation. Each underground duct bank will be comprised of eight five-inch-diameter polyvinyl chloride (PVC) conduits encased in concrete. In locations where telecommunications cable will be collocated with the distribution cables, an additional pair of four-inch diameter PVC conduits will also be placed in the duct bank. The finished duct bank will be approximately 32 inches tall and 18 inches wide. A typical drawing of the proposed underground duct bank was included in the original PEA as Figure 3-8: Typical 12 kV Underground Duck Bank. In addition to the underground duct banks, approximately 16 new underground vaults will be installed to facilitate pulling and splicing during installation and inspection, maintenance, and repair during operation. The original PEA described the use of one type of precast concrete vaults—Type 3327—for use throughout the Proposed Project area. The revised design will utilize three sizes of vaults as summarized in Table 2-2: Vault Dimensions.

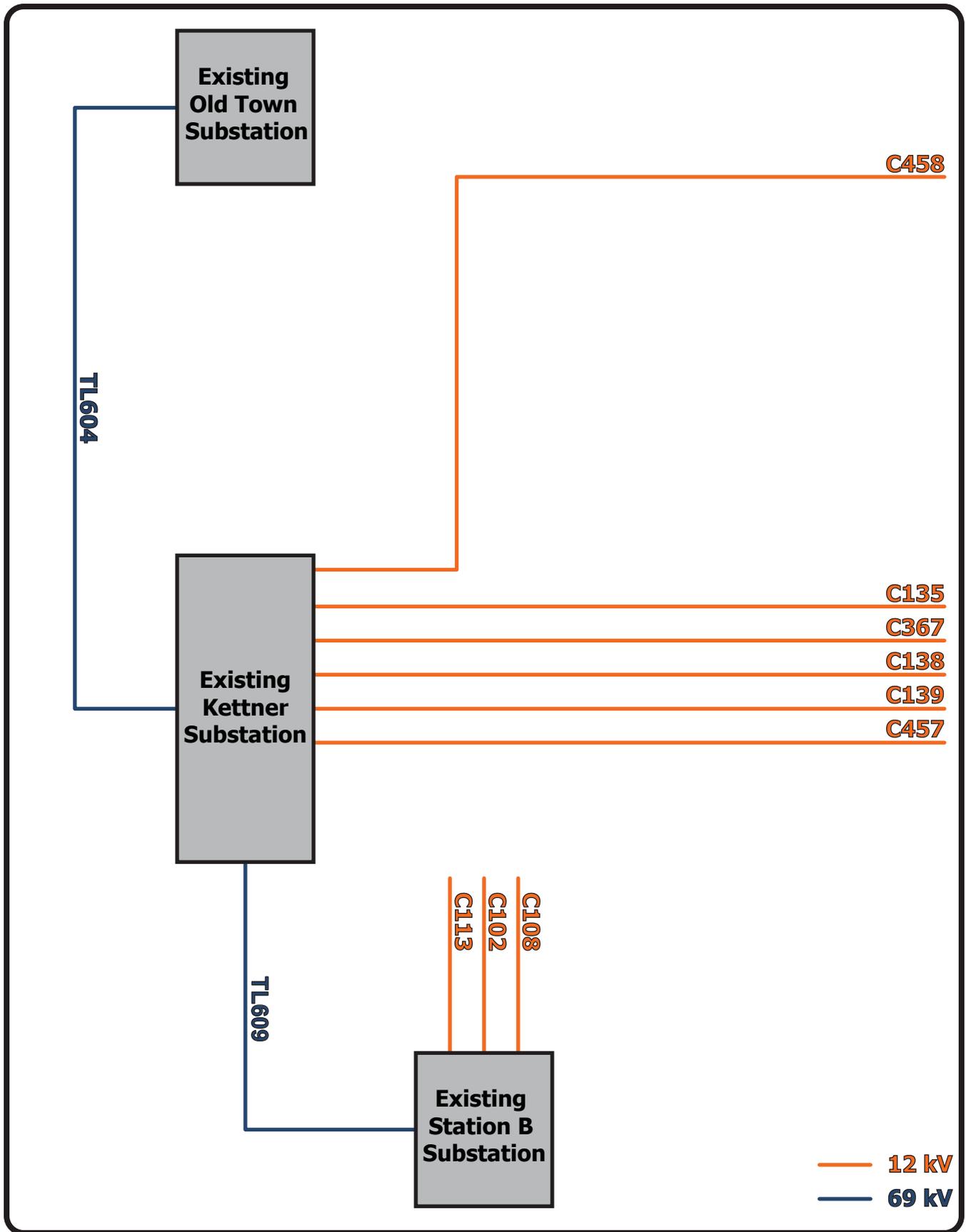


Figure 2-4: Existing System Configuration

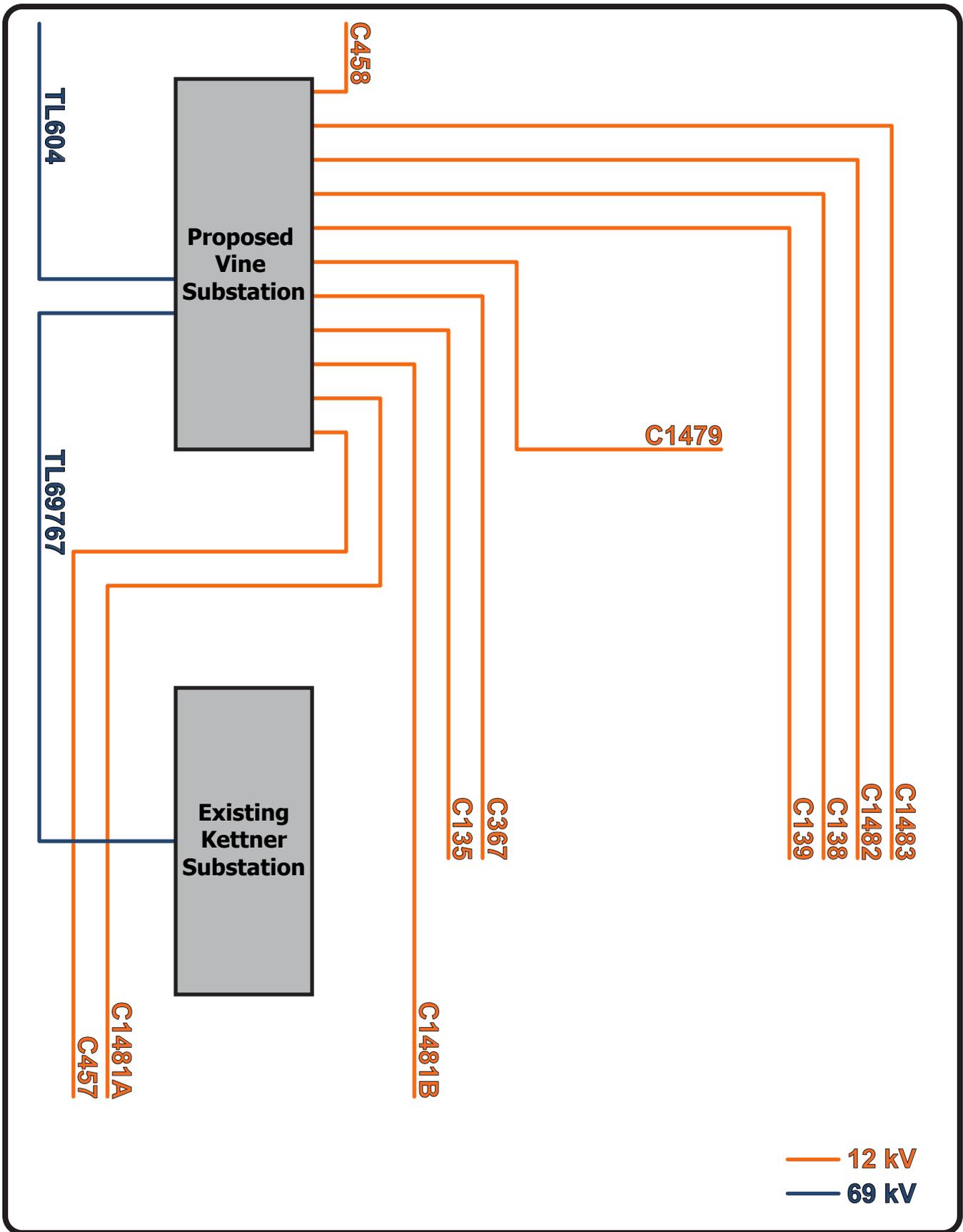


Figure 2-5: Proposed System Configuration

Table 2-2: Vault Dimensions

Vault Type	Approximate Quantity	Dimensions (feet)			Approximate Excavation Dimensions (feet)		
		Length	Width	Depth	Length	Width	Depth
3325	10	15	9	10.5	17	10	13.7
3326	4	21	9	10.5	23	10	13.7
3327	2	26	12	10	28	14	12.6

A typical drawing of the proposed 12 kV underground vaults was included in the original PEA as Figure 3-9: Typical 12 kV Underground Vault. The proposed locations of these facilities are depicted in Attachment 2-A: Detailed Project Components Map.

Distribution Switches and Capacitors

Approximately eight aboveground distribution switches and one aboveground capacitor will be installed along the underground duct bank routes to facilitate the relocation of the distribution circuits. The original PEA provides additional information on the distribution switches and capacitors.

Underground Cable

As described in the original PEA, underground distribution circuits will continue to utilize 1,000 kcmil aluminum cross-linked polyethylene insulation (XLPE) cables.⁴ The distribution getaways—located between the proposed Vine Substation and the two adjacent underground vaults located in Kettner Boulevard—will contain 1,000 kcmil copper XLPE cables.

2.5 RIGHT-OF-WAY REQUIREMENTS

Because the new and relocated 12 kV distribution circuits and underground portions of the telecommunication system extension will be placed primarily within City of San Diego public streets, they will occupy the franchise position and no new ROW will be obtained in these locations, with the exception of new ROW needed for above ground equipment (i.e., pad mounted switches and capacitor bank). The revised distribution design will require new duct banks to be installed under the MTS railroad within West Palm Street, which will require a Right-of-Entry Permit from the MTS.

⁴ kcmil is a quantity of measure for the size of a conductor; kcmil wire size is the equivalent cross-sectional area in thousands of circular mils (cmils). A cmil is the area of a circle with a 0.001-inch diameter.

2.6 CONSTRUCTION

This section describes the required access, anticipated temporary workspace requirements, and methods that will be employed to construct the 12 kV distribution relocation.

2.6.0 Staging Areas

As described in the original PEA, the majority of construction equipment, vehicles, personnel, and material staging areas will be accommodated within the property lines of the proposed substation property and within the work areas described in Section 2.6.1 Work Areas. Equipment staging will also be conducted at existing SDG&E facilities. Because each of these staging areas is currently used by SDG&E for other projects, no additional improvements at these sites will be required prior to construction. Additional existing SDG&E facilities or disturbed areas may be identified for use following the completion of final engineering. Temporary parking of some vehicles along Vine Street may be required depending on the construction activities occurring at the proposed Vine Substation.

2.6.1 Work Areas

In addition to the staging areas discussed in the previous section, temporary workspace will be required for the installation of new duct banks and vaults. These anticipated workspace requirements are described in detail in the following subsections, and they are summarized in Table 2-3: Temporary Workspace Requirements and depicted in Attachment 2-A: Detailed Project Components Map. The underground trench work area will be approximately 30 feet wide and will be generally centered on the distribution circuit alignments. The underground trench work area will be adjusted to comply with traffic control permits to maintain traffic flow through construction areas as necessary. In locations where vaults will need to be installed, additional workspace will be established and will measure approximately 60 feet by 40 feet centered on the vault location. All trenching and vault work areas will be located within City of San Diego streets and public areas. These work areas will also support all cable installation activities, as well as the associated construction equipment to perform the work. Site preparation for the underground trench work area and vault installation work areas will involve a survey mark-out with offsets of the proposed trench alignment, as well as setting up traffic controls prior to construction. Additional temporary workspaces measuring approximately 50 feet by 30 feet will be established to facilitate the installation of switches and capacitor.

As described in Section 2.6.3 Methods, a portion of the new underground duct bank will be installed using the jack-and-bore method of construction. In order to excavate the required entry and receiving pits, and to operate the associated construction equipment, an approximately 100-foot by 25-foot jack-and-bore work area will be established at the entry pit and a second approximately 20-foot by 16-foot work area will be established at the exit pit. In addition, an approximately 100-foot by 55-foot paved, fenced lot at the intersection of West Palm Street and Pacific Highway will be used for the staging and operation of equipment and materials. These work areas are depicted on Attachment 2-A: Detailed Project Components Map.

Table 2-3: Temporary Workspace Requirements

Workspace Type	Required Improvements	Quantity	Approximate Dimensions (feet)	Total Approximate Area (acres)
Underground Work Area	Excavation, duct bank installation, and cable installation	1	10,220 by 30	7.04
Vault Installation Work Area	Excavation, vault installation, and cable installation	16	60 by 40 each	0.88
Pull Site	None	52	50 by 30 each	1.79
Jack-and-Bore Work Area	Excavation	2	100 by 25	0.06
			20 by 16	0.01
	None	1	100 by 55	0.13
Switch/Capacitor Installation Work Area	Excavation and pad installation	9	50 by 30 each	0.31

Note: The temporary workspaces provided are approximate and subject to change pending final engineering. Some of the workspaces indicated will overlap. These overlapping areas have not been removed from the above calculations. The vault installation and switch/capacitor installation work areas will also serve as pull sites.

The cable installation process will require a network of pull sites located adjacent to the proposed and existing underground vaults and all aboveground facilities (e.g., switches and capacitor). These pull sites will be approximately 50 feet long by 30 feet wide. All pull sites will be located within the paved portion of existing City of San Diego streets or associated sidewalks and road shoulders; therefore, no improvement will be required prior to use.

2.6.2 Access

The 12 kV distribution relocation activities will be accessed from Kettner Boulevard, Vine Street, India Street, Redwood Street, West Laurel Street, Columbia Street, and State Street. No new permanent access roads will be constructed.

2.6.3 Methods

Construction methods for the proposed 12 kV distribution relocation were described in Section 3.6.3 Methods of the original PEA. Construction of the updated 12 kV distribution relocation will require the jack-and-bore construction technique, which was not previously discussed in the original PEA. A discussion of the jack-and-bore construction technique follows.

Jack-and-Bore

SDG&E will use the horizontal jack-and-bore construction technique to install approximately 200 feet of proposed conduit near the intersection of West Palm Street and the MTS tracks. Horizontal jack-and-bore is an auguring operation that simultaneously pushes a casing under an

obstacle and removes the spoil inside the casing with a rotating auger. Boring operations will begin with excavating pits at each end of the bore. The entry pit will measure approximately 40 feet by 12 feet and the receiving pit will measure approximately 10 feet by six feet. The proposed bore pits will be between 10 and 20 feet deep, depending on the soil type and facilities that will be crossed. In addition, an approximately 30-foot-long section of the existing raised island will be temporarily removed to allow access to be maintained to the surrounding businesses.

Once the bore pits are complete and shored, boring equipment will be delivered to the site and installed into the entry pit. It is anticipated that a 42-inch casing size made of either steel or hobus pipe will be used for the crossing. A 20-foot section of the casing will be lowered into the pit with the auger inserted and attached to the auguring machine. As the casing is jacked toward the receiving pit, additional 20-foot sections of casing will be attached until the casing breaks through at the receiving pit. Depending on soil conditions, water is often used to lubricate the auger during the boring process.

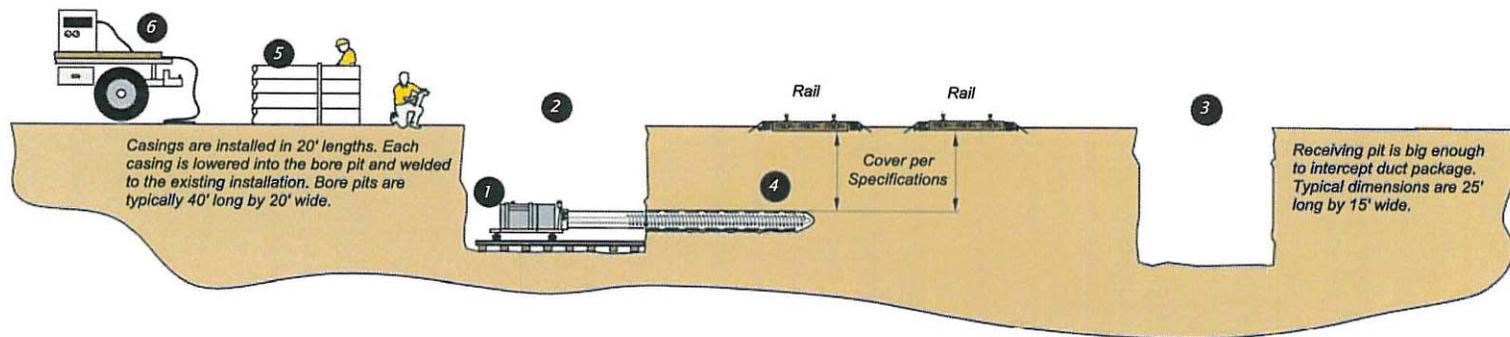
A conduit package, consisting of 12 five-inch PVC ducts supported by polyethylene spacers, will then be pulled through the casing and the area between the conduits, and the casing will be grouted. It is anticipated that between approximately 275 to 500 cubic yards of material will be excavated to facilitate the jack-and-bore installation. Following the installation, the bore pits will be backfilled using native material, and the duct bank exiting the casing will be covered with at least 36 inches of slurry. Soil not used for backfill will be hauled off site and disposed of at an approved facility, such as the Allied Otay Landfill.

A photograph of a typical jack-and-bore installation is included in Figure 2-6: Typical Jack-and-Bore Installation. SDG&E will secure the necessary permits to conduct these specialized construction activities and will implement standard best management practices—including silt fencing and straw wattles—in accordance with the Proposed Project’s Storm Water Pollution Prevention Plan. As described in Section 3.11 Noise, use of the jack-and-bore construction technique will not change the results of the impact analysis presented in the original PEA.

2.6.4 Construction Equipment and Personnel

As described in Section 3.6.4 Construction Equipment and Personnel of the original PEA, construction equipment will include bulldozers, excavators, loaders, graders, and trucks for excavating, compacting, and hauling. All exported soil and new fill will be transported using street-legal dump/loader trucks. Table 2-4: Revised 12 kV Route Construction Equipment Requirements provides the anticipated construction equipment that will be used for the revised distribution design.

The relocation of the 12 kV distribution circuits will require between 12 and 63 workers at any given time. Final testing and checkout will require nine electricians and/or engineers. A summary of the anticipated construction personnel for the 12 kV distribution relocation has been included as Table 2-5: Revised 12 kV Route Construction Personnel Requirements.



- | | | | |
|---|---------------------|---|--------------------------------------|
| 1 | Jack & Bore Machine | 4 | Carrier Pipe (Casing) |
| 2 | Bore Pit | 5 | Carrier Stock Pipe (Casing Sections) |
| 3 | Receiving Pit | 6 | Welding Machine |

Figure 2-6: Typical Jack-and-Bore Installation

Table 2-4: Revised 12 kV Route Construction Equipment Requirements

Vehicle/Equipment Type	Use	Hours Operating at Site/Day (per vehicle)	Quantity Required
<i>Duct Bank Construction and Vault Installation</i>			
Crane 60 Ton	Lift and place materials	8	1
Crane Support	Support crane use	8	1
Bobcat	Excavate, move, and load materials	8	2
Backhoe	Excavate and load materials	8	3
Trackhoe	Excavate and load materials	8	1
Dump/Haul Truck	Transport import/export material	8	6
Construction Truck	Transport construction personnel	8	3
Pickup Truck	Transport construction personnel	8	3
Pickup with Saw Cutter Trailer	Cut pavement	8	3
Concrete Truck	Deliver and pour concrete	2	7
Surface Machine	Repair pavement	8	3
Asphalt Dump Truck	Deliver and place asphalt	8	3
Dump Truck with Compressor and Emulsion Sprayer	Repair pavement	8	3
Roller	Compact pavement	8	3
Bobcat	Street preparation	8	3
Pickup Truck	Street repair	8	3
Baker Tank	Wastewater storage	8	1
<i>Cable Installation and Cutover</i>			
Line Truck	Pull cable into position	8	5

Vehicle/Equipment Type	Use	Hours Operating at Site/Day (per vehicle)	Quantity Required
Puller	Pull cable into position	8	5
Reel Trailer	Feed new cable to the puller or collect old cable	8	5
Splice Truck	Store splicing supplies	8	5
Pickup Truck	Transport construction personnel	8	5
<i>Jack-and-Bore Installation</i>			
12-Ton Boom Truck	Setup K-rails and casing stock	6	1
35-Ton Crane	Set bore rig	4	1
90-Ton Crane	Setup pit shoring and baker tanks	3	2
Air Compressor	Operate tools	3	1
Backhoe	Excavate bore pits and load material	6	1
Bobcat with Sweeper	Clean up material	3	1
Bore Rig	Install casing	6	1
Excavator	Excavate bore pits	6	1
Crew Truck/Welding Equipment	Install casings	4	1
Dump Truck	Transport import/export material	0.25	34
Pickup Truck	Transport crew	4	1
Pump/10-Horsepower Generator	Dewater pits	6	1
Saw Cutting Machine	Cut roads for bore pits	4	1
Tractor Trailer	Deliver equipment and materials	0.25	3
Truck with Generator	Cut roads for bore pits	4	1
Vacuum Truck	Cut roads for bore pits	4	1

Table 2-5: Revised 12 kV Route Construction Personnel Requirements

Activity	Position	Approximate Number
Duct Bank Construction and Vault Installation	Foreman	1
	Inspector	1
	Journeyman	1
	Operator	42
	Laborer	13
Cable Installation and Cutover	Foreman	3
	Journeyman	6
	Apprentice	3
Jack-and-Bore	Foreman	1
	Welder	1
	Helper	2
	Laborer	3
	Surveyor	1

2.6.5 Construction Schedule

Total construction time—including grading, construction, energizing, and testing—is expected to take approximately 19 months, starting in January 2016. As described in Section 3.6.5 Construction Schedule of the original PEA, construction within Kettner Boulevard will occur during the evenings due to the potential traffic impacts related to relocation of the distribution circuits. All other distribution relocation activities will occur during normal business hours. In addition, some concrete pours may take place during an extended day, depending on the size of the pour. Transformer oil filling may also require vacuum pulls and oil installation, which in turn may require continuous work through the night. A revised construction schedule has been included as Table 2-6: Revised Construction Schedule.

The original PEA indicated that the 12 kV distribution relocation and telecommunication system extension will require approximately 1,350 truck trips. It is anticipated that the revised distribution design will require an additional 550 trips for a total of approximately 1,900 truck trips.

2.7 OPERATION AND MAINTENANCE

Operation and maintenance of the Proposed Project will not change from what was previously described in the original PEA.

2.8 ANTICIPATED PERMITS AND APPROVALS

Section 3.8 Anticipated Permits and Approvals of the original PEA describes the other permits from federal, state, and local agencies that will be required, in addition to the Permit to Construct. Table 3-7: Permit, Approval, and Consultation Requirements in the original PEA lists the permits, approvals, and licenses that SDG&E anticipates obtaining from jurisdictional agencies.

2.9 APPLICANT-PROPOSED MEASURES

Section 3.10 Applicant-Proposed Measures (APMs) of the original PEA describes measures that will be implemented by SDG&E for the Proposed Project. Table 3-8: Applicant-Proposed Measures of the original PEA identifies the APMs and indicates which Proposed Project component they apply to. The applicable resource sections within Chapter 4 – Environmental Impact Assessment of the original PEA outline how and when the APMs will be applied to avoid or minimize impacts to a less-than-significant level. As described in Chapter 3 – Environmental Impact Assessment, one existing APM—APM-CUL-01—has been modified as follows to ensure that impacts will be less than significant:

- APM-CUL-01: An archaeological monitor will be present during ground-disturbing activities. In the event that cultural resources are discovered, the archaeological monitor will have the authority to divert or temporarily halt ground disturbance to allow evaluation of the potentially significant cultural resources. The archaeological monitor will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeological monitor, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources.

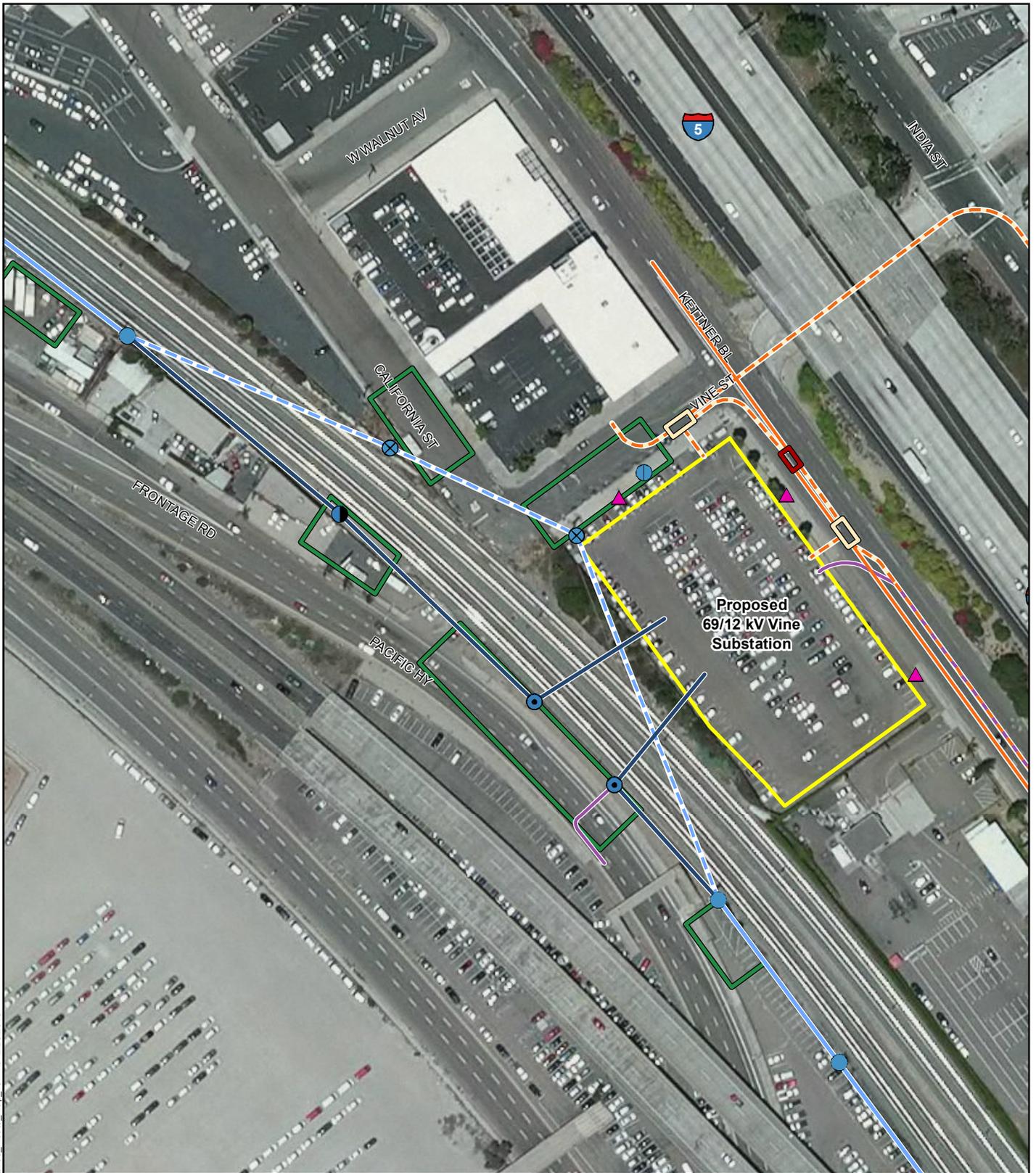
SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the history of the area. Faunal material will be identified to the species level. If locomotive and/or electric rails are discovered during construction and fall within a recommended period of significance, and cannot be preserved in place, they will be immediately documented using standard documentation. All materials that cannot be preserved in place will be offered to the Pacific Southwest Railway Museum for preservation. If preservation is not feasible, the monitor will photograph, map and document the location of the resource and summarize the results in a Department of Parks and Recreation (DPR 523) form that will be submitted to the SCIC. A monitoring results report—which includes appropriate graphics and describes the results, analyses, and conclusions of the monitoring program—will be prepared and submitted to SDG&E's Cultural Resource Specialist and Environmental Project Manager following completion of the program. Any cultural sites or features encountered will be recorded on appropriate Department of Parks and Recreation forms. All forms and reports will be submitted to the SCIC at San Diego State University and to the City of San Diego Development Services Department.

This revised APM will be implemented, as described in Section 3.10.0 Applicant-Proposed Measures of the original PEA, for the revised 12 kV distribution routes to avoid or minimize impacts to a less-than-significant level.

Table 2-6: Revised Construction Schedule

Proposed Project Component	Activity	Approximate Duration (months)	Anticipated Start Date	Anticipated End Date
Proposed Vine 69/12 kV Substation	Site Development and Grading	3	January 2016	March 2016
	Retaining/Boundary Wall Construction	2	March 2016	April 2016
	Below-Grade Construction	6	April 2016	September 2016
	Substation Equipment Installation	10	September 2016	June 2017
12 kV Distribution Relocation	Duct Bank Construction and Vault Installation	6	October 2016	March 2017
	Cable Installation and Cutover	3	April 2017	June 2017
	Jack-and-Bore	0.75	January 2017	January 2017
69 kV Loop-In	Foundation Installation	0.5	November 2016	November 2016
	Pole Installation and Removal	3.5	Mid-November 2016	February 2017
	Conductor Installation and Cutover	2	January 2017	February 2017
Telecommunication System Extension	Duct Bank Construction and Vault Installation	1	April 2017	April 2017
	Cable Installation	1	May 2017	May 2017
Energization	Testing and Commissioning	5	February 2017	June 2017
	Energization	0.5	July 2017	July 2017

ATTACHMENT 2-A: DETAILED PROJECT COMPONENTS MAP

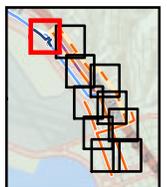


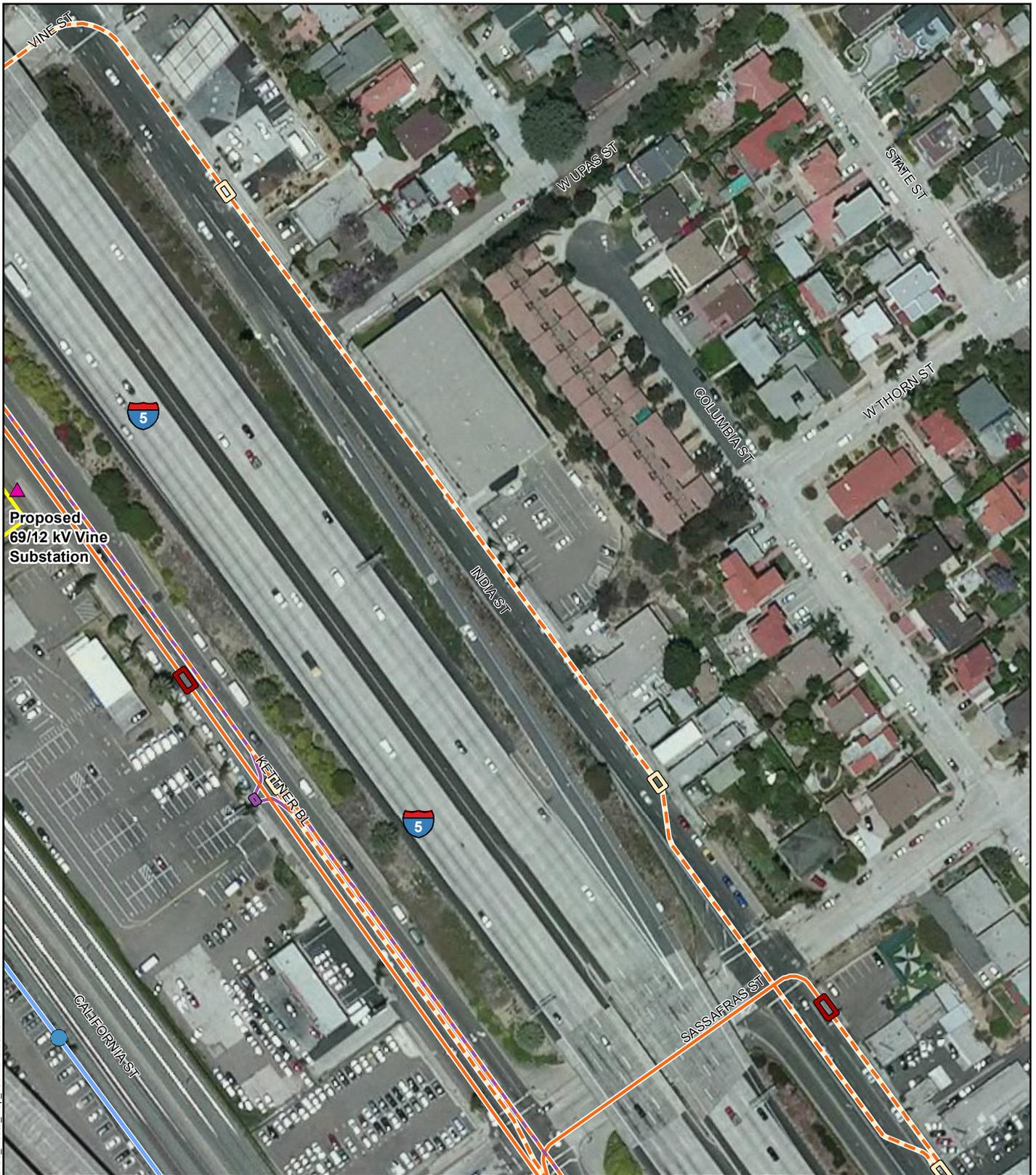
Attachment 2-A: Detailed Project Components Map 1 of 10

Vine 69/12 kV Substation Project

- | | | |
|-------------------------------------|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



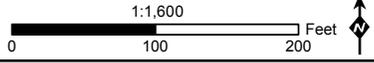
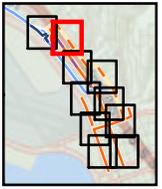


Attachment 2-A: Detailed Project Components Map 2 of 10

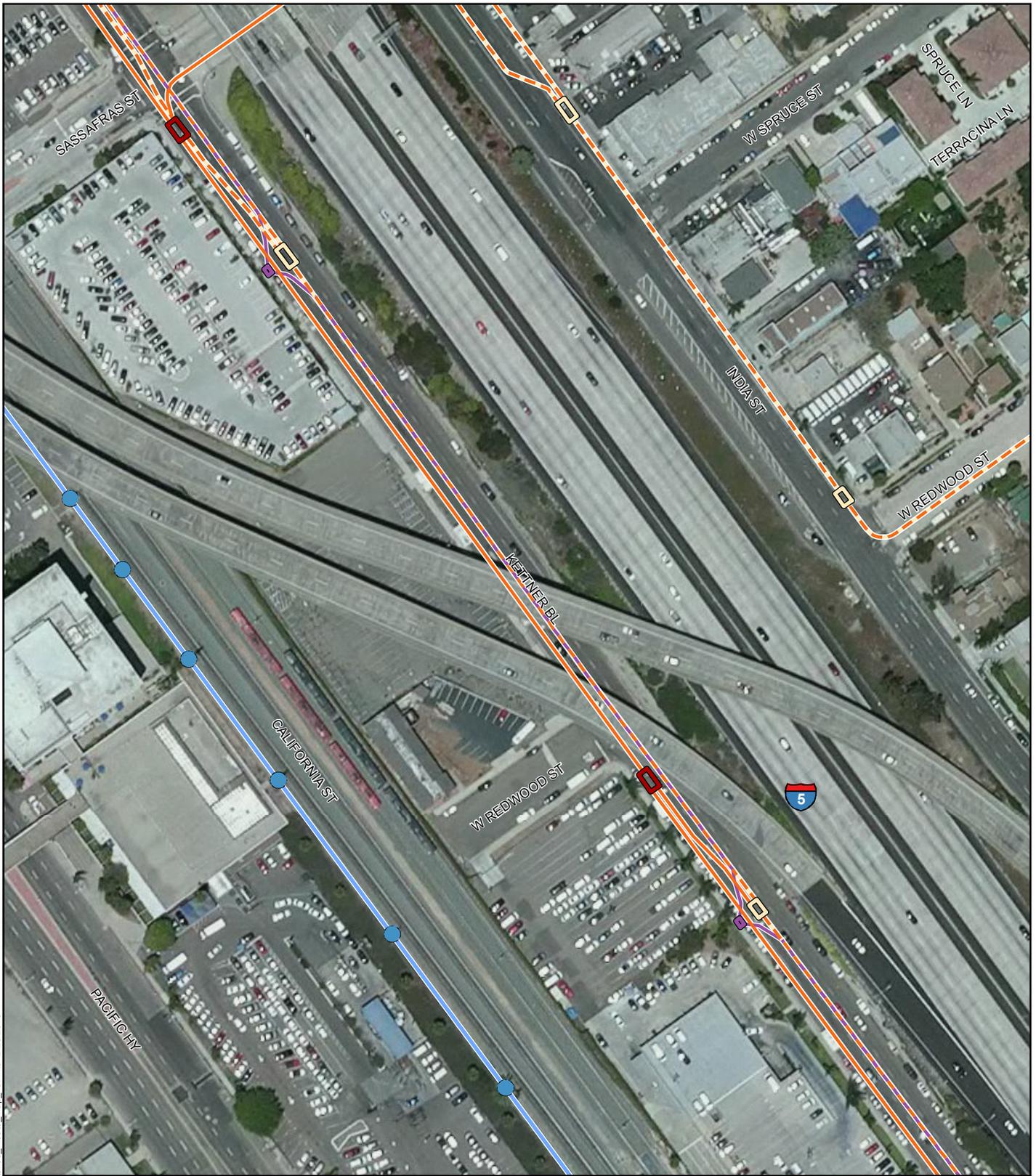
Vine 69/12 kV Substation Project

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|-------------------------------------|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Existing 12 kV Duct Bank |
| Jack-and-Bore Work Area | Remove Existing Pole | Proposed 12 kV Underground |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



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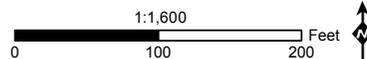
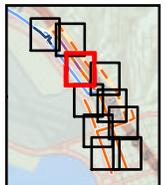


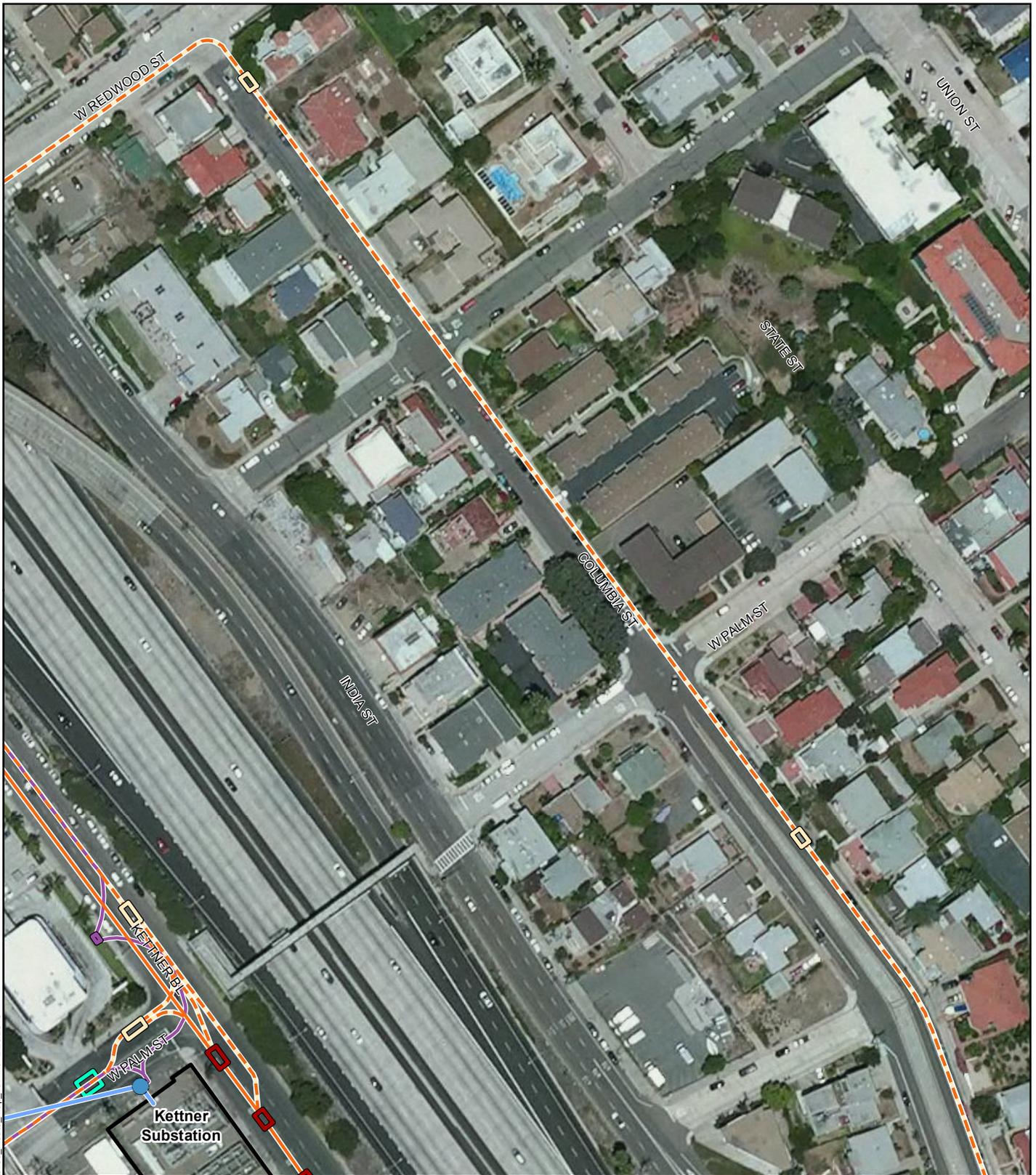
Attachment 2-A: Detailed Project Components Map 3 of 10

Vine 69/12 kV Substation Project

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|-------------------------------------|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

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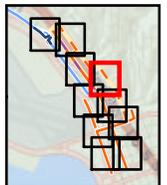
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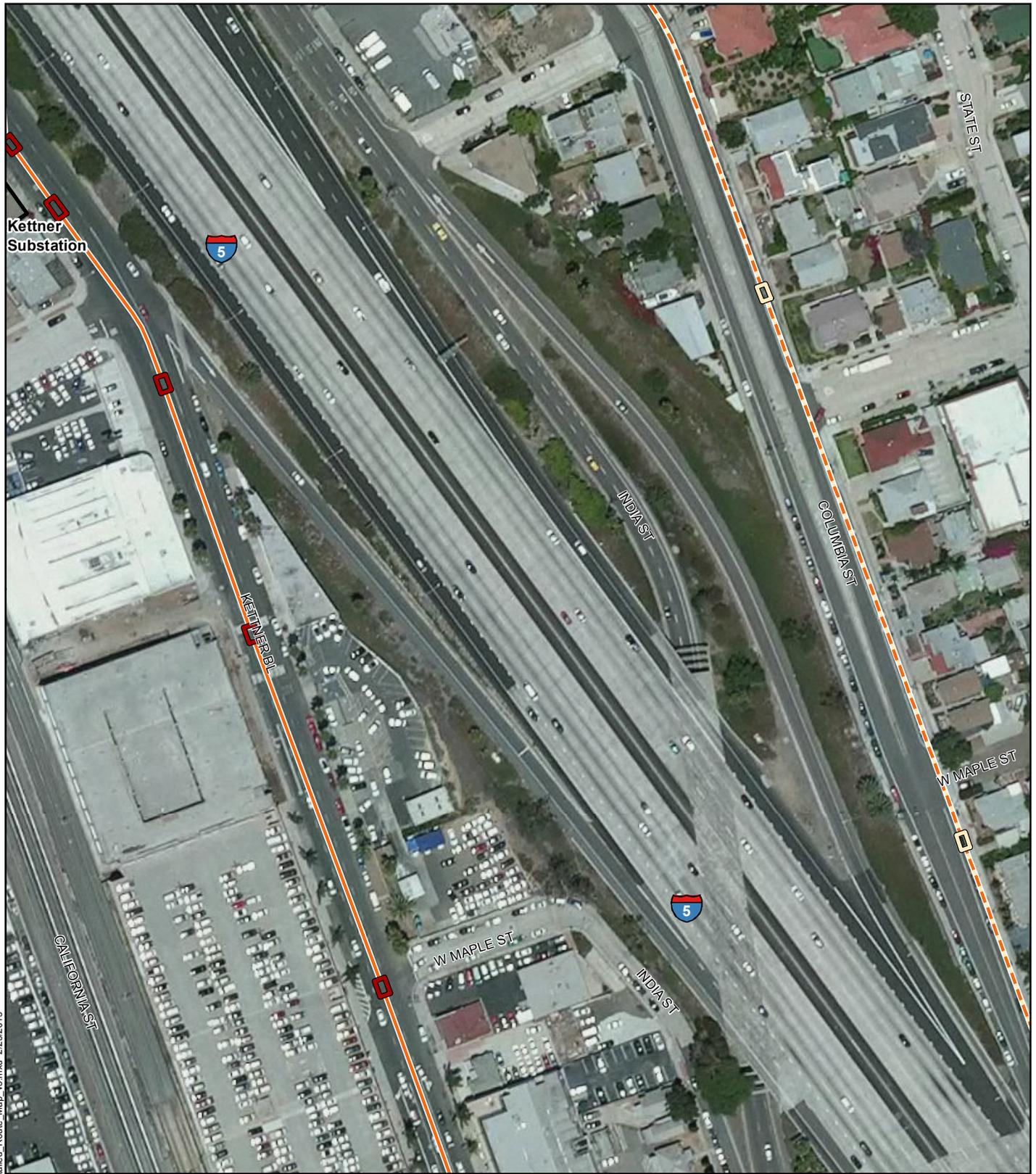
Attachment 2-A: Detailed Project Components Map 4 of 10

Vine 69/12 kV Substation Project

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|-------------------------------------|--------------------------------------|---|
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| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

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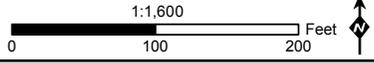
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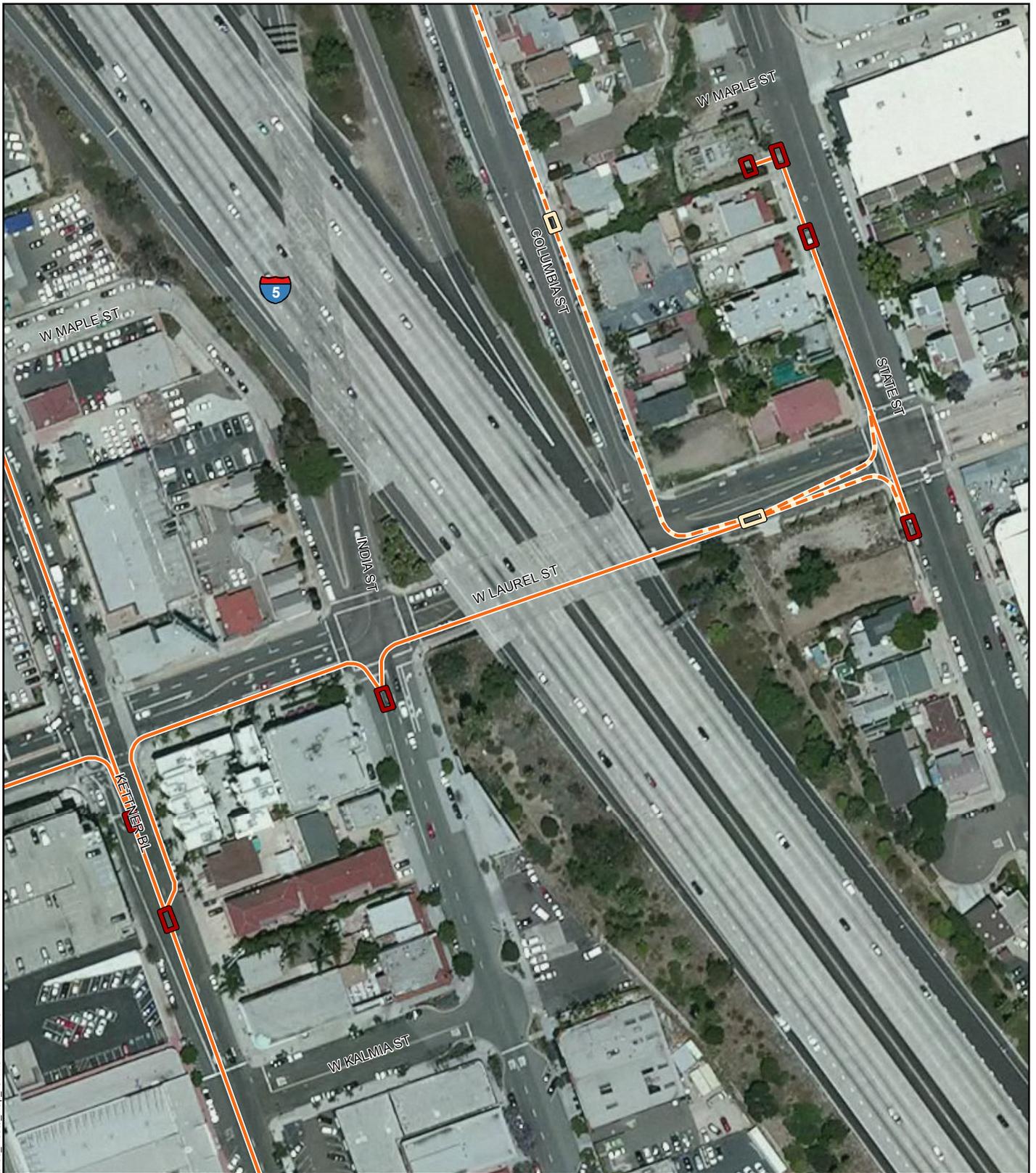
Attachment 2-A: Detailed Project Components Map 5 of 10

Vine 69/12 kV Substation Project

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| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

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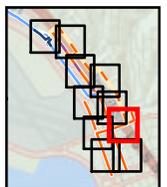


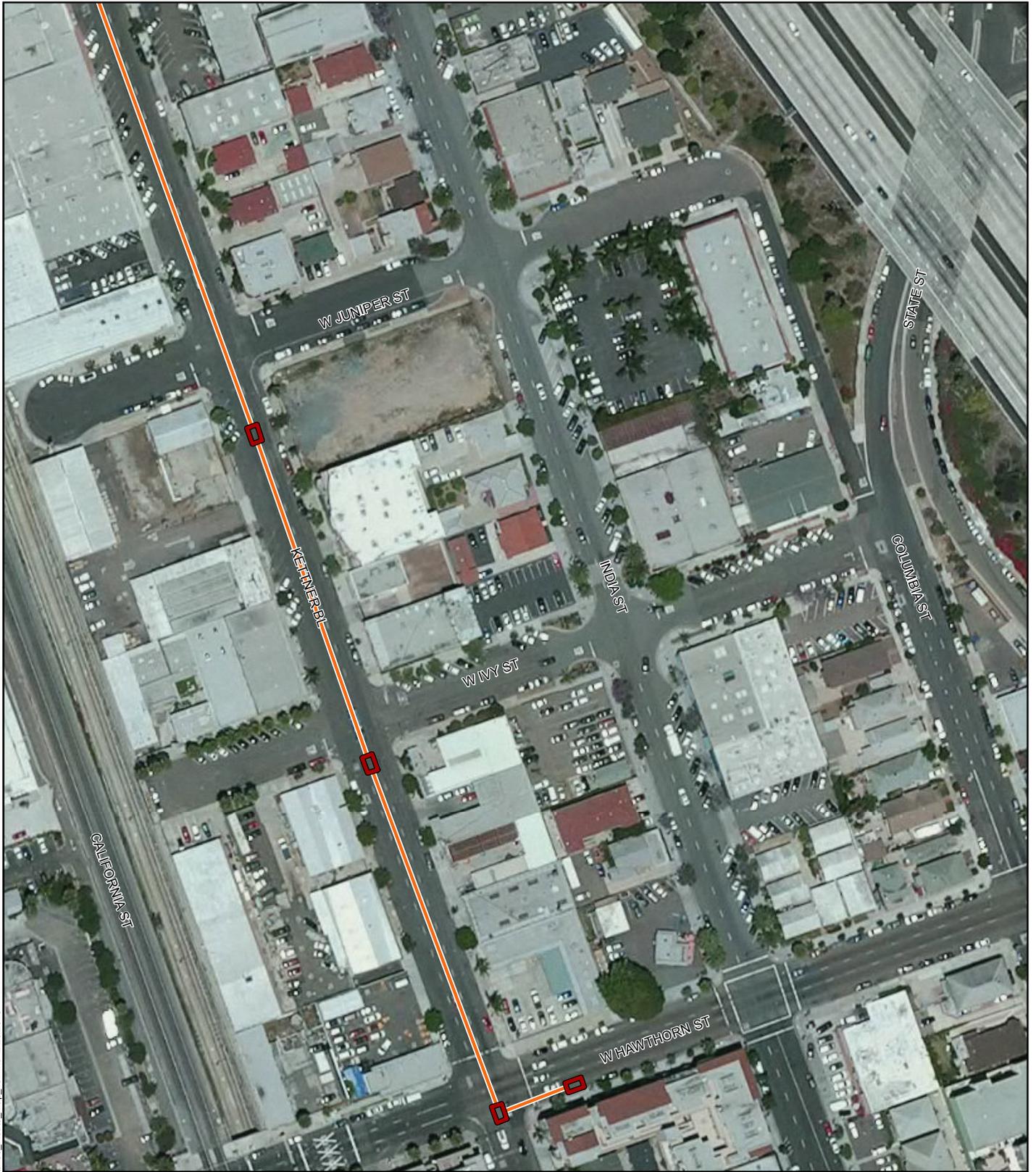
Attachment 2-A: Detailed Project Components Map 6 of 10

Vine 69/12 kV Substation Project

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|-------------------------------------|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

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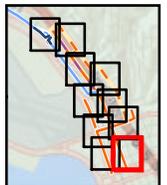


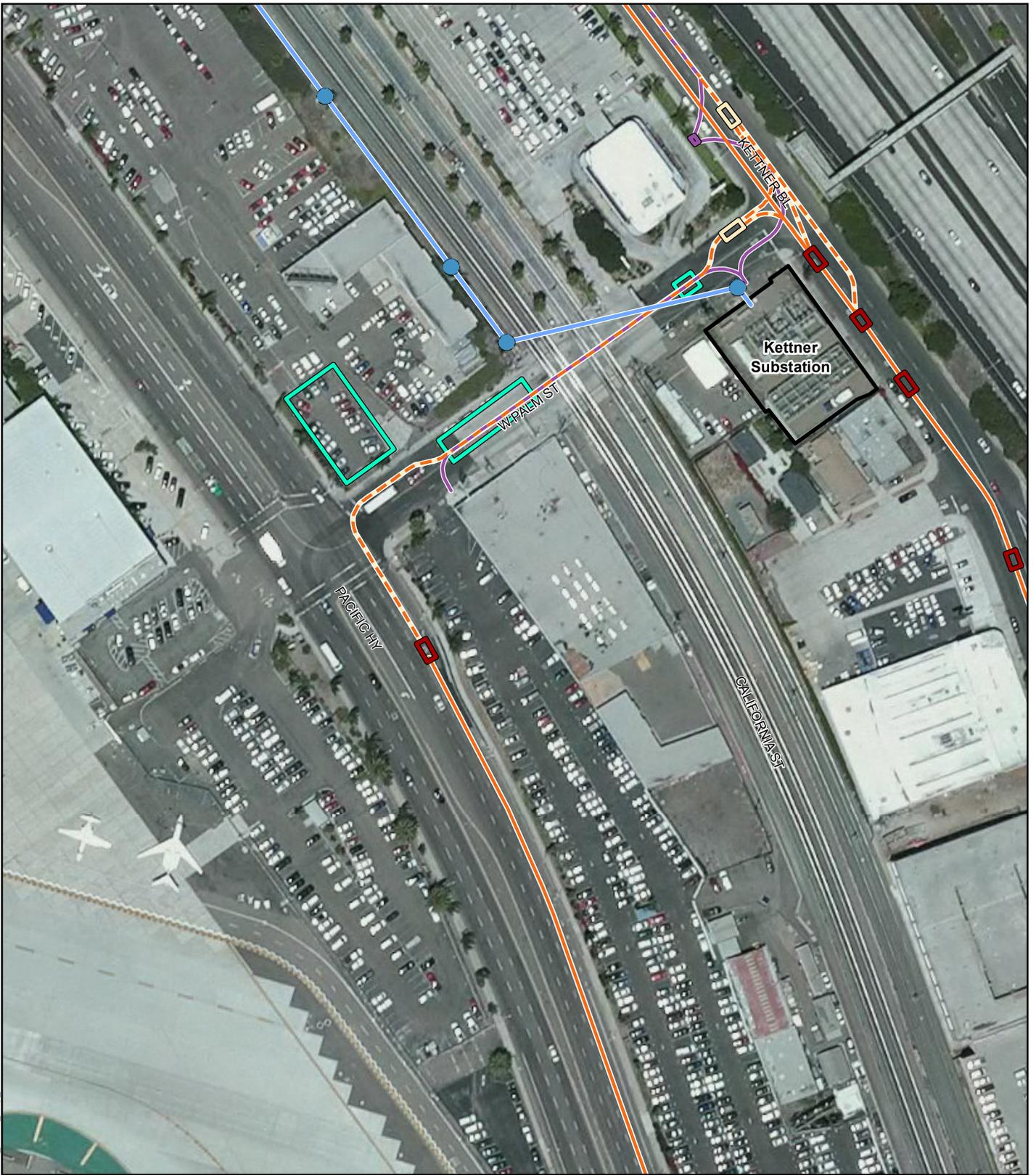
Attachment 2-A: Detailed Project Components Map 7 of 10

Vine 69/12 kV Substation Project

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|-------------------------------------|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



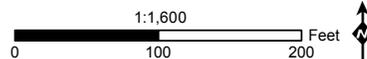
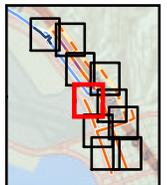


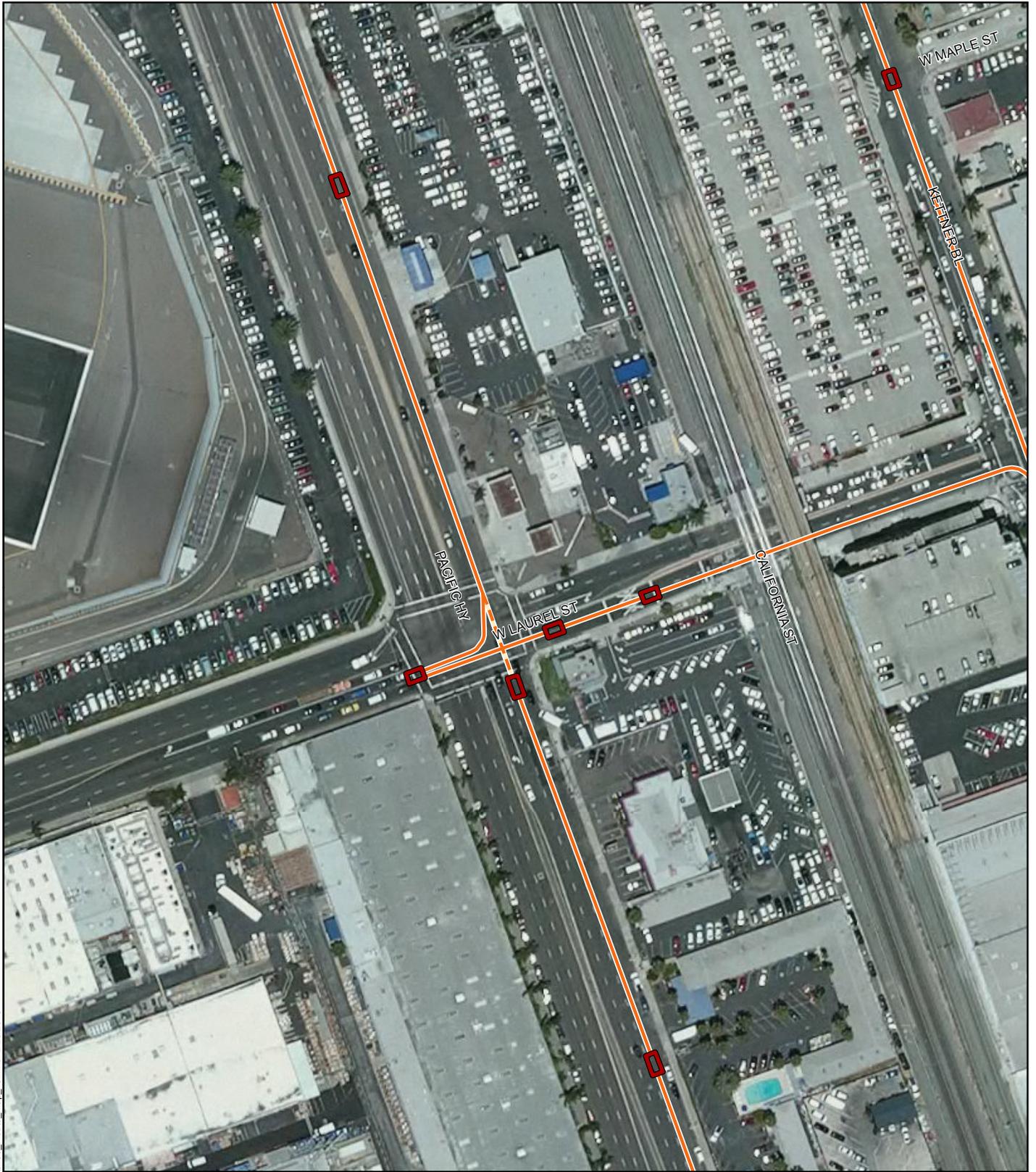
Attachment 2-A: Detailed Project Components Map 8 of 10

Vine 69/12 kV Substation Project

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|-------------------------------------|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



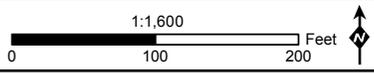


Attachment 2-A: Detailed Project Components Map 9 of 10

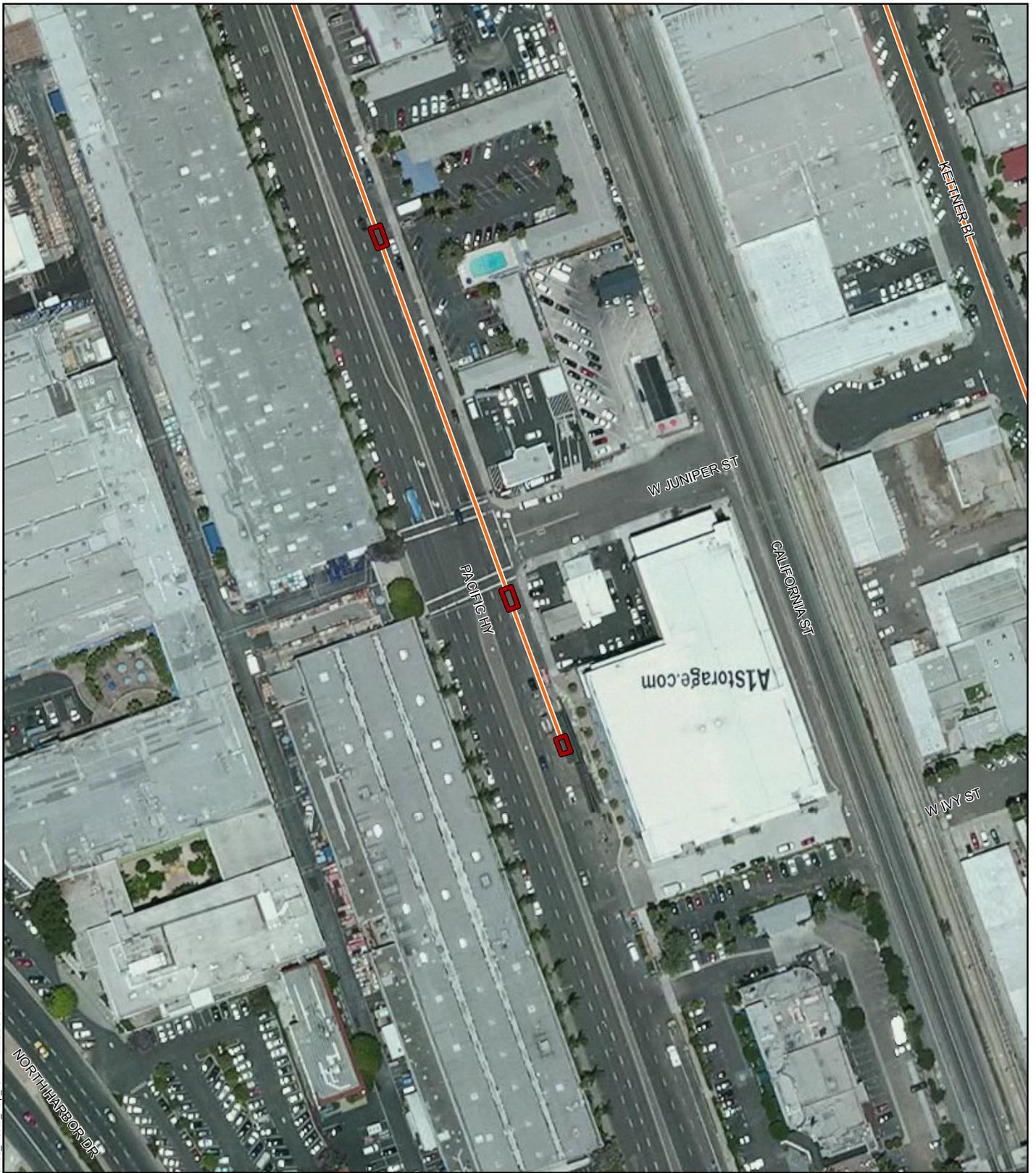
Vine 69/12 kV Substation Project

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|-------------------------------------|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation | Existing Pole | Existing 69 kV Overhead |
| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



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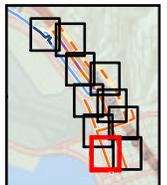


Attachment 2-A: Detailed Project Components Map 10 of 10

Vine 69/12 kV Substation Project

- | | | |
|-------------------------------------|--------------------------------------|---|
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| Existing Kettner Substation | Install New TSP | Existing 69 kV Overhead to be Removed |
| Transmission Work Area | Replace Existing Pole with TSP | Proposed 69 kV Overhead |
| Jack-and-Bore Work Area | Remove Existing Pole | Existing 12 kV Duct Bank |
| Existing 12 kV Distribution Vault | Remove Existing Stub Guy Pole | Proposed 12 kV Underground |
| Proposed 12 kV Distribution Vault | Potential AT&T Interconnection Point | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole | | Proposed Telecommunications Duct Bank |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



CHAPTER 3 – ENVIRONMENTAL IMPACT ASSESSMENT SUMMARY

3.0 INTRODUCTION

The following sections (Section 3.1 Aesthetics through Section 3.17 Utilities and Service Systems) evaluate the potential environmental impacts from construction and operation of the revised 12 kilovolt (kV) distribution routes associated with the San Diego Gas & Electric Company Vine 69/12 kV Substation Project (Proposed Project). In accordance with the California Environmental Quality Act, the environmental impacts associated with the modified 12 kV distribution relocation design are evaluated for the following resource areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

Section 3.1 Aesthetics through Section 3.17 Utilities and Service Systems include any applicable revisions to the existing conditions for each resource area as a result of the modified 12 kV distribution relocation design. The impact analysis presented in the original Proponent's Environmental Assessment (PEA) was then reviewed in light of the modifications to the 12 kV distribution relocation design and any revisions to the existing conditions. In instances where the original PEA has not adequately addressed the potential impacts from the modified design, additional analysis has been presented. Applicant-proposed measure (APM-) CUL-01 from the original PEA has been modified to include procedures for the potential preservation of locomotive or electric rails discovered during excavation activities. The analysis presented in this chapter did not result in any additional APMs.

Section 3.18 Cumulative Analysis discusses past, present, and reasonably foreseeable future projects within the Proposed Project area and the Proposed Project's potential to contribute to a significant cumulative effect with the incorporation of the modified 12 kV distribution relocation design.

3.1 AESTHETICS

3.1.0 Existing Conditions

Because the revised 12 kilovolt (kV) distribution routes are proposed along Columbia Street, West Redwood Street, and India Street, the Proposed Project is now partially located in the City of San Diego's Uptown Community Planning area. Therefore, the Uptown Community Plan was reviewed to identify potential visual resources and scenic vistas in the vicinity of revised 12 kV distribution routes. One applicable objective was identified within the plan and aims to preserve scenic views from the western slopes located east of Interstate (I-) 5. This area is designated as Middletown in the Uptown Community Plan and encompasses areas in which new duct banks are proposed along Columbia Street, West Redwood Street, and India Street. Potential impacts associated with the revised 12 kV distribution routes are described in the following section.

With the exception of the public views from the western slopes along Columbia Street, West Redwood Street, and India Street, the City of San Diego's Uptown Community Plan revealed no additional scenic vistas or visual resources in the vicinity of the revised 12 kV distribution routes.

3.1.1 Impact Evaluation

The potential impacts from the revised 12 kV distribution routes are discussed in the subsections that follow.

Question 4.1a – Scenic Vista Effects – *No Impact*

The California Environmental Quality Act requires the Proposed Project to be evaluated on whether its implementation has a substantial, adverse effect on a scenic vista. For the purposes of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. Using this definition, the views of the San Diego Bay—from the western slopes along Columbia Street, West Redwood Street, and India Street—constitute a scenic vista. However, construction activities within these areas will be temporary in nature, taking place over an approximately six-month period. In addition, a majority of the construction activities will be conducted underground along existing city streets and will not result in a significant obstruction to public views. In addition, installation of the 12 kV distribution routes will be limited to 500 feet of trench at a time and will move quickly in a linear fashion. Therefore, the Proposed Project will not have a substantial effect on a scenic vista, and there will be no impact.

Question 4.1b – Scenic Resource Damage within a State Scenic Highway – *No Impact*

No potential impacts to scenic resources within a State Scenic Highway were identified in the vicinity of the revised 12 kV distribution routes. Therefore, the impact analysis presented in the original Proponent's Environmental Assessment (PEA) adequately addresses the potential impacts from the revised design and there will be no impact.

Question 4.1c – Visual Character Degradation

Construction – Less-than-Significant Impact

Construction-related visual impacts will result from the presence of equipment, materials, and work crews along the new underground distribution line route. Views of construction activities associated with this work will generally occur in residential and commercial areas along Columbia Street, West Redwood Street, India Street, Vine Street, West Palm Street, Pacific Highway, West Laurel Street, and State Street. Construction activities will be noticeable to varying degrees and will be seen by motorists and pedestrians. However, as previously described, construction activities within residential and commercial areas will be temporary in nature. Therefore, impacts to visual resources as a result of construction are considered to be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Operation and maintenance (O&M) activities associated with the revised 12 kV distribution routes will be similar to those described in the original PEA and will not result in additional impacts to visual resources. Therefore, the impact analysis presented in the original PEA adequately addresses the potential impacts from O&M activities associated with the revised 12 kV distribution routes. As a result, impacts will continue to be less than significant.

Question 4.1d – New Light or Glare

Construction – Less-than-Significant Impact

It is anticipated that construction of the revised 12 kV distribution routes located on the east side of I-5 and West Palm Street will occur during daytime hours and the new section along Pacific Highway will occur during night. However, these time frames will be dictated by the City of San Diego during the encroachment permitting process. As described in the original PEA, any temporary lighting used during nighttime construction will be directed on site and away from potentially sensitive receptors, including residences. Therefore, potential temporary lighting effects will be less than significant.

Operation and Maintenance – No Impact

O&M activities associated with the revised 12 kV distribution routes will be similar to those described in the original PEA and will not result in additional impacts to visual resources. Therefore, the impact analysis presented in the original PEA is applicable to O&M activities associated with the revised 12 kV distribution routes. As a result, there will be no impact.

3.1.2 Applicant-Proposed Measures

The updated distribution design will not result in any new impacts to visual resources; therefore, no additional applicant-proposed measures are proposed.

3.1.3 References

City of San Diego. 2008. *City of San Diego General Plan*. Land Use and Community Planning Element. Online.

<http://www.sandiego.gov/planning/genplan/pdf/generalplan/landuse2010.pdf>. Site visited March 17, 2014.

City of San Diego. 1988. *Uptown Community Plan*. Online.

<http://www.sandiego.gov/planning/community/profiles/pdf/cp/cputfullversion.pdf>. Site visited November 25, 2014.

Pacific-Midway Highway Corridor Community Plan and Local Coastal Program Land Use Plan. Online.

<http://www.sandiego.gov/planning/community/profiles/midwaypacifichwycorridor/pdf/midwayfullversion.pdf>. Site visited March 17, 2014.

Visual Technical Memorandum, Vine 69/12 kV Substation Project. Environmental Vision. March 2014.

3.2 AGRICULTURE AND FORESTRY RESOURCES

3.2.0 Existing Conditions

The revised 12 kilovolt (kV) distribution routes will be located within the City of San Diego's Uptown Community Planning area. Therefore, the associated plan was reviewed for relevant agricultural resource policies in the vicinity of the Vine 69/12 kV Substation Project (Proposed Project). No agricultural policies or resources were identified within the Uptown Community Plan.

In addition, the Farmland Mapping and Monitoring Program (FMMP) database, Williamson Act parcel data, and applicable zoning maps were reviewed and the revised routes will not cross any Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, land under a Williamson Act contract, or forest land.

3.2.1 Impact Evaluation

As stated previously, the revised 12 kV distribution routes will not cross any Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, land under a Williamson Act contract, or forest land. In addition, these routes are not under active crop cultivation, are not zoned for agricultural uses, and are not utilized for livestock grazing. Therefore, the impact analysis presented in the original Proponent's Environmental Assessment adequately addresses the potential impacts to agriculture and forestry resources associated with the revised 12 kV distribution routes.

3.2.2 Applicant-Proposed Measures

Because the revised 12 kV distribution routes will not result in any new impacts to agricultural resources, no additional applicant-proposed measures are proposed.

3.2.3 References

California Public Utilities Commission. 2008. Memorandum. *Applicants Filing Proponent's Environmental Assessment*.

California Resources Agency. 2007. Title 14 California Code of Regulations, Chapter 3 Guidelines for Implementation of the California Environmental Quality Act. CEQA Guidelines.

City of San Diego. 1988. *Uptown Community Plan*. Online. <http://www.sandiego.gov/planning/community/profiles/pdf/cp/cputfullversion.pdf>. Site Visited November 25, 2014.

City of San Diego. 2008. *General Plan*. Online. <http://www.sandiego.gov/planning/genplan/#genplan>. Site visited December 5, 2013.

City of San Diego. Municipal Code. Online. <http://www.sandiego.gov/city-clerk/officialdocs/legisdocs/muni.shtml>. Site visited December 5, 2013.

Department of Conservation (DOC). 2014. California Important Farmland Finder. Online. <http://maps.conservation.ca.gov/ciff/ciff.html>. Site visited December 5, 2013.

DOC. 2013a. FMMP. Important Farmland Map Categories. Online. http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx. Site visited December 5, 2013.

DOC. 2013b. FMMP. Online. <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>. Site visited March 8, 2010.

DOC. 2013c. Williamson Act Program. Online. <http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx>. Site visited March 8, 2010.

DOC. FMMP. Farmland of Local Importance. Online. http://www.consrv.ca.gov/dlrp/fmmp/Documents/Local_definitions_00.pdf. Site visited December 5, 2013.

San Diego County. GIS Zoning Data. Software. Program used December 5, 2010.

San Diego Geographic Information Source. 2012. Williamson Act parcel database information. Online. <http://www.sangis.org/Index.html>. Site visited March 15, 2010.

San Diego Unified Port District. 2012. Land Use Management. *Port Master Plan*. Online. <http://www.portofsandiego.org/environment/land-use/port-master-plan.html>. Site visited March 7, 2014.

State of California. 1965. Government Code Section 51200 et seq. The Williamson Act or The California Land Conservation Act of 1965.

3.3 AIR QUALITY

3.3.0 Existing Conditions

The revised 12 kilovolt (kV) distribution routes will be located within the jurisdiction of the San Diego County Air Pollution Control District (SDAPCD). Therefore, existing conditions presented in the original Proponent's Environmental Assessment (PEA) adequately describe the current air quality in the vicinity of the revised 12 kV distribution routes.

3.3.1 Impact Evaluation

Question 3.3a – Applicable Air Quality Plan Conflicts – *Less-than-Significant Impact*

As described in the original PEA, a potentially significant impact on air quality will occur if the Vine 69/12 kV Substation Project (Proposed Project) conflicts with or obstructs the implementation of the applicable air quality plan. While the Proposed Project will result in criteria air pollutant (CAP) emissions within the basin, the primary focus is that the Proposed Project's emissions are properly anticipated in the regional air quality planning process and reduced where feasible. To determine if the emissions were captured during the air quality planning process, it is necessary to assess the Proposed Project's consistency with the Regional Air Quality Strategy (RAQS). Consistency with the RAQS is determined by evaluating whether the Proposed Project's emissions exceed the CAP thresholds established by the SDAPCD and whether the Proposed Project will result in growth that has been anticipated.

The California Emissions Estimator Model (CalEEMod) was used to revise the previous simulations presented in the original PEA to anticipate the emissions from construction using updated site-specific information. The emissions that were evaluated include the following:

- particulate matter (PM) less than 2.5 microns in diameter (PM_{2.5})
- PM less than 10 microns in diameter (PM₁₀)
- Nitrogen oxides (NO_x)
- sulfur oxides (SO_x)
- carbon monoxide (CO)
- volatile organic compounds (VOCs)

These revisions included adding construction equipment for the installation of the 12 kV duct banks during daytime hours along Vine, India, West Redwood, Columbia, and West Laurel Streets and equipment to facilitate the jack-and-bore within West Palm Street. The modelling parameters assume that construction of the 12 kV duct banks could occur during day and nighttime hours on the same day to present the worst-case scenario. The results of the revised CalEEMod simulations indicate that the peak unmitigated emissions will be in compliance with all applicable SDAPCD thresholds, as shown in Table 3.3-1: Peak Daily Unmitigated Construction Emissions and provided in Attachment 3.3–A: Updated CalEEMod Input and Output Files.

Table 3.3-1: Peak Daily Unmitigated Construction Emissions

Year	Emissions (pounds per day)					
	PM _{2.5}	PM ₁₀	NO _x	SO _x	CO	VOCs
2016	14.37	26.26	185.45	0.18	124.01	16.76
2017	9.62	11.77	180.25	0.24	128.89	18.21
Threshold	55	100	250	250	550	75
Threshold Exceeded?	No	No	No	No	No	No

As described in Chapter 3 – Project Description of the original PEA, San Diego Gas & Electric Company (SDG&E) will implement the following air emissions control measures as part of its ordinary construction restrictions:

- **Fugitive Dust Control.** All unpaved construction areas will be watered up to two times daily during construction to reduce dust emissions and to meet SDAPCD Rule 55 requirements. SDG&E or its contractor will keep the construction area sufficiently dampened to control dust caused by construction and hauling, and will provide at all times reasonable dust control of areas subject to windblown erosion.
- **Bulk Material Transport.** All loads will be secured by covering, or will be sufficiently watered, and will use at least two feet of freeboard to avoid carry-over.
- **Equipment Emissions.** SDG&E or its contractor will maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues will have their engines turned off after five minutes when not in use. Construction activities will be phased and scheduled to avoid emission peaks, and equipment use will be curtailed during second-stage smog alerts.
- **VOC Reduction.** Low- and non-VOC-containing coatings, sealants, adhesives, solvents, asphalt, and architectural coatings will be used to reduce VOC emissions.

These control measures were entered into CalEEMod, as appropriate, and the resulting mitigated emissions are presented in Table 3.3-2: Peak Daily Mitigated Construction Emissions. With the implementation of SDG&E's ordinary construction restrictions, the construction phase of the Proposed Project with the revised 12 kV distribution routes will not exceed the applicable SDAPCD thresholds.

As described in the original PEA, the Proposed Project is not a trip-generating project, such as a residential or commercial development, nor will it result in population growth. Once construction of the Proposed Project has been completed, operational emissions will be relatively low, resulting only from scheduled maintenance and repair. These activities will not change as a result of the revised 12 kV distribution route design. The anticipated emissions from operation

and maintenance activities were simulated using CalEEMod, and the results are presented in Table 4.3-8: Peak Daily Operational Emissions in Section 4.3 Air Quality in the original PEA. As indicated, all emissions will be well below the applicable thresholds. Therefore, the Proposed Project will not conflict with or obstruct implementation of the applicable air quality plan and will have a less-than-significant impact in regard to plan consistency.

Table 3.3-2: Peak Daily Mitigated Construction Emissions

Year	Emissions (pounds per day)					
	PM _{2.5}	PM ₁₀	NO _x	SO _x	CO	VOCs
2016	11.13	16.23	185.45	0.19	124.01	16.76
2017	9.62	11.77	180.25	0.24	128.89	18.21
Threshold	55	100	250	250	550	75
Threshold Exceeded?	No	No	No	No	No	No

Question 3.3b – Air Quality Standard Violations

Construction – Less-than-Significant Impact

With the revised 12 kV distribution routes and jack-and-bore along West Palm Street, it is anticipated that a maximum of 83 workers will be on site at the proposed Vine Substation at any one time during construction. As a result, the number of trips generated will be minimal and will constitute an insignificant percentage of current daily volumes in the area, as described in Section 3.16 Transportation and Traffic. Moreover, SDG&E will continue to encourage carpooling during construction.

Construction of the Proposed Project will generate short-term air quality impacts during grading and construction operations. As described previously, the original CalEEMod simulation was revised to account for the updates to the Proposed Project design. The results of this simulation are presented in Table 3.3-1: Peak Daily Unmitigated Construction Emissions. As described in response to Question 3.3a – Applicable Air Quality Plan Conflicts, SDG&E’s ordinary construction restrictions were entered into CalEEMod, as appropriate, and the resulting mitigated emissions are presented in Table 3.3-2: Peak Daily Mitigated Construction Emissions. Similar to the original PEA, all Proposed Project emissions with the incorporation of the revised 12 kV distribution routes will be below all applicable thresholds, and impacts related to existing air quality standards will be less than significant.

Operation and Maintenance – No Impact

As shown in Table 4.3-8: Peak Daily Operational Emissions in Section 4.3 Air Quality in the original PEA, operation and maintenance of the Proposed Project will generate limited CAP emissions and will be in compliance with all applicable thresholds. Therefore, operation and maintenance of the Proposed Project will not result in any impacts related to existing air quality standards.

Question 3.3c – Criteria Pollutant Increases

Construction – Less-than-Significant Impact

As shown previously in Table 3.3-1: Peak Daily Unmitigated Construction Emissions and Table 3.3-2: Peak Daily Mitigated Construction Emissions, the construction of the Proposed Project with the revised 12 kV distribution route design will lead to a small, temporary increase in CAP emissions. To reduce the impacts of construction, SDG&E's ordinary construction restrictions will be implemented, which include minimizing vehicle idling time and controls for dust emissions. As a result, the temporary CAP emissions will not exceed the applicable SDAPCD thresholds, and impacts will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

As described previously, operational emissions were simulated in the original PEA using CalEEMod. The resulting increase in CAP emissions will be significantly less than those projected for the construction phase, and will be well below the acceptable significance thresholds. As a result, CAP emission increases due to operation and maintenance of the Proposed Project will be considered less than significant.

Question 3.3d – Sensitive Receptor Exposure – Less-than-Significant Impact

The revised 12 kV distribution routes will be located in primarily residential areas; therefore, construction will occur adjacent to multiple sensitive receptors. Due to their proximity to the Proposed Project, these receptors will be exposed to temporary increases in CAP emissions from fugitive dust and equipment use along the underground routes. In addition, construction activities will generate toxic air contaminants in the form of diesel PM from on-road vehicle and off-road equipment use. Due to the nature of this Proposed Project, it is estimated that these exposures will be limited to less than 10 days at a time in one location. Because all emissions will be below applicable thresholds during construction, and because exposure will be limited in duration, impacts will be less than significant. Nonetheless, SDG&E's ordinary construction restrictions (e.g., reducing idling time and implementing dust control measures) will continue to be implemented during construction, further reducing potential impacts.

As described previously, emissions resulting from operation and maintenance activities will comply with the applicable SDAPCD thresholds. With the revised 12 kV distribution routes, neither the construction nor the operation and maintenance phases of the Proposed Project will contribute to the violation of an existing air quality standard. As a result, the Proposed Project will have a less-than-significant impact to sensitive receptors.

Question 3.3e – Odor

Construction – Less-than-Significant Impact

Typical odor nuisances include hydrogen sulfide, ammonia, chlorine, and other sulfide-related emissions. No significant sources of these pollutants will exist during construction. An additional potential source of Proposed Project-related odor is diesel engine emissions. These emissions will be temporary in nature and will be limited by the relatively small number of vehicles on site. In addition, the Proposed Project site is located in close proximity to Interstate 5, which supports a high volume of freeway traffic and generates odors that will be

consistent with the construction equipment used during the Proposed Project. Therefore, impacts will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities associated with the Proposed Project will not result in detectable odors. As a result, there will be no impact.

3.3.2 Applicant-Proposed Measures

Because the Proposed Project with the revised 12 kV distribution routes will have a less-than-significant impact on air quality, and because SDG&E's ordinary construction restrictions will be implemented, no additional applicant-proposed measures are proposed.

3.3.3 References

SDAPCD. Air Pollution Control District County of San Diego Rules & Regulations. Online. <http://www.sdapcd.org/rules/rules.html>. Site visited April 2, 2014.

ATTACHMENT 3.3-A: UPDATED CALEEMOD INPUT AND OUTPUT FILES

Vine 69/12 kV Substation Project
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Substation parcel size set to 1.5 acre

Construction Phase - Schedule taken from Chapter 2 - Project Description. Telecom cable installation will be conducted with the same equipment as 12 kV cable installation.

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description.

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description in the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Trips and VMT - Values calculated from import and export needs.

On-road Fugitive Dust - Assume 98 percent of substation hauling trips are off pavement due to site development being conducted and the final roads not being paved.

Grading - Total area disturbed has been updated to indicate the size of the substation parcel

Vehicle Trips - Conservatively estimated an average of 10 trips per day to handle operation and maintenance.

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Assume 2 bucket trucks three times per year for transmission line maintenance. Remainder of maintenance is performed from on-road vehicles.

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Table Name	Column Name	Default Value	New Value
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tblGrading	AcresOfGrading	273.00	1.50
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tblGrading	MaterialImported	0.00	6,700.00
tblLandUse	LotAcreage	0.00	1.50
tblOffRoadEquipment	HorsePower	97.00	162.00
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tbloffRoadEquipment	OffRoadEquipmentType		Air Compressors
tbloffRoadEquipment	OffRoadEquipmentType		Generator Sets
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tbloffRoadEquipment	OffRoadEquipmentType		Air Compressors
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tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	8.00	24.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	6.00	9.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	HaulingTripNumber	1,363.00	922.00
tblTripsAndVMT	HaulingTripNumber	0.00	27.00
tblTripsAndVMT	HaulingTripNumber	124.00	133.00
tblTripsAndVMT	HaulingTripNumber	0.00	678.00
tblTripsAndVMT	HaulingTripNumber	0.00	35.00
tblTripsAndVMT	HaulingTripNumber	0.00	51.00
tblTripsAndVMT	HaulingTripNumber	0.00	446.00
tblTripsAndVMT	PhaseName		12 kV - Bank and Vault Installation - Day
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripNumber	50.00	33.00
tblTripsAndVMT	WorkerTripNumber	0.00	9.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	15.00	12.00
tblTripsAndVMT	WorkerTripNumber	0.00	29.00
tblTripsAndVMT	WorkerTripNumber	38.00	28.00
tblTripsAndVMT	WorkerTripNumber	13.00	7.00

tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	9.00
tblTripsAndVMT	WorkerTripNumber	78.00	61.00
tblVehicleTrips	ST_TR	0.00	10.00
tblVehicleTrips	SU_TR	0.00	10.00
tblVehicleTrips	WD_TR	0.00	10.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
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
Offroad	1.5000e-004	2.4000e-003	3.2400e-003	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.4598	0.4598	1.4000e-004	0.0000	0.4627
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	1.5000e-004	2.4000e-003	3.2500e-003	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	8.0000e-005	8.0000e-005	0.0000	0.4598	0.4598	1.4000e-004	0.0000	0.4627

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
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
Offroad	1.5000e-004	2.4000e-003	3.2400e-003	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.4598	0.4598	1.4000e-004	0.0000	0.4627
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	1.5000e-004	2.4000e-003	3.2500e-003	0.0000	0.0000	8.0000e-005	8.0000e-005	0.0000	8.0000e-005	8.0000e-005	0.0000	0.4598	0.4598	1.4000e-004	0.0000	0.4627

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	100.00	100.00	99.69	0.00	0.00	100.00	100.00	0.00	100.00	100.00	0.00	100.00	100.00	100.00	0.00	100.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Vine - Site Development	Grading	1/1/2016	3/31/2016	6	78	
2	Vine - Wall Construction	Building Construction	3/1/2016	4/30/2016	6	53	
3	Vine - Below Grade	Site Preparation	4/1/2016	9/30/2016	6	157	
4	Vine - Equipment Installation	Building Construction	9/1/2016	6/30/2017	6	260	
5	12 kV - Bank and Vault Installation - Night	Trenching	10/1/2016	3/31/2017	6	156	
6	12 kV - Bank and Vault Installation - Day	Trenching	10/1/2016	3/31/2017	6	156	
7	69 kV - Foundation Installation	Trenching	11/1/2016	11/15/2016	6	13	
8	69 kV - Pole Installation and Removal	Building Construction	11/16/2016	2/28/2017	6	90	
9	69 kV - Conductor Installation	Building Construction	1/1/2017	2/28/2017	6	50	
10	12 kV - Jack-and-Bore Installation	Building Construction	1/1/2017	1/21/2017	6	18	
11	Energization - Testing and Commissioning	Building Construction	2/1/2017	6/30/2017	6	129	
12	Telecom - Bank and Vault Installation	Trenching	4/1/2017	4/30/2017	6	25	
13	12 kV - Cable Installation	Building Construction	4/1/2017	6/30/2017	6	78	

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Vine - Site Development	Excavators	1	6.00	162	0.38
Vine - Site Development	Graders	0	6.00	174	0.41
Vine - Site Development	Off-Highway Trucks	1	7.00	400	0.38
Vine - Site Development	Pavers	1	6.00	125	0.42

Vine - Site Development	Rollers	2	7.00	80	0.38
Vine - Site Development	Rollers	2	6.00	80	0.38
Vine - Site Development	Rubber Tired Dozers	0	6.00	255	0.40
Vine - Site Development	Rubber Tired Dozers	2	6.00	255	0.40
Vine - Site Development	Scrapers	4	7.00	361	0.48
Vine - Site Development	Skid Steer Loaders	2	3.00	64	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development	Trenchers	1	6.00	80	0.50
Vine - Wall Construction	Cranes	0	6.00	226	0.29
Vine - Wall Construction	Excavators	1	9.00	162	0.38
Vine - Wall Construction	Forklifts	0	6.00	89	0.20
Vine - Wall Construction	Generator Sets	0	8.00	84	0.74
Vine - Wall Construction	Graders	1	9.00	174	0.41
Vine - Wall Construction	Off-Highway Trucks	1	9.00	400	0.38
Vine - Wall Construction	Plate Compactors	3	9.00	8	0.43
Vine - Wall Construction	Rollers	1	9.00	80	0.38
Vine - Wall Construction	Rubber Tired Dozers	1	7.00	255	0.40
Vine - Wall Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Wall Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Wall Construction	Tractors/Loaders/Backhoes	3	9.00	97	0.37
Vine - Wall Construction	Welders	0	8.00	46	0.45
Vine - Below Grade	Graders	0	8.00	174	0.41
Vine - Below Grade	Off-Highway Trucks	1	3.00	400	0.38
Vine - Below Grade	Rubber Tired Dozers	0	7.00	255	0.40

Vine - Below Grade	Skid Steer Loaders	1	4.00	64	0.37
Vine - Below Grade	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Vine - Below Grade	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Below Grade	Trenchers	1	6.00	80	0.50
Vine - Equipment Installation	Aerial Lifts	1	6.00	62	0.31
Vine - Equipment Installation	Aerial Lifts	4	5.00	62	0.31
Vine - Equipment Installation	Cranes	0	6.00	226	0.29
Vine - Equipment Installation	Cranes	0	6.00	226	0.29
Vine - Equipment Installation	Cranes	2	6.00	226	0.29
Vine - Equipment Installation	Forklifts	0	6.00	89	0.20
Vine - Equipment Installation	Generator Sets	0	8.00	84	0.74
Vine - Equipment Installation	Generator Sets	1	24.00	84	0.74
Vine - Equipment Installation	Off-Highway Trucks	1	2.00	400	0.38
Vine - Equipment Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Equipment Installation	Welders	0	8.00	46	0.45
12 kV - Bank and Vault Installation - Night	Cranes	1	6.00	226	0.29
12 kV - Bank and Vault Installation - Night	Tractors/Loaders/Backhoes	3	8.00	162	0.38
12 kV - Bank and Vault Installation - Night	Other Construction Equipment	1	1.00	171	0.42
12 kV - Bank and Vault Installation - Night	Paving Equipment	1	6.00	130	0.36
12 kV - Bank and Vault Installation - Night	Paving Equipment	2	7.00	130	0.36
12 kV - Bank and Vault Installation - Night	Rollers	2	4.00	80	0.38
12 kV - Bank and Vault Installation - Night	Skid Steer Loaders	4	6.00	64	0.37
12 kV - Bank and Vault Installation - Night	Tractors/Loaders/Backhoes	1	8.00	97	0.37
69 kV - Foundation Installation	Bore/Drill Rigs	1	8.00	205	0.50
69 kV - Foundation Installation	Cranes	1	3.00	226	0.29
69 kV - Foundation Installation	Forklifts	1	4.00	89	0.20

69 kV - Foundation Installation	Generator Sets	1	4.00	84	0.74
69 kV - Foundation Installation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
69 kV - Pole Installation and Removal	Aerial Lifts	1	8.00	62	0.31
69 kV - Pole Installation and Removal	Air Compressors	1	8.00	78	0.48
69 kV - Pole Installation and Removal	Cranes	1	8.00	226	0.29
69 kV - Pole Installation and Removal	Forklifts	0	6.00	89	0.20
69 kV - Pole Installation and Removal	Generator Sets	0	8.00	84	0.74
69 kV - Pole Installation and Removal	Tractors/Loaders/Backhoes	0	6.00	97	0.37
69 kV - Pole Installation and Removal	Welders	0	8.00	46	0.45
69 kV - Conductor Installation	Aerial Lifts	2	7.00	62	0.31
69 kV - Conductor Installation	Cranes	0	6.00	226	0.29
69 kV - Conductor Installation	Cranes	0	6.00	226	0.29
69 kV - Conductor Installation	Cranes	1	7.00	226	0.29
69 kV - Conductor Installation	Forklifts	0	6.00	89	0.20
69 kV - Conductor Installation	Generator Sets	0	8.00	84	0.74
69 kV - Conductor Installation	Other General Industrial Equipment	1	7.00	87	0.34
69 kV - Conductor Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
69 kV - Conductor Installation	Welders	0	8.00	46	0.45
12 kV - Jack-and-Bore Installation	Aerial Lifts	1	6.00	62	0.31
12 kV - Jack-and-Bore Installation	Air Compressors	1	3.00	78	0.48
12 kV - Jack-and-Bore Installation	Bore/Drill Rigs	1	6.00	205	0.50
12 kV - Jack-and-Bore Installation	Concrete/Industrial Saws	1	4.00	81	0.73
12 kV - Jack-and-Bore Installation	Cranes	1	4.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	2	3.00	226	0.29
12 kV - Jack-and-Bore Installation	Excavators	1	6.00	162	0.38
12 kV - Jack-and-Bore Installation	Forklifts	0	6.00	89	0.20
12 kV - Jack-and-Bore Installation	Generator Sets	1	4.00	84	0.74
12 kV - Jack-and-Bore Installation	Off-Highway Trucks	1	4.00	400	0.38

12 kV - Jack-and-Bore Installation	Pumps	1	6.00	10	0.74
12 kV - Jack-and-Bore Installation	Skid Steer Loaders	1	3.00	64	0.37
12 kV - Jack-and-Bore Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Jack-and-Bore Installation	Welders	1	4.00	46	0.45
Energization - Testing and Commissioning	Cranes	0	6.00	226	0.29
Energization - Testing and Commissioning	Forklifts	0	6.00	89	0.20
Energization - Testing and Commissioning	Generator Sets	0	8.00	84	0.74
Energization - Testing and Commissioning	Off-Highway Trucks	3	3.00	400	0.38
Energization - Testing and Commissioning	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Energization - Testing and Commissioning	Welders	0	8.00	46	0.45
Telecom - Bank and Vault Installation	Skid Steer Loaders	1	3.00	64	0.37
Telecom - Bank and Vault Installation	Tractors/Loaders/Backhoes	1	3.00	97	0.37
12 kV - Cable Installation	Cranes	0	6.00	226	0.29
12 kV - Cable Installation	Forklifts	0	6.00	89	0.20
12 kV - Cable Installation	Generator Sets	0	8.00	84	0.74
12 kV - Cable Installation	Other General Industrial Equipment	1	2.00	87	0.34
12 kV - Cable Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
12 kV - Cable Installation	Welders	0	8.00	46	0.45
12 kV - Bank and Vault Installation - Day	Generator Sets	1	6.00	84	0.74
12 kV - Bank and Vault Installation - Day	Concrete/Industrial Saws	1	6.00	81	0.73
12 kV - Bank and Vault Installation - Day	Off-Highway Trucks	1	6.00	400	0.38
12 kV - Bank and Vault Installation - Day	Air Compressors	4	3.00	78	0.48
12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Bank and Vault Installation - Day	Skid Steer Loaders	6	2.00	64	0.37

12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	6	3.00	97	0.37
12 kV - Bank and Vault Installation - Day	Excavators	1	6.00	162	0.38
12 kV - Bank and Vault Installation - Day	Cranes	1	2.00	226	0.29
12 kV - Bank and Vault Installation - Day	Cranes	1	4.00	226	0.29
12 kV - Bank and Vault Installation - Day	Rollers	2	5.00	80	0.38
12 kV - Bank and Vault Installation - Day	Surfacing Equipment	2	5.00	253	0.30
12 kV - Bank and Vault Installation - Day	Air Compressors	1	5.00	78	0.48
12 kV - Bank and Vault Installation - Day	Generator Sets	1	5.00	84	0.74

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
Vine - Site Development	20	33.00	7.00	922.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Wall Construction	11	15.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Below Grade	6	12.00	2.00	133.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Equipment Installation	9	29.00	3.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Bank and Vault Installation - Night	15	28.00	2.00	678.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Foundation Installation	5	7.00	2.00	35.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Pole Installation and Removal	3	5.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Conductor Installation	4	5.00	3.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Jack-and-Bore Installation	14	9.00	3.00	51.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Energization - Testing and Commissioning	3	9.00	0.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Telecom - Bank and Vault Installation	2	0.00	2.00	27.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Cable Installation	1	16.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Bank and Vault Installation - Day	31	61.00	4.00	446.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Vine - Site Development - 2016

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					0.3539	0.0000	0.3539	0.1939	0.0000	0.1939	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4185	4.8062	3.1344	4.1400e-003		0.2334	0.2334		0.2148	0.2148	0.0000	390.8267	390.8267	0.1179	0.0000	393.3023
Total	0.4185	4.8062	3.1344	4.1400e-003	0.3539	0.2334	0.5873	0.1939	0.2148	0.4086	0.0000	390.8267	390.8267	0.1179	0.0000	393.3023

3.2 Vine - Site Development - 2016

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	9.6500e-003	0.1339	0.1103	3.4000e-004	0.2494	1.7700e-003	0.2512	0.0262	1.6300e-003	0.0279	0.0000	31.4887	31.4887	2.3000e-004	0.0000	31.4934
Vendor	4.8500e-003	0.0631	0.0482	1.7000e-004	4.8500e-003	1.0400e-003	5.9000e-003	1.3900e-003	9.6000e-004	2.3500e-003	0.0000	15.3942	15.3942	1.1000e-004	0.0000	15.3965
Worker	5.5500e-003	0.0102	0.0942	2.3000e-004	0.0191	1.4000e-004	0.0192	5.0700e-003	1.3000e-004	5.2000e-003	0.0000	17.5804	17.5804	9.0000e-004	0.0000	17.5994
Total	0.0201	0.2071	0.2526	7.4000e-004	0.2734	2.9500e-003	0.2763	0.0327	2.7200e-003	0.0354	0.0000	64.4633	64.4633	1.2400e-003	0.0000	64.4893

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					0.1592	0.0000	0.1592	0.0872	0.0000	0.0872	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4185	4.8062	3.1344	4.1400e-003		0.2334	0.2334		0.2148	0.2148	0.0000	390.8262	390.8262	0.1179	0.0000	393.3018
Total	0.4185	4.8062	3.1344	4.1400e-003	0.1592	0.2334	0.3927	0.0872	0.2148	0.3020	0.0000	390.8262	390.8262	0.1179	0.0000	393.3018

3.2 Vine - Site Development - 2016

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	9.6500e-003	0.1339	0.1103	3.4000e-004	0.0743	1.7700e-003	0.0761	8.7600e-003	1.6300e-003	0.0104	0.0000	31.4887	31.4887	2.3000e-004	0.0000	31.4934
Vendor	4.8500e-003	0.0631	0.0482	1.7000e-004	4.8500e-003	1.0400e-003	5.9000e-003	1.3900e-003	9.6000e-004	2.3500e-003	0.0000	15.3942	15.3942	1.1000e-004	0.0000	15.3965
Worker	5.5500e-003	0.0102	0.0942	2.3000e-004	0.0191	1.4000e-004	0.0192	5.0700e-003	1.3000e-004	5.2000e-003	0.0000	17.5804	17.5804	9.0000e-004	0.0000	17.5994
Total	0.0201	0.2071	0.2526	7.4000e-004	0.0983	2.9500e-003	0.1012	0.0152	2.7200e-003	0.0179	0.0000	64.4633	64.4633	1.2400e-003	0.0000	64.4893

3.3 Vine - Wall Construction - 2016

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	0.1428	1.4931	0.9375	1.3400e-003		0.0812	0.0812		0.0748	0.0748	0.0000	125.2567	125.2567	0.0372	0.0000	126.0385
Total	0.1428	1.4931	0.9375	1.3400e-003		0.0812	0.0812		0.0748	0.0748	0.0000	125.2567	125.2567	0.0372	0.0000	126.0385

3.3 Vine - Wall Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.4000e-004	0.0122	9.3500e-003	3.0000e-005	9.4000e-004	2.0000e-004	1.1500e-003	2.7000e-004	1.9000e-004	4.6000e-004	0.0000	2.9886	2.9886	2.0000e-005	0.0000	2.9891
Worker	1.7100e-003	3.1500e-003	0.0291	7.0000e-005	5.9000e-003	4.0000e-005	5.9400e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	5.4299	5.4299	2.8000e-004	0.0000	5.4357
Total	2.6500e-003	0.0154	0.0384	1.0000e-004	6.8400e-003	2.4000e-004	7.0900e-003	1.8400e-003	2.3000e-004	2.0700e-003	0.0000	8.4185	8.4185	3.0000e-004	0.0000	8.4248

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	0.1428	1.4931	0.9375	1.3400e-003		0.0812	0.0812		0.0748	0.0748	0.0000	125.2566	125.2566	0.0372	0.0000	126.0384
Total	0.1428	1.4931	0.9375	1.3400e-003		0.0812	0.0812		0.0748	0.0748	0.0000	125.2566	125.2566	0.0372	0.0000	126.0384

3.3 Vine - Wall Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.4000e-004	0.0122	9.3500e-003	3.0000e-005	9.4000e-004	2.0000e-004	1.1500e-003	2.7000e-004	1.9000e-004	4.6000e-004	0.0000	2.9886	2.9886	2.0000e-005	0.0000	2.9891
Worker	1.7100e-003	3.1500e-003	0.0291	7.0000e-005	5.9000e-003	4.0000e-005	5.9400e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	5.4299	5.4299	2.8000e-004	0.0000	5.4357
Total	2.6500e-003	0.0154	0.0384	1.0000e-004	6.8400e-003	2.4000e-004	7.0900e-003	1.8400e-003	2.3000e-004	2.0700e-003	0.0000	8.4185	8.4185	3.0000e-004	0.0000	8.4248

3.4 Vine - Below Grade - 2016

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					8.6000e-004	0.0000	8.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1251	1.2390	0.7951	1.2200e-003		0.0820	0.0820		0.0755	0.0755	0.0000	115.1075	115.1075	0.0347	0.0000	115.8367
Total	0.1251	1.2390	0.7951	1.2200e-003	8.6000e-004	0.0820	0.0829	1.0000e-004	0.0755	0.0756	0.0000	115.1075	115.1075	0.0347	0.0000	115.8367

3.4 Vine - Below Grade - 2016

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	1.3900e-003	0.0193	0.0159	5.0000e-005	0.0360	2.5000e-004	0.0362	3.7900e-003	2.3000e-004	4.0200e-003	0.0000	4.5423	4.5423	3.0000e-005	0.0000	4.5430
Vendor	2.7900e-003	0.0363	0.0277	1.0000e-004	2.7900e-003	6.0000e-004	3.3900e-003	8.0000e-004	5.5000e-004	1.3500e-003	0.0000	8.8531	8.8531	6.0000e-005	0.0000	8.8544
Worker	4.0600e-003	7.4600e-003	0.0689	1.7000e-004	0.0140	1.0000e-004	0.0141	3.7100e-003	9.0000e-005	3.8100e-003	0.0000	12.8677	12.8677	6.6000e-004	0.0000	12.8816
Total	8.2400e-003	0.0630	0.1126	3.2000e-004	0.0528	9.5000e-004	0.0537	8.3000e-003	8.7000e-004	9.1800e-003	0.0000	26.2631	26.2631	7.5000e-004	0.0000	26.2790

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	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1251	1.2390	0.7951	1.2200e-003		0.0820	0.0820		0.0755	0.0755	0.0000	115.1074	115.1074	0.0347	0.0000	115.8365
Total	0.1251	1.2390	0.7951	1.2200e-003	3.9000e-004	0.0820	0.0824	4.0000e-005	0.0755	0.0755	0.0000	115.1074	115.1074	0.0347	0.0000	115.8365

3.4 Vine - Below Grade - 2016

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	1.3900e-003	0.0193	0.0159	5.0000e-005	0.0107	2.5000e-004	0.0110	1.2600e-003	2.3000e-004	1.5000e-003	0.0000	4.5423	4.5423	3.0000e-005	0.0000	4.5430
Vendor	2.7900e-003	0.0363	0.0277	1.0000e-004	2.7900e-003	6.0000e-004	3.3900e-003	8.0000e-004	5.5000e-004	1.3500e-003	0.0000	8.8531	8.8531	6.0000e-005	0.0000	8.8544
Worker	4.0600e-003	7.4600e-003	0.0689	1.7000e-004	0.0140	1.0000e-004	0.0141	3.7100e-003	9.0000e-005	3.8100e-003	0.0000	12.8677	12.8677	6.6000e-004	0.0000	12.8816
Total	8.2400e-003	0.0630	0.1126	3.2000e-004	0.0275	9.5000e-004	0.0285	5.7700e-003	8.7000e-004	6.6600e-003	0.0000	26.2631	26.2631	7.5000e-004	0.0000	26.2790

3.5 Vine - Equipment Installation - 2016

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	0.1793	1.7332	1.0855	1.9300e-003		0.0957	0.0957		0.0923	0.0923	0.0000	173.7372	173.7372	0.0337	0.0000	174.4449
Total	0.1793	1.7332	1.0855	1.9300e-003		0.0957	0.0957		0.0923	0.0923	0.0000	173.7372	173.7372	0.0337	0.0000	174.4449

3.5 Vine - Equipment Installation - 2016

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	0.0000
Vendor	2.8000e-003	0.0364	0.0278	1.0000e-004	2.8000e-003	6.0000e-004	3.4000e-003	8.0000e-004	5.5000e-004	1.3500e-003	0.0000	8.8813	8.8813	6.0000e-005	0.0000	8.8826	
Worker	6.5600e-003	0.0121	0.1114	2.7000e-004	0.0226	1.6000e-004	0.0228	6.0000e-003	1.5000e-004	6.1500e-003	0.0000	20.7974	20.7974	1.0700e-003	0.0000	20.8198	
Total	9.3600e-003	0.0484	0.1392	3.7000e-004	0.0254	7.6000e-004	0.0262	6.8000e-003	7.0000e-004	7.5000e-003	0.0000	29.6786	29.6786	1.1300e-003	0.0000	29.7024	

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	0.1793	1.7332	1.0855	1.9300e-003		0.0957	0.0957		0.0923	0.0923	0.0000	173.7370	173.7370	0.0337	0.0000	174.4447
Total	0.1793	1.7332	1.0855	1.9300e-003		0.0957	0.0957		0.0923	0.0923	0.0000	173.7370	173.7370	0.0337	0.0000	174.4447

3.5 Vine - Equipment Installation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8000e-003	0.0364	0.0278	1.0000e-004	2.8000e-003	6.0000e-004	3.4000e-003	8.0000e-004	5.5000e-004	1.3500e-003	0.0000	8.8813	8.8813	6.0000e-005	0.0000	8.8826
Worker	6.5600e-003	0.0121	0.1114	2.7000e-004	0.0226	1.6000e-004	0.0228	6.0000e-003	1.5000e-004	6.1500e-003	0.0000	20.7974	20.7974	1.0700e-003	0.0000	20.8198
Total	9.3600e-003	0.0484	0.1392	3.7000e-004	0.0254	7.6000e-004	0.0262	6.8000e-003	7.0000e-004	7.5000e-003	0.0000	29.6786	29.6786	1.1300e-003	0.0000	29.7024

3.5 Vine - Equipment Installation - 2017

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	0.2370	2.3246	1.5604	2.8600e-003		0.1239	0.1239		0.1196	0.1196	0.0000	254.5140	254.5140	0.0484	0.0000	255.5295
Total	0.2370	2.3246	1.5604	2.8600e-003		0.1239	0.1239		0.1196	0.1196	0.0000	254.5140	254.5140	0.0484	0.0000	255.5295

3.5 Vine - Equipment Installation - 2017

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	0.0000
Vendor	3.7900e-003	0.0476	0.0384	1.4000e-004	4.1300e-003	7.7000e-004	4.9100e-003	1.1800e-003	7.1000e-004	1.8900e-003	0.0000	12.8886	12.8886	9.0000e-005	0.0000	12.8905	
Worker	8.6700e-003	0.0162	0.1481	4.1000e-004	0.0334	2.3000e-004	0.0336	8.8600e-003	2.2000e-004	9.0800e-003	0.0000	29.5141	29.5141	1.4600e-003	0.0000	29.5449	
Total	0.0125	0.0638	0.1866	5.5000e-004	0.0375	1.0000e-003	0.0385	0.0100	9.3000e-004	0.0110	0.0000	42.4027	42.4027	1.5500e-003	0.0000	42.4353	

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	0.2370	2.3246	1.5604	2.8600e-003		0.1239	0.1239		0.1196	0.1196	0.0000	254.5137	254.5137	0.0484	0.0000	255.5292
Total	0.2370	2.3246	1.5604	2.8600e-003		0.1239	0.1239		0.1196	0.1196	0.0000	254.5137	254.5137	0.0484	0.0000	255.5292

3.5 Vine - Equipment Installation - 2017

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	3.7900e-003	0.0476	0.0384	1.4000e-004	4.1300e-003	7.7000e-004	4.9100e-003	1.1800e-003	7.1000e-004	1.8900e-003	0.0000	12.8886	12.8886	9.0000e-005	0.0000	12.8905
Worker	8.6700e-003	0.0162	0.1481	4.1000e-004	0.0334	2.3000e-004	0.0336	8.8600e-003	2.2000e-004	9.0800e-003	0.0000	29.5141	29.5141	1.4600e-003	0.0000	29.5449
Total	0.0125	0.0638	0.1866	5.5000e-004	0.0375	1.0000e-003	0.0385	0.0100	9.3000e-004	0.0110	0.0000	42.4027	42.4027	1.5500e-003	0.0000	42.4353

3.6 12 kV - Bank and Vault Installation - Night - 2016

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	0.1453	1.6313	1.1160	1.6800e-003		0.0881	0.0881		0.0811	0.0811	0.0000	158.7027	158.7027	0.0479	0.0000	159.7080
Total	0.1453	1.6313	1.1160	1.6800e-003		0.0881	0.0881		0.0811	0.0811	0.0000	158.7027	158.7027	0.0479	0.0000	159.7080

3.6 12 kV - Bank and Vault Installation - Night - 2016

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	3.5900e-003	0.0499	0.0411	1.3000e-004	5.0800e-003	6.6000e-004	5.7400e-003	1.3300e-003	6.1000e-004	1.9400e-003	0.0000	11.7262	11.7262	8.0000e-005	0.0000	11.7279
Vendor	1.4000e-003	0.0183	0.0139	5.0000e-005	1.4000e-003	3.0000e-004	1.7100e-003	4.0000e-004	2.8000e-004	6.8000e-004	0.0000	4.4547	4.4547	3.0000e-005	0.0000	4.4554
Worker	4.7700e-003	8.7600e-003	0.0810	2.0000e-004	0.0164	1.2000e-004	0.0165	4.3600e-003	1.1000e-004	4.4700e-003	0.0000	15.1080	15.1080	7.8000e-004	0.0000	15.1243
Total	9.7600e-003	0.0769	0.1360	3.8000e-004	0.0229	1.0800e-003	0.0240	6.0900e-003	1.0000e-003	7.0900e-003	0.0000	31.2889	31.2889	8.9000e-004	0.0000	31.3076

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	0.1453	1.6313	1.1159	1.6800e-003		0.0881	0.0881		0.0811	0.0811	0.0000	158.7025	158.7025	0.0479	0.0000	159.7078
Total	0.1453	1.6313	1.1159	1.6800e-003		0.0881	0.0881		0.0811	0.0811	0.0000	158.7025	158.7025	0.0479	0.0000	159.7078

3.6 12 kV - Bank and Vault Installation - Night - 2016**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	3.5900e-003	0.0499	0.0411	1.3000e-004	5.0800e-003	6.6000e-004	5.7400e-003	1.3300e-003	6.1000e-004	1.9400e-003	0.0000	11.7262	11.7262	8.0000e-005	0.0000	11.7279
Vendor	1.4000e-003	0.0183	0.0139	5.0000e-005	1.4000e-003	3.0000e-004	1.7100e-003	4.0000e-004	2.8000e-004	6.8000e-004	0.0000	4.4547	4.4547	3.0000e-005	0.0000	4.4554
Worker	4.7700e-003	8.7600e-003	0.0810	2.0000e-004	0.0164	1.2000e-004	0.0165	4.3600e-003	1.1000e-004	4.4700e-003	0.0000	15.1080	15.1080	7.8000e-004	0.0000	15.1243
Total	9.7600e-003	0.0769	0.1360	3.8000e-004	0.0229	1.0800e-003	0.0240	6.0900e-003	1.0000e-003	7.0900e-003	0.0000	31.2889	31.2889	8.9000e-004	0.0000	31.3076

3.6 12 kV - Bank and Vault Installation - Night - 2017**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	0.1298	1.4390	1.0742	1.6400e-003		0.0773	0.0773		0.0711	0.0711	0.0000	152.1716	152.1716	0.0466	0.0000	153.1507
Total	0.1298	1.4390	1.0742	1.6400e-003		0.0773	0.0773		0.0711	0.0711	0.0000	152.1716	152.1716	0.0466	0.0000	153.1507

3.6 12 kV - Bank and Vault Installation - Night - 2017

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	3.2800e-003	0.0433	0.0384	1.2000e-004	5.0600e-003	5.6000e-004	5.6300e-003	1.3300e-003	5.2000e-004	1.8400e-003	0.0000	11.2346	11.2346	8.0000e-005	0.0000	11.2363
Vendor	1.2500e-003	0.0158	0.0127	5.0000e-005	1.3700e-003	2.6000e-004	1.6300e-003	3.9000e-004	2.4000e-004	6.3000e-004	0.0000	4.2685	4.2685	3.0000e-005	0.0000	4.2691
Worker	4.1600e-003	7.7700e-003	0.0710	1.9000e-004	0.0160	1.1000e-004	0.0161	4.2500e-003	1.0000e-004	4.3500e-003	0.0000	14.1563	14.1563	7.0000e-004	0.0000	14.1710
Total	8.6900e-003	0.0669	0.1221	3.6000e-004	0.0224	9.3000e-004	0.0234	5.9700e-003	8.6000e-004	6.8200e-003	0.0000	29.6594	29.6594	8.1000e-004	0.0000	29.6764

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	0.1298	1.4390	1.0742	1.6400e-003		0.0773	0.0773		0.0711	0.0711	0.0000	152.1714	152.1714	0.0466	0.0000	153.1506
Total	0.1298	1.4390	1.0742	1.6400e-003		0.0773	0.0773		0.0711	0.0711	0.0000	152.1714	152.1714	0.0466	0.0000	153.1506

3.6 12 kV - Bank and Vault Installation - Night - 2017

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	3.2800e-003	0.0433	0.0384	1.2000e-004	5.0600e-003	5.6000e-004	5.6300e-003	1.3300e-003	5.2000e-004	1.8400e-003	0.0000	11.2346	11.2346	8.0000e-005	0.0000	11.2363
Vendor	1.2500e-003	0.0158	0.0127	5.0000e-005	1.3700e-003	2.6000e-004	1.6300e-003	3.9000e-004	2.4000e-004	6.3000e-004	0.0000	4.2685	4.2685	3.0000e-005	0.0000	4.2691
Worker	4.1600e-003	7.7700e-003	0.0710	1.9000e-004	0.0160	1.1000e-004	0.0161	4.2500e-003	1.0000e-004	4.3500e-003	0.0000	14.1563	14.1563	7.0000e-004	0.0000	14.1710
Total	8.6900e-003	0.0669	0.1221	3.6000e-004	0.0224	9.3000e-004	0.0234	5.9700e-003	8.6000e-004	6.8200e-003	0.0000	29.6594	29.6594	8.1000e-004	0.0000	29.6764

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	0.2404	2.2885	1.4766	2.5900e-003		0.1387	0.1387		0.1317	0.1317	0.0000	236.7045	236.7045	0.0564	0.0000	237.8896
Total	0.2404	2.2885	1.4766	2.5900e-003		0.1387	0.1387		0.1317	0.1317	0.0000	236.7045	236.7045	0.0564	0.0000	237.8896

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	2.3600e-003	0.0328	0.0270	8.0000e-005	3.3400e-003	4.3000e-004	3.7800e-003	8.8000e-004	4.0000e-004	1.2700e-003	0.0000	7.7137	7.7137	6.0000e-005	0.0000	7.7148
Vendor	1.8000e-003	0.0154	0.0216	4.0000e-005	1.0300e-003	2.3000e-004	1.2600e-003	2.9000e-004	2.1000e-004	5.0000e-004	0.0000	3.4088	3.4088	3.0000e-005	0.0000	3.4094
Worker	8.2600e-003	0.0109	0.1041	2.4000e-004	0.0193	1.5000e-004	0.0195	5.1300e-003	1.4000e-004	5.2700e-003	0.0000	18.0064	18.0064	9.5000e-004	0.0000	18.0264
Total	0.0124	0.0592	0.1527	3.6000e-004	0.0237	8.1000e-004	0.0245	6.3000e-003	7.5000e-004	7.0400e-003	0.0000	29.1289	29.1289	1.0400e-003	0.0000	29.1506

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	0.2404	2.2885	1.4766	2.5900e-003		0.1387	0.1387		0.1317	0.1317	0.0000	236.7042	236.7042	0.0564	0.0000	237.8893
Total	0.2404	2.2885	1.4766	2.5900e-003		0.1387	0.1387		0.1317	0.1317	0.0000	236.7042	236.7042	0.0564	0.0000	237.8893

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	2.3600e-003	0.0328	0.0270	8.0000e-005	3.3400e-003	4.3000e-004	3.7800e-003	8.8000e-004	4.0000e-004	1.2700e-003	0.0000	7.7137	7.7137	6.0000e-005	0.0000	7.7148
Vendor	1.8000e-003	0.0154	0.0216	4.0000e-005	1.0300e-003	2.3000e-004	1.2600e-003	2.9000e-004	2.1000e-004	5.0000e-004	0.0000	3.4088	3.4088	3.0000e-005	0.0000	3.4094
Worker	8.2600e-003	0.0109	0.1041	2.4000e-004	0.0193	1.5000e-004	0.0195	5.1300e-003	1.4000e-004	5.2700e-003	0.0000	18.0064	18.0064	9.5000e-004	0.0000	18.0264
Total	0.0124	0.0592	0.1527	3.6000e-004	0.0237	8.1000e-004	0.0245	6.3000e-003	7.5000e-004	7.0400e-003	0.0000	29.1289	29.1289	1.0400e-003	0.0000	29.1506

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	0.2142	2.0468	1.4121	2.5200e-003		0.1214	0.1214		0.1152	0.1152	0.0000	228.3087	228.3087	0.0542	0.0000	229.4474
Total	0.2142	2.0468	1.4121	2.5200e-003		0.1214	0.1214		0.1152	0.1152	0.0000	228.3087	228.3087	0.0542	0.0000	229.4474

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	2.1500e-003	0.0285	0.0252	8.0000e-005	3.3300e-003	3.7000e-004	3.7000e-003	8.7000e-004	3.4000e-004	1.2100e-003	0.0000	7.3903	7.3903	5.0000e-005	0.0000	7.3914
Vendor	1.6000e-003	0.0135	0.0199	4.0000e-005	1.0000e-003	1.9000e-004	1.1900e-003	2.9000e-004	1.8000e-004	4.6000e-004	0.0000	3.2663	3.2663	2.0000e-005	0.0000	3.2669
Worker	7.3000e-003	9.6700e-003	0.0914	2.3000e-004	0.0188	1.4000e-004	0.0190	5.0000e-003	1.3000e-004	5.1300e-003	0.0000	16.8725	16.8725	8.6000e-004	0.0000	16.8905
Total	0.0111	0.0516	0.1366	3.5000e-004	0.0232	7.0000e-004	0.0239	6.1600e-003	6.5000e-004	6.8000e-003	0.0000	27.5292	27.5292	9.3000e-004	0.0000	27.5488

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	0.2142	2.0468	1.4121	2.5200e-003		0.1214	0.1214		0.1152	0.1152	0.0000	228.3084	228.3084	0.0542	0.0000	229.4471
Total	0.2142	2.0468	1.4121	2.5200e-003		0.1214	0.1214		0.1152	0.1152	0.0000	228.3084	228.3084	0.0542	0.0000	229.4471

3.7 12 kV - Bank and Vault Installation - Day - 2017**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	2.1500e-003	0.0285	0.0252	8.0000e-005	3.3300e-003	3.7000e-004	3.7000e-003	8.7000e-004	3.4000e-004	1.2100e-003	0.0000	7.3903	7.3903	5.0000e-005	0.0000	7.3914
Vendor	1.6000e-003	0.0135	0.0199	4.0000e-005	1.0000e-003	1.9000e-004	1.1900e-003	2.9000e-004	1.8000e-004	4.6000e-004	0.0000	3.2663	3.2663	2.0000e-005	0.0000	3.2669
Worker	7.3000e-003	9.6700e-003	0.0914	2.3000e-004	0.0188	1.4000e-004	0.0190	5.0000e-003	1.3000e-004	5.1300e-003	0.0000	16.8725	16.8725	8.6000e-004	0.0000	16.8905
Total	0.0111	0.0516	0.1366	3.5000e-004	0.0232	7.0000e-004	0.0239	6.1600e-003	6.5000e-004	6.8000e-003	0.0000	27.5292	27.5292	9.3000e-004	0.0000	27.5488

3.8 69 kV - Foundation Installation - 2016**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	7.9400e-003	0.0875	0.0449	1.1000e-004		4.3900e-003	4.3900e-003		4.1300e-003	4.1300e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629
Total	7.9400e-003	0.0875	0.0449	1.1000e-004		4.3900e-003	4.3900e-003		4.1300e-003	4.1300e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629

3.8 69 kV - Foundation Installation - 2016

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	3.7000e-004	5.0800e-003	4.1900e-003	1.0000e-005	3.0000e-004	7.0000e-005	3.7000e-004	8.0000e-005	6.0000e-005	1.4000e-004	0.0000	1.1953	1.1953	1.0000e-005	0.0000	1.1955
Vendor	2.3000e-004	3.0000e-003	2.2900e-003	1.0000e-005	2.3000e-004	5.0000e-005	2.8000e-004	7.0000e-005	5.0000e-005	1.1000e-004	0.0000	0.7331	0.7331	1.0000e-005	0.0000	0.7332
Worker	2.0000e-004	3.6000e-004	3.3300e-003	1.0000e-005	6.8000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6215	0.6215	3.0000e-005	0.0000	0.6222
Total	8.0000e-004	8.4400e-003	9.8100e-003	3.0000e-005	1.2100e-003	1.2000e-004	1.3300e-003	3.3000e-004	1.1000e-004	4.3000e-004	0.0000	2.5499	2.5499	5.0000e-005	0.0000	2.5509

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	7.9400e-003	0.0875	0.0449	1.1000e-004		4.3900e-003	4.3900e-003		4.1300e-003	4.1300e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629
Total	7.9400e-003	0.0875	0.0449	1.1000e-004		4.3900e-003	4.3900e-003		4.1300e-003	4.1300e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629

3.8 69 kV - Foundation Installation - 2016

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	3.7000e-004	5.0800e-003	4.1900e-003	1.0000e-005	3.0000e-004	7.0000e-005	3.7000e-004	8.0000e-005	6.0000e-005	1.4000e-004	0.0000	1.1953	1.1953	1.0000e-005	0.0000	1.1955
Vendor	2.3000e-004	3.0000e-003	2.2900e-003	1.0000e-005	2.3000e-004	5.0000e-005	2.8000e-004	7.0000e-005	5.0000e-005	1.1000e-004	0.0000	0.7331	0.7331	1.0000e-005	0.0000	0.7332
Worker	2.0000e-004	3.6000e-004	3.3300e-003	1.0000e-005	6.8000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6215	0.6215	3.0000e-005	0.0000	0.6222
Total	8.0000e-004	8.4400e-003	9.8100e-003	3.0000e-005	1.2100e-003	1.2000e-004	1.3300e-003	3.3000e-004	1.1000e-004	4.3000e-004	0.0000	2.5499	2.5499	5.0000e-005	0.0000	2.5509

3.9 69 kV - Pole Installation and Removal - 2016

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	0.0254	0.2524	0.1316	2.3000e-004		0.0137	0.0137		0.0131	0.0131	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625
Total	0.0254	0.2524	0.1316	2.3000e-004		0.0137	0.0137		0.0131	0.0131	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625

3.9 69 kV - Pole Installation and Removal - 2016

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	7.1000e-004	9.2400e-003	7.0600e-003	2.0000e-005	7.1000e-004	1.5000e-004	8.6000e-004	2.0000e-004	1.4000e-004	3.4000e-004	0.0000	2.2556	2.2556	2.0000e-005	0.0000	2.2559
Worker	4.3000e-004	7.9000e-004	7.3200e-003	2.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.3660	1.3660	7.0000e-005	0.0000	1.3675
Total	1.1400e-003	0.0100	0.0144	4.0000e-005	2.1900e-003	1.6000e-004	2.3500e-003	5.9000e-004	1.5000e-004	7.4000e-004	0.0000	3.6216	3.6216	9.0000e-005	0.0000	3.6234

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	0.0254	0.2524	0.1316	2.3000e-004		0.0137	0.0137		0.0131	0.0131	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625
Total	0.0254	0.2524	0.1316	2.3000e-004		0.0137	0.0137		0.0131	0.0131	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625

3.9 69 kV - Pole Installation and Removal - 2016

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	7.1000e-004	9.2400e-003	7.0600e-003	2.0000e-005	7.1000e-004	1.5000e-004	8.6000e-004	2.0000e-004	1.4000e-004	3.4000e-004	0.0000	2.2556	2.2556	2.0000e-005	0.0000	2.2559
Worker	4.3000e-004	7.9000e-004	7.3200e-003	2.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.3660	1.3660	7.0000e-005	0.0000	1.3675
Total	1.1400e-003	0.0100	0.0144	4.0000e-005	2.1900e-003	1.6000e-004	2.3500e-003	5.9000e-004	1.5000e-004	7.4000e-004	0.0000	3.6216	3.6216	9.0000e-005	0.0000	3.6234

3.9 69 kV - Pole Installation and Removal - 2017

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	0.0285	0.2852	0.1582	2.8000e-004		0.0151	0.0151		0.0143	0.0143	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614
Total	0.0285	0.2852	0.1582	2.8000e-004		0.0151	0.0151		0.0143	0.0143	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614

3.9 69 kV - Pole Installation and Removal - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1000e-004	0.0102	8.2700e-003	3.0000e-005	8.9000e-004	1.7000e-004	1.0600e-003	2.5000e-004	1.5000e-004	4.1000e-004	0.0000	2.7717	2.7717	2.0000e-005	0.0000	2.7721
Worker	4.8000e-004	9.0000e-004	8.2400e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6415	1.6415	8.0000e-005	0.0000	1.6432
Total	1.2900e-003	0.0111	0.0165	5.0000e-005	2.7500e-003	1.8000e-004	2.9300e-003	7.4000e-004	1.6000e-004	9.1000e-004	0.0000	4.4132	4.4132	1.0000e-004	0.0000	4.4154

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	0.0285	0.2852	0.1582	2.8000e-004		0.0151	0.0151		0.0143	0.0143	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614
Total	0.0285	0.2852	0.1582	2.8000e-004		0.0151	0.0151		0.0143	0.0143	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614

3.9 69 kV - Pole Installation and Removal - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1000e-004	0.0102	8.2700e-003	3.0000e-005	8.9000e-004	1.7000e-004	1.0600e-003	2.5000e-004	1.5000e-004	4.1000e-004	0.0000	2.7717	2.7717	2.0000e-005	0.0000	2.7721
Worker	4.8000e-004	9.0000e-004	8.2400e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6415	1.6415	8.0000e-005	0.0000	1.6432
Total	1.2900e-003	0.0111	0.0165	5.0000e-005	2.7500e-003	1.8000e-004	2.9300e-003	7.4000e-004	1.6000e-004	9.1000e-004	0.0000	4.4132	4.4132	1.0000e-004	0.0000	4.4154

3.10 69 kV - Conductor Installation - 2017

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	0.0238	0.2686	0.1532	2.5000e-004		0.0141	0.0141		0.0130	0.0130	0.0000	23.2960	23.2960	7.1400e-003	0.0000	23.4459
Total	0.0238	0.2686	0.1532	2.5000e-004		0.0141	0.0141		0.0130	0.0130	0.0000	23.2960	23.2960	7.1400e-003	0.0000	23.4459

3.10 69 kV - Conductor Installation - 2017

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	1.2200e-003	0.0154	0.0124	5.0000e-005	1.3300e-003	2.5000e-004	1.5800e-003	3.8000e-004	2.3000e-004	6.1000e-004	0.0000	4.1576	4.1576	3.0000e-005	0.0000	4.1582
Worker	4.8000e-004	9.0000e-004	8.2400e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6415	1.6415	8.0000e-005	0.0000	1.6432
Total	1.7000e-003	0.0163	0.0206	7.0000e-005	3.1900e-003	2.6000e-004	3.4500e-003	8.7000e-004	2.4000e-004	1.1100e-003	0.0000	5.7991	5.7991	1.1000e-004	0.0000	5.8014

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	0.0238	0.2686	0.1532	2.5000e-004		0.0141	0.0141		0.0130	0.0130	0.0000	23.2960	23.2960	7.1400e-003	0.0000	23.4459
Total	0.0238	0.2686	0.1532	2.5000e-004		0.0141	0.0141		0.0130	0.0130	0.0000	23.2960	23.2960	7.1400e-003	0.0000	23.4459

3.10 69 kV - Conductor Installation - 2017

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	1.2200e-003	0.0154	0.0124	5.0000e-005	1.3300e-003	2.5000e-004	1.5800e-003	3.8000e-004	2.3000e-004	6.1000e-004	0.0000	4.1576	4.1576	3.0000e-005	0.0000	4.1582
Worker	4.8000e-004	9.0000e-004	8.2400e-003	2.0000e-005	1.8600e-003	1.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6415	1.6415	8.0000e-005	0.0000	1.6432
Total	1.7000e-003	0.0163	0.0206	7.0000e-005	3.1900e-003	2.6000e-004	3.4500e-003	8.7000e-004	2.4000e-004	1.1100e-003	0.0000	5.7991	5.7991	1.1000e-004	0.0000	5.8014

3.11 12 kV - Jack-and-Bore Installation - 2017

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	0.0282	0.2805	0.1708	3.5000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	31.1970	31.1970	8.0700e-003	0.0000	31.3664
Total	0.0282	0.2805	0.1708	3.5000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	31.1970	31.1970	8.0700e-003	0.0000	31.3664

3.11 12 kV - Jack-and-Bore Installation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-004	6.6000e-003	5.8400e-003	2.0000e-005	4.4000e-004	9.0000e-005	5.2000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.7121	1.7121	1.0000e-005	0.0000	1.7124
Vendor	4.4000e-004	5.5300e-003	4.4600e-003	2.0000e-005	4.8000e-004	9.0000e-005	5.7000e-004	1.4000e-004	8.0000e-005	2.2000e-004	0.0000	1.4967	1.4967	1.0000e-005	0.0000	1.4970
Worker	3.1000e-004	5.8000e-004	5.3400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0637	1.0637	5.0000e-005	0.0000	1.0648
Total	1.2500e-003	0.0127	0.0156	5.0000e-005	2.1200e-003	1.9000e-004	2.3000e-003	5.8000e-004	1.7000e-004	7.5000e-004	0.0000	4.2725	4.2725	7.0000e-005	0.0000	4.2741

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	0.0282	0.2805	0.1708	3.5000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	31.1970	31.1970	8.0700e-003	0.0000	31.3664
Total	0.0282	0.2805	0.1708	3.5000e-004		0.0140	0.0140		0.0133	0.0133	0.0000	31.1970	31.1970	8.0700e-003	0.0000	31.3664

3.11 12 kV - Jack-and-Bore Installation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-004	6.6000e-003	5.8400e-003	2.0000e-005	4.4000e-004	9.0000e-005	5.2000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.7121	1.7121	1.0000e-005	0.0000	1.7124
Vendor	4.4000e-004	5.5300e-003	4.4600e-003	2.0000e-005	4.8000e-004	9.0000e-005	5.7000e-004	1.4000e-004	8.0000e-005	2.2000e-004	0.0000	1.4967	1.4967	1.0000e-005	0.0000	1.4970
Worker	3.1000e-004	5.8000e-004	5.3400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0637	1.0637	5.0000e-005	0.0000	1.0648
Total	1.2500e-003	0.0127	0.0156	5.0000e-005	2.1200e-003	1.9000e-004	2.3000e-003	5.8000e-004	1.7000e-004	7.5000e-004	0.0000	4.2725	4.2725	7.0000e-005	0.0000	4.2741

3.12 Energization - Testing and Commissioning - 2017

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	0.0633	0.7136	0.3400	9.5000e-004		0.0265	0.0265		0.0244	0.0244	0.0000	88.4896	88.4896	0.0271	0.0000	89.0589
Total	0.0633	0.7136	0.3400	9.5000e-004		0.0265	0.0265		0.0244	0.0244	0.0000	88.4896	88.4896	0.0271	0.0000	89.0589

3.12 Energization - Testing and Commissioning - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2400e-003	4.1800e-003	0.0383	1.0000e-004	8.6200e-003	6.0000e-005	8.6800e-003	2.2900e-003	6.0000e-005	2.3400e-003	0.0000	7.6231	7.6231	3.8000e-004	0.0000	7.6311
Total	2.2400e-003	4.1800e-003	0.0383	1.0000e-004	8.6200e-003	6.0000e-005	8.6800e-003	2.2900e-003	6.0000e-005	2.3400e-003	0.0000	7.6231	7.6231	3.8000e-004	0.0000	7.6311

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	0.0633	0.7136	0.3400	9.5000e-004		0.0265	0.0265		0.0244	0.0244	0.0000	88.4895	88.4895	0.0271	0.0000	89.0588
Total	0.0633	0.7136	0.3400	9.5000e-004		0.0265	0.0265		0.0244	0.0244	0.0000	88.4895	88.4895	0.0271	0.0000	89.0588

3.12 Energization - Testing and Commissioning - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2400e-003	4.1800e-003	0.0383	1.0000e-004	8.6200e-003	6.0000e-005	8.6800e-003	2.2900e-003	6.0000e-005	2.3400e-003	0.0000	7.6231	7.6231	3.8000e-004	0.0000	7.6311
Total	2.2400e-003	4.1800e-003	0.0383	1.0000e-004	8.6200e-003	6.0000e-005	8.6800e-003	2.2900e-003	6.0000e-005	2.3400e-003	0.0000	7.6231	7.6231	3.8000e-004	0.0000	7.6311

3.13 Telecom - Bank and Vault Installation - 2017

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	1.9800e-003	0.0207	0.0177	2.0000e-005		1.4200e-003	1.4200e-003		1.3100e-003	1.3100e-003	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528
Total	1.9800e-003	0.0207	0.0177	2.0000e-005		1.4200e-003	1.4200e-003		1.3100e-003	1.3100e-003	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528

3.13 Telecom - Bank and Vault Installation - 2017

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	2.6000e-004	3.5000e-003	3.0900e-003	1.0000e-005	2.3000e-004	5.0000e-005	2.8000e-004	6.0000e-005	4.0000e-005	1.1000e-004	0.0000	0.9064	0.9064	1.0000e-005	0.0000	0.9066
Vendor	4.1000e-004	5.1200e-003	4.1300e-003	2.0000e-005	4.4000e-004	8.0000e-005	5.3000e-004	1.3000e-004	8.0000e-005	2.0000e-004	0.0000	1.3859	1.3859	1.0000e-005	0.0000	1.3861
Worker	0.0000	0.0000	0.0000	0.0000	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	6.7000e-004	8.6200e-003	7.2200e-003	3.0000e-005	6.7000e-004	1.3000e-004	8.1000e-004	1.9000e-004	1.2000e-004	3.1000e-004	0.0000	2.2923	2.2923	2.0000e-005	0.0000	2.2926

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	1.9800e-003	0.0207	0.0177	2.0000e-005		1.4200e-003	1.4200e-003		1.3100e-003	1.3100e-003	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528
Total	1.9800e-003	0.0207	0.0177	2.0000e-005		1.4200e-003	1.4200e-003		1.3100e-003	1.3100e-003	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528

3.13 Telecom - Bank and Vault Installation - 2017

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	2.6000e-004	3.5000e-003	3.0900e-003	1.0000e-005	2.3000e-004	5.0000e-005	2.8000e-004	6.0000e-005	4.0000e-005	1.1000e-004	0.0000	0.9064	0.9064	1.0000e-005	0.0000	0.9066
Vendor	4.1000e-004	5.1200e-003	4.1300e-003	2.0000e-005	4.4000e-004	8.0000e-005	5.3000e-004	1.3000e-004	8.0000e-005	2.0000e-004	0.0000	1.3859	1.3859	1.0000e-005	0.0000	1.3861
Worker	0.0000	0.0000	0.0000	0.0000	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	6.7000e-004	8.6200e-003	7.2200e-003	3.0000e-005	6.7000e-004	1.3000e-004	8.1000e-004	1.9000e-004	1.2000e-004	3.1000e-004	0.0000	2.2923	2.2923	2.0000e-005	0.0000	2.2926

3.14 12 kV - Cable Installation - 2017

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	3.3600e-003	0.0291	0.0203	2.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	2.2893	2.2893	7.0000e-004	0.0000	2.3040
Total	3.3600e-003	0.0291	0.0203	2.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	2.2893	2.2893	7.0000e-004	0.0000	2.3040

3.14 12 kV - Cable Installation - 2017

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	1.2700e-003	0.0160	0.0129	5.0000e-005	1.3900e-003	2.6000e-004	1.6500e-003	4.0000e-004	2.4000e-004	6.3000e-004	0.0000	4.3239	4.3239	3.0000e-005	0.0000	4.3245
Worker	2.4100e-003	4.5000e-003	0.0411	1.1000e-004	9.2600e-003	6.0000e-005	9.3300e-003	2.4600e-003	6.0000e-005	2.5200e-003	0.0000	8.1944	8.1944	4.1000e-004	0.0000	8.2029
Total	3.6800e-003	0.0205	0.0540	1.6000e-004	0.0107	3.2000e-004	0.0110	2.8600e-003	3.0000e-004	3.1500e-003	0.0000	12.5183	12.5183	4.4000e-004	0.0000	12.5274

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	3.3600e-003	0.0291	0.0203	2.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	2.2893	2.2893	7.0000e-004	0.0000	2.3040
Total	3.3600e-003	0.0291	0.0203	2.0000e-005		2.3900e-003	2.3900e-003		2.2000e-003	2.2000e-003	0.0000	2.2893	2.2893	7.0000e-004	0.0000	2.3040

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	0.0000
Total		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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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
Aerial Lifts	2	8.00	3	62	0.31	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Aerial Lifts	1.5000e-004	2.4000e-003	3.2400e-003	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.4598	0.4598	1.4000e-004	0.0000	0.4627
Total	1.5000e-004	2.4000e-003	3.2400e-003	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.4598	0.4598	1.4000e-004	0.0000	0.4627

10.0 Vegetation

Vine 69/12 kV Substation Project
San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Substation parcel size set to 1.5 acre

Construction Phase - Schedule taken from Chapter 2 - Project Description. Telecom cable installation will be conducted with the same equipment as 12 kV cable installation.

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description.

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description in the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Trips and VMT - Values calculated from import and export needs.

On-road Fugitive Dust - Assume 98 percent of substation hauling trips are off pavement due to site development being conducted and the final roads not being paved.

Grading - Total area disturbed has been updated to indicate the size of the substation parcel

Vehicle Trips - Conservatively estimated an average of 10 trips per day to handle operation and maintenance.

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Assume 2 bucket trucks three times per year for transmission line maintenance. Remainder of maintenance is performed from on-road vehicles.

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	129.00
tblConstructionPhase	NumDays	200.00	78.00

tblConstructionPhase	NumDays	200.00	53.00
tblConstructionPhase	NumDays	200.00	260.00
tblConstructionPhase	NumDays	200.00	90.00
tblConstructionPhase	NumDays	200.00	50.00
tblConstructionPhase	NumDays	200.00	18.00
tblConstructionPhase	NumDays	4.00	78.00
tblConstructionPhase	NumDays	2.00	157.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	6/21/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	7/29/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	6/1/2016	4/30/2016
tblConstructionPhase	PhaseEndDate	7/31/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	4/27/2017	2/28/2017
tblConstructionPhase	PhaseEndDate	3/21/2017	1/21/2017
tblConstructionPhase	PhaseEndDate	10/31/2016	9/30/2016
tblConstructionPhase	PhaseEndDate	7/29/2017	4/30/2017

tblConstructionPhase	PhaseEndDate	12/29/2017	3/31/2017
tblConstructionPhase	PhaseEndDate	4/15/2017	11/15/2016
tblConstructionPhase	PhaseEndDate	9/29/2017	3/31/2017
tblConstructionPhase	PhaseStartDate	1/22/2017	2/1/2017
tblConstructionPhase	PhaseStartDate	5/1/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	4/1/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	10/1/2016	9/1/2016
tblConstructionPhase	PhaseStartDate	3/1/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	3/1/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	5/1/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	7/1/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	7/1/2017	10/1/2016
tblConstructionPhase	PhaseStartDate	4/1/2017	11/1/2016
tblConstructionPhase	PhaseStartDate	4/1/2017	10/1/2016
tblGrading	AcresOfGrading	273.00	1.50
tblGrading	AcresOfGrading	0.00	1.50
tblGrading	MaterialExported	0.00	4,200.00
tblGrading	MaterialExported	0.00	988.00
tblGrading	MaterialImported	0.00	6,700.00
tblLandUse	LotAcreage	0.00	1.50
tblOffRoadEquipment	HorsePower	97.00	162.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.38

tbloffRoadEquipment	LoadFactor	0.38	0.38
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tbloffRoadEquipment	OffRoadEquipmentType		Excavators
tbloffRoadEquipment	OffRoadEquipmentType		Cranes
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tbloffRoadEquipment	OffRoadEquipmentType		Rollers
tbloffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tbloffRoadEquipment	OffRoadEquipmentType		Air Compressors
tbloffRoadEquipment	OffRoadEquipmentType		Generator Sets
tbloffRoadEquipment	OffRoadEquipmentType	Excavators	Tractors/Loaders/Backhoes
tbloffRoadEquipment	OffRoadEquipmentType		Generator Sets
tbloffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tbloffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tbloffRoadEquipment	OffRoadEquipmentType		Air Compressors
tbloffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	HaulingTripNumber	1,363.00	922.00
tblTripsAndVMT	HaulingTripNumber	0.00	27.00
tblTripsAndVMT	HaulingTripNumber	124.00	133.00
tblTripsAndVMT	HaulingTripNumber	0.00	678.00
tblTripsAndVMT	HaulingTripNumber	0.00	35.00
tblTripsAndVMT	HaulingTripNumber	0.00	51.00
tblTripsAndVMT	HaulingTripNumber	0.00	446.00
tblTripsAndVMT	PhaseName		12 kV - Bank and Vault Installation - Day
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripLength	10.80	20.00
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tblTripsAndVMT	WorkerTripLength	10.80	20.00
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tblTripsAndVMT	WorkerTripLength	10.80	20.00
tblTripsAndVMT	WorkerTripNumber	50.00	33.00
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tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00
tblTripsAndVMT	WorkerTripNumber	15.00	12.00
tblTripsAndVMT	WorkerTripNumber	0.00	29.00
tblTripsAndVMT	WorkerTripNumber	38.00	28.00
tblTripsAndVMT	WorkerTripNumber	13.00	7.00

tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	9.00
tblTripsAndVMT	WorkerTripNumber	78.00	61.00
tblVehicleTrips	ST_TR	0.00	10.00
tblVehicleTrips	SU_TR	0.00	10.00
tblVehicleTrips	WD_TR	0.00	10.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Offroad	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331
Total	0.0967	1.6025	2.1589	3.3100e-003	0.0000	0.0566	0.0566	0.0000	0.0520	0.0520		337.8595	337.8595	0.1035	0.0000	340.0334

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Offroad	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331
Total	0.0967	1.6025	2.1589	3.3100e-003	0.0000	0.0566	0.0566	0.0000	0.0520	0.0520		337.8595	337.8595	0.1035	0.0000	340.0334

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	99.99	100.00	100.00	100.00	0.00	100.00	100.00	0.00	100.00	100.00	0.00	100.00	100.00	100.00	0.00	100.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Vine - Site Development	Grading	1/1/2016	3/31/2016	6	78	
2	Vine - Wall Construction	Building Construction	3/1/2016	4/30/2016	6	53	
3	Vine - Below Grade	Site Preparation	4/1/2016	9/30/2016	6	157	
4	Vine - Equipment Installation	Building Construction	9/1/2016	6/30/2017	6	260	
5	12 kV - Bank and Vault Installation - Night	Trenching	10/1/2016	3/31/2017	6	156	
6	12 kV - Bank and Vault Installation - Day	Trenching	10/1/2016	3/31/2017	6	156	
7	69 kV - Foundation Installation	Trenching	11/1/2016	11/15/2016	6	13	
8	69 kV - Pole Installation and Removal	Building Construction	11/16/2016	2/28/2017	6	90	
9	69 kV - Conductor Installation	Building Construction	1/1/2017	2/28/2017	6	50	
10	12 kV - Jack-and-Bore Installation	Building Construction	1/1/2017	1/21/2017	6	18	
11	Energization - Testing and Commissioning	Building Construction	2/1/2017	6/30/2017	6	129	
12	Telecom - Bank and Vault Installation	Trenching	4/1/2017	4/30/2017	6	25	
13	12 kV - Cable Installation	Building Construction	4/1/2017	6/30/2017	6	78	

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Vine - Site Development	Excavators	1	6.00	162	0.38
Vine - Site Development	Graders	0	6.00	174	0.41
Vine - Site Development	Off-Highway Trucks	1	7.00	400	0.38
Vine - Site Development	Pavers	1	6.00	125	0.42

Vine - Site Development	Rollers	2	7.00	80	0.38
Vine - Site Development	Rollers	2	6.00	80	0.38
Vine - Site Development	Rubber Tired Dozers	0	6.00	255	0.40
Vine - Site Development	Rubber Tired Dozers	2	6.00	255	0.40
Vine - Site Development	Scrapers	4	7.00	361	0.48
Vine - Site Development	Skid Steer Loaders	2	3.00	64	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development	Trenchers	1	6.00	80	0.50
Vine - Wall Construction	Cranes	0	6.00	226	0.29
Vine - Wall Construction	Excavators	1	9.00	162	0.38
Vine - Wall Construction	Forklifts	0	6.00	89	0.20
Vine - Wall Construction	Generator Sets	0	8.00	84	0.74
Vine - Wall Construction	Graders	1	9.00	174	0.41
Vine - Wall Construction	Off-Highway Trucks	1	9.00	400	0.38
Vine - Wall Construction	Plate Compactors	3	9.00	8	0.43
Vine - Wall Construction	Rollers	1	9.00	80	0.38
Vine - Wall Construction	Rubber Tired Dozers	1	7.00	255	0.40
Vine - Wall Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Wall Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Wall Construction	Tractors/Loaders/Backhoes	3	9.00	97	0.37
Vine - Wall Construction	Welders	0	8.00	46	0.45
Vine - Below Grade	Graders	0	8.00	174	0.41
Vine - Below Grade	Off-Highway Trucks	1	3.00	400	0.38
Vine - Below Grade	Rubber Tired Dozers	0	7.00	255	0.40

Vine - Below Grade	Skid Steer Loaders	1	4.00	64	0.37
Vine - Below Grade	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Vine - Below Grade	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Below Grade	Trenchers	1	6.00	80	0.50
Vine - Equipment Installation	Aerial Lifts	1	6.00	62	0.31
Vine - Equipment Installation	Aerial Lifts	4	5.00	62	0.31
Vine - Equipment Installation	Cranes	0	6.00	226	0.29
Vine - Equipment Installation	Cranes	0	6.00	226	0.29
Vine - Equipment Installation	Cranes	2	6.00	226	0.29
Vine - Equipment Installation	Forklifts	0	6.00	89	0.20
Vine - Equipment Installation	Generator Sets	0	8.00	84	0.74
Vine - Equipment Installation	Generator Sets	1	24.00	84	0.74
Vine - Equipment Installation	Off-Highway Trucks	1	2.00	400	0.38
Vine - Equipment Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Equipment Installation	Welders	0	8.00	46	0.45
12 kV - Bank and Vault Installation - Night	Cranes	1	6.00	226	0.29
12 kV - Bank and Vault Installation - Night	Tractors/Loaders/Backhoes	3	8.00	162	0.38
12 kV - Bank and Vault Installation - Night	Other Construction Equipment	1	1.00	171	0.42
12 kV - Bank and Vault Installation - Night	Paving Equipment	1	6.00	130	0.36
12 kV - Bank and Vault Installation - Night	Paving Equipment	2	7.00	130	0.36
12 kV - Bank and Vault Installation - Night	Rollers	2	4.00	80	0.38
12 kV - Bank and Vault Installation - Night	Skid Steer Loaders	4	6.00	64	0.37
12 kV - Bank and Vault Installation - Night	Tractors/Loaders/Backhoes	1	8.00	97	0.37
69 kV - Foundation Installation	Bore/Drill Rigs	1	8.00	205	0.50
69 kV - Foundation Installation	Cranes	1	3.00	226	0.29
69 kV - Foundation Installation	Forklifts	1	4.00	89	0.20

69 kV - Foundation Installation	Generator Sets	1	4.00	84	0.74
69 kV - Foundation Installation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
69 kV - Pole Installation and Removal	Aerial Lifts	1	8.00	62	0.31
69 kV - Pole Installation and Removal	Air Compressors	1	8.00	78	0.48
69 kV - Pole Installation and Removal	Cranes	1	8.00	226	0.29
69 kV - Pole Installation and Removal	Forklifts	0	6.00	89	0.20
69 kV - Pole Installation and Removal	Generator Sets	0	8.00	84	0.74
69 kV - Pole Installation and Removal	Tractors/Loaders/Backhoes	0	6.00	97	0.37
69 kV - Pole Installation and Removal	Welders	0	8.00	46	0.45
69 kV - Conductor Installation	Aerial Lifts	2	7.00	62	0.31
69 kV - Conductor Installation	Cranes	0	6.00	226	0.29
69 kV - Conductor Installation	Cranes	0	6.00	226	0.29
69 kV - Conductor Installation	Cranes	1	7.00	226	0.29
69 kV - Conductor Installation	Forklifts	0	6.00	89	0.20
69 kV - Conductor Installation	Generator Sets	0	8.00	84	0.74
69 kV - Conductor Installation	Other General Industrial Equipment	1	7.00	87	0.34
69 kV - Conductor Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
69 kV - Conductor Installation	Welders	0	8.00	46	0.45
12 kV - Jack-and-Bore Installation	Aerial Lifts	1	6.00	62	0.31
12 kV - Jack-and-Bore Installation	Air Compressors	1	3.00	78	0.48
12 kV - Jack-and-Bore Installation	Bore/Drill Rigs	1	6.00	205	0.50
12 kV - Jack-and-Bore Installation	Concrete/Industrial Saws	1	4.00	81	0.73
12 kV - Jack-and-Bore Installation	Cranes	1	4.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	2	3.00	226	0.29
12 kV - Jack-and-Bore Installation	Excavators	1	6.00	162	0.38
12 kV - Jack-and-Bore Installation	Forklifts	0	6.00	89	0.20
12 kV - Jack-and-Bore Installation	Generator Sets	1	4.00	84	0.74
12 kV - Jack-and-Bore Installation	Off-Highway Trucks	1	4.00	400	0.38

12 kV - Jack-and-Bore Installation	Pumps	1	6.00	10	0.74
12 kV - Jack-and-Bore Installation	Skid Steer Loaders	1	3.00	64	0.37
12 kV - Jack-and-Bore Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Jack-and-Bore Installation	Welders	1	4.00	46	0.45
Energization - Testing and Commissioning	Cranes	0	6.00	226	0.29
Energization - Testing and Commissioning	Forklifts	0	6.00	89	0.20
Energization - Testing and Commissioning	Generator Sets	0	8.00	84	0.74
Energization - Testing and Commissioning	Off-Highway Trucks	3	3.00	400	0.38
Energization - Testing and Commissioning	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Energization - Testing and Commissioning	Welders	0	8.00	46	0.45
Telecom - Bank and Vault Installation	Skid Steer Loaders	1	3.00	64	0.37
Telecom - Bank and Vault Installation	Tractors/Loaders/Backhoes	1	3.00	97	0.37
12 kV - Cable Installation	Cranes	0	6.00	226	0.29
12 kV - Cable Installation	Forklifts	0	6.00	89	0.20
12 kV - Cable Installation	Generator Sets	0	8.00	84	0.74
12 kV - Cable Installation	Other General Industrial Equipment	1	2.00	87	0.34
12 kV - Cable Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
12 kV - Cable Installation	Welders	0	8.00	46	0.45
12 kV - Bank and Vault Installation - Day	Generator Sets	1	6.00	84	0.74
12 kV - Bank and Vault Installation - Day	Concrete/Industrial Saws	1	6.00	81	0.73
12 kV - Bank and Vault Installation - Day	Off-Highway Trucks	1	6.00	400	0.38
12 kV - Bank and Vault Installation - Day	Air Compressors	4	3.00	78	0.48
12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Bank and Vault Installation - Day	Skid Steer Loaders	6	2.00	64	0.37

12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	6	3.00	97	0.37
12 kV - Bank and Vault Installation - Day	Excavators	1	6.00	162	0.38
12 kV - Bank and Vault Installation - Day	Cranes	1	2.00	226	0.29
12 kV - Bank and Vault Installation - Day	Cranes	1	4.00	226	0.29
12 kV - Bank and Vault Installation - Day	Rollers	2	5.00	80	0.38
12 kV - Bank and Vault Installation - Day	Surfacing Equipment	2	5.00	253	0.30
12 kV - Bank and Vault Installation - Day	Air Compressors	1	5.00	78	0.48
12 kV - Bank and Vault Installation - Day	Generator Sets	1	5.00	84	0.74

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
Vine - Site Development	20	33.00	7.00	922.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Wall Construction	11	15.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Below Grade	6	12.00	2.00	133.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Equipment Installation	9	29.00	3.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Bank and Vault Installation - Night	15	28.00	2.00	678.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Foundation Installation	5	7.00	2.00	35.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Pole Installation and Removal	3	5.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Conductor Installation	4	5.00	3.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Jack-and-Bore Installation	14	9.00	3.00	51.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Energization - Testing and Commissioning	3	9.00	0.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Telecom - Bank and Vault Installation	2	0.00	2.00	27.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Cable Installation	1	16.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Bank and Vault Installation - Day	31	61.00	4.00	446.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Vine - Site Development - 2016

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					9.0732	0.0000	9.0732	4.9705	0.0000	4.9705			0.0000			0.0000
Off-Road	10.7311	123.2350	80.3693	0.1063		5.9854	5.9854		5.5066	5.5066		11,046.4781	11,046.4781	3.3320		11,116.4503
Total	10.7311	123.2350	80.3693	0.1063	9.0732	5.9854	15.0585	4.9705	5.5066	10.4771		11,046.4781	11,046.4781	3.3320		11,116.4503

3.2 Vine - Site Development - 2016

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	0.2317	3.3125	2.3646	8.8400e-003	7.1618	0.0453	7.2070	0.7500	0.0416	0.7916		890.8853	890.8853	6.3400e-003			891.0184
Vendor	0.1178	1.5611	1.0573	4.3300e-003	0.1270	0.0268	0.1537	0.0362	0.0246	0.0608		435.6448	435.6448	3.1200e-003			435.7103
Worker	0.1457	0.2366	2.5619	6.2800e-003	0.5017	3.5500e-003	0.5053	0.1331	3.2600e-003	0.1363		524.1404	524.1404	0.0256			524.6770
Total	0.4952	5.1102	5.9838	0.0195	7.7905	0.0756	7.8660	0.9192	0.0695	0.9887		1,850.6704	1,850.6704	0.0350			1,851.4057

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					4.0829	0.0000	4.0829	2.2367	0.0000	2.2367			0.0000			0.0000	
Off-Road	10.7311	123.2350	80.3693	0.1063		5.9854	5.9854		5.5066	5.5066	0.0000	11,046.4781	11,046.4781	3.3320			11,116.4503
Total	10.7311	123.2350	80.3693	0.1063	4.0829	5.9854	10.0683	2.2367	5.5066	7.7433	0.0000	11,046.4781	11,046.4781	3.3320			11,116.4503

3.2 Vine - Site Development - 2016

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	0.2317	3.3125	2.3646	8.8400e-003	2.1202	0.0453	2.1655	0.2467	0.0416	0.2883		890.8853	890.8853	6.3400e-003		891.0184
Vendor	0.1178	1.5611	1.0573	4.3300e-003	0.1270	0.0268	0.1537	0.0362	0.0246	0.0608		435.6448	435.6448	3.1200e-003		435.7103
Worker	0.1457	0.2366	2.5619	6.2800e-003	0.5017	3.5500e-003	0.5053	0.1331	3.2600e-003	0.1363		524.1404	524.1404	0.0256		524.6770
Total	0.4952	5.1102	5.9838	0.0195	2.7489	0.0756	2.8245	0.4159	0.0695	0.4854		1,850.6704	1,850.6704	0.0350		1,851.4057

3.3 Vine - Wall Construction - 2016

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	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209		5,210.2602	5,210.2602	1.5486		5,242.7804
Total	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209		5,210.2602	5,210.2602	1.5486		5,242.7804

3.3 Vine - Wall Construction - 2016

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	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004			124.4887
Worker	0.0662	0.1075	1.1645	2.8500e-003	0.2281	1.6100e-003	0.2297	0.0605	1.4800e-003	0.0620		238.2456	238.2456	0.0116			238.4895
Total	0.0999	0.5536	1.4666	4.0900e-003	0.2643	9.2500e-003	0.2736	0.0708	8.5100e-003	0.0793		362.7156	362.7156	0.0125			362.9782

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	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209	0.0000	5,210.2602	5,210.2602	1.5486			5,242.7804
Total	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209	0.0000	5,210.2602	5,210.2602	1.5486			5,242.7804

3.3 Vine - Wall Construction - 2016

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	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.0662	0.1075	1.1645	2.8500e-003	0.2281	1.6100e-003	0.2297	0.0605	1.4800e-003	0.0620		238.2456	238.2456	0.0116		238.4895
Total	0.0999	0.5536	1.4666	4.0900e-003	0.2643	9.2500e-003	0.2736	0.0708	8.5100e-003	0.0793		362.7156	362.7156	0.0125		362.9782

3.4 Vine - Below Grade - 2016

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					0.0110	0.0000	0.0110	1.2300e-003	0.0000	1.2300e-003			0.0000			0.0000
Off-Road	1.5935	15.7834	10.1287	0.0156		1.0451	1.0451		0.9615	0.9615		1,616.3608	1,616.3608	0.4876		1,626.5994
Total	1.5935	15.7834	10.1287	0.0156	0.0110	1.0451	1.0561	1.2300e-003	0.9615	0.9627		1,616.3608	1,616.3608	0.4876		1,626.5994

3.4 Vine - Below Grade - 2016

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	0.0166	0.2374	0.1695	6.3000e-004	0.5133	3.2400e-003	0.5165	0.0538	2.9800e-003	0.0567		63.8466	63.8466	4.5000e-004		63.8561
Vendor	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.0530	0.0860	0.9316	2.2800e-003	0.1825	1.2900e-003	0.1837	0.0484	1.1900e-003	0.0496		190.5965	190.5965	9.2900e-003		190.7916
Total	0.1032	0.7695	1.4031	4.1500e-003	0.7320	0.0122	0.7442	0.1125	0.0112	0.1237		378.9130	378.9130	0.0106		379.1364

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					4.9600e-003	0.0000	4.9600e-003	5.5000e-004	0.0000	5.5000e-004			0.0000			0.0000
Off-Road	1.5935	15.7834	10.1287	0.0156		1.0451	1.0451		0.9615	0.9615	0.0000	1,616.3608	1,616.3608	0.4876		1,626.5994
Total	1.5935	15.7834	10.1287	0.0156	4.9600e-003	1.0451	1.0500	5.5000e-004	0.9615	0.9620	0.0000	1,616.3608	1,616.3608	0.4876		1,626.5994

3.4 Vine - Below Grade - 2016

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	0.0166	0.2374	0.1695	6.3000e-004	0.1520	3.2400e-003	0.1552	0.0177	2.9800e-003	0.0207		63.8466	63.8466	4.5000e-004		63.8561
Vendor	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.0530	0.0860	0.9316	2.2800e-003	0.1825	1.2900e-003	0.1837	0.0484	1.1900e-003	0.0496		190.5965	190.5965	9.2900e-003		190.7916
Total	0.1032	0.7695	1.4031	4.1500e-003	0.3707	0.0122	0.3829	0.0764	0.0112	0.0876		378.9130	378.9130	0.0106		379.1364

3.5 Vine - Equipment Installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581		3,647.8570	3,647.8570	0.7076		3,662.7157
Total	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581		3,647.8570	3,647.8570	0.7076		3,662.7157

3.5 Vine - Equipment Installation - 2016

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	0.0505	0.6690	0.4531	1.8600e-003	0.0544	0.0115	0.0659	0.0155	0.0105	0.0261		186.7049	186.7049	1.3400e-003			186.7330
Worker	0.1280	0.2079	2.2513	5.5200e-003	0.4409	3.1200e-003	0.4440	0.1169	2.8600e-003	0.1198		460.6082	460.6082	0.0225			461.0798
Total	0.1785	0.8770	2.7045	7.3800e-003	0.4954	0.0146	0.5099	0.1324	0.0134	0.1458		647.3131	647.3131	0.0238			647.8128

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581	0.0000	3,647.8570	3,647.8570	0.7076			3,662.7157
Total	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581	0.0000	3,647.8570	3,647.8570	0.7076			3,662.7157

3.5 Vine - Equipment Installation - 2016

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	0.0505	0.6690	0.4531	1.8600e-003	0.0544	0.0115	0.0659	0.0155	0.0105	0.0261		186.7049	186.7049	1.3400e-003			186.7330
Worker	0.1280	0.2079	2.2513	5.5200e-003	0.4409	3.1200e-003	0.4440	0.1169	2.8600e-003	0.1198		460.6082	460.6082	0.0225			461.0798
Total	0.1785	0.8770	2.7045	7.3800e-003	0.4954	0.0146	0.5099	0.1324	0.0134	0.1458		647.3131	647.3131	0.0238			647.8128

3.5 Vine - Equipment Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430		3,620.0476	3,620.0476	0.6878			3,634.4909
Total	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430		3,620.0476	3,620.0476	0.6878			3,634.4909

3.5 Vine - Equipment Installation - 2017

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	0.0464	0.5929	0.4221	1.8500e-003	0.0544	9.9600e-003	0.0644	0.0155	9.1600e-003	0.0247		183.5467	183.5467	1.2500e-003			183.5730
Worker	0.1151	0.1891	2.0355	5.5200e-003	0.4409	3.0100e-003	0.4439	0.1169	2.7800e-003	0.1197		442.8268	442.8268	0.0208			443.2637
Total	0.1615	0.7819	2.4575	7.3700e-003	0.4954	0.0130	0.5083	0.1324	0.0119	0.1444		626.3735	626.3735	0.0221			626.8366

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430	0.0000	3,620.0476	3,620.0476	0.6878			3,634.4909
Total	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430	0.0000	3,620.0476	3,620.0476	0.6878			3,634.4909

3.5 Vine - Equipment Installation - 2017

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	0.0464	0.5929	0.4221	1.8500e-003	0.0544	9.9600e-003	0.0644	0.0155	9.1600e-003	0.0247		183.5467	183.5467	1.2500e-003			183.5730
Worker	0.1151	0.1891	2.0355	5.5200e-003	0.4409	3.0100e-003	0.4439	0.1169	2.7800e-003	0.1197		442.8268	442.8268	0.0208			443.2637
Total	0.1615	0.7819	2.4575	7.3700e-003	0.4954	0.0130	0.5083	0.1324	0.0119	0.1444		626.3735	626.3735	0.0221			626.8366

3.6 12 kV - Bank and Vault Installation - Night - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530		4,428.8554	4,428.8554	1.3359			4,456.9093
Total	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530		4,428.8554	4,428.8554	1.3359			4,456.9093

3.6 12 kV - Bank and Vault Installation - Night - 2016

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	0.0852	1.2179	0.8694	3.2500e-003	0.1317	0.0166	0.1484	0.0345	0.0153	0.0498		327.5598	327.5598	2.3300e-003		327.6087
Vendor	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.1236	0.2007	2.1737	5.3300e-003	0.4257	3.0100e-003	0.4287	0.1129	2.7700e-003	0.1157		444.7252	444.7252	0.0217		445.1805
Total	0.2425	1.8647	3.3452	9.8200e-003	0.5937	0.0273	0.6210	0.1577	0.0251	0.1828		896.7549	896.7549	0.0249		897.2778

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530	0.0000	4,428.8554	4,428.8554	1.3359		4,456.9093
Total	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530	0.0000	4,428.8554	4,428.8554	1.3359		4,456.9093

3.6 12 kV - Bank and Vault Installation - Night - 2016

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	0.0852	1.2179	0.8694	3.2500e-003	0.1317	0.0166	0.1484	0.0345	0.0153	0.0498		327.5598	327.5598	2.3300e-003		327.6087
Vendor	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.1236	0.2007	2.1737	5.3300e-003	0.4257	3.0100e-003	0.4287	0.1129	2.7700e-003	0.1157		444.7252	444.7252	0.0217		445.1805
Total	0.2425	1.8647	3.3452	9.8200e-003	0.5937	0.0273	0.6210	0.1577	0.0251	0.1828		896.7549	896.7549	0.0249		897.2778

3.6 12 kV - Bank and Vault Installation - Night - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472		4,356.8958	4,356.8958	1.3349		4,384.9297
Total	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472		4,356.8958	4,356.8958	1.3349		4,384.9297

3.6 12 kV - Bank and Vault Installation - Night - 2017

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	0.0798	1.0860	0.8292	3.2400e-003	0.1347	0.0146	0.1493	0.0352	0.0135	0.0487		321.9812	321.9812	2.2300e-003		322.0280
Vendor	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.1111	0.1826	1.9653	5.3300e-003	0.4257	2.9100e-003	0.4286	0.1129	2.6800e-003	0.1156		427.5570	427.5570	0.0201		427.9787
Total	0.2218	1.6638	3.0758	9.8000e-003	0.5967	0.0242	0.6209	0.1584	0.0222	0.1807		871.9026	871.9026	0.0232		872.3887

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472	0.0000	4,356.8958	4,356.8958	1.3349		4,384.9297
Total	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472	0.0000	4,356.8958	4,356.8958	1.3349		4,384.9297

3.6 12 kV - Bank and Vault Installation - Night - 2017

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	0.0798	1.0860	0.8292	3.2400e-003	0.1347	0.0146	0.1493	0.0352	0.0135	0.0487		321.9812	321.9812	2.2300e-003		322.0280
Vendor	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.1111	0.1826	1.9653	5.3300e-003	0.4257	2.9100e-003	0.4286	0.1129	2.6800e-003	0.1156		427.5570	427.5570	0.0201		427.9787
Total	0.2218	1.6638	3.0758	9.8000e-003	0.5967	0.0242	0.6209	0.1584	0.0222	0.1807		871.9026	871.9026	0.0232		872.3887

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330		6,605.6207	6,605.6207	1.5749		6,638.6935
Total	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330		6,605.6207	6,605.6207	1.5749		6,638.6935

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	0.0560	0.8012	0.5719	2.1400e-003	0.0867	0.0110	0.0976	0.0227	0.0101	0.0328		215.4744	215.4744	1.5300e-003		215.5066
Vendor	0.0417	0.3791	0.4450	9.5000e-004	0.0266	5.7300e-003	0.0323	7.5700e-003	5.2700e-003	0.0129		95.4354	95.4354	7.4000e-004		95.4509
Worker	0.2132	0.2502	2.7290	6.3500e-003	0.5011	3.7600e-003	0.5049	0.1329	3.4600e-003	0.1364		529.8045	529.8045	0.0266		530.3619
Total	0.3110	1.4305	3.7459	9.4400e-003	0.6143	0.0204	0.6347	0.1632	0.0188	0.1820		840.7143	840.7143	0.0288		841.3194

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	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330	0.0000	6,605.6207	6,605.6207	1.5749		6,638.6935
Total	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330	0.0000	6,605.6207	6,605.6207	1.5749		6,638.6935

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	0.0560	0.8012	0.5719	2.1400e-003	0.0867	0.0110	0.0976	0.0227	0.0101	0.0328		215.4744	215.4744	1.5300e-003		215.5066
Vendor	0.0417	0.3791	0.4450	9.5000e-004	0.0266	5.7300e-003	0.0323	7.5700e-003	5.2700e-003	0.0129		95.4354	95.4354	7.4000e-004		95.4509
Worker	0.2132	0.2502	2.7290	6.3500e-003	0.5011	3.7600e-003	0.5049	0.1329	3.4600e-003	0.1364		529.8045	529.8045	0.0266		530.3619
Total	0.3110	1.4305	3.7459	9.4400e-003	0.6143	0.0204	0.6347	0.1632	0.0188	0.1820		840.7143	840.7143	0.0288		841.3194

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923		6,536.8125	6,536.8125	1.5525		6,569.4149
Total	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923		6,536.8125	6,536.8125	1.5525		6,569.4149

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	0.0525	0.7144	0.5454	2.1300e-003	0.0886	9.6200e-003	0.0982	0.0232	8.8500e-003	0.0320		211.8048	211.8048	1.4700e-003		211.8356
Vendor	0.0383	0.3390	0.4177	9.5000e-004	0.0266	4.9800e-003	0.0315	7.5800e-003	4.5800e-003	0.0122		93.8232	93.8232	7.0000e-004		93.8378
Worker	0.1938	0.2274	2.4683	6.3500e-003	0.5011	3.6400e-003	0.5047	0.1329	3.3600e-003	0.1363		509.3606	509.3606	0.0246		509.8764
Total	0.2846	1.2808	3.4314	9.4300e-003	0.6163	0.0182	0.6345	0.1637	0.0168	0.1804		814.9886	814.9886	0.0267		815.5497

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	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923	0.0000	6,536.8124	6,536.8124	1.5525		6,569.4149
Total	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923	0.0000	6,536.8124	6,536.8124	1.5525		6,569.4149

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	0.0525	0.7144	0.5454	2.1300e-003	0.0886	9.6200e-003	0.0982	0.0232	8.8500e-003	0.0320		211.8048	211.8048	1.4700e-003		211.8356
Vendor	0.0383	0.3390	0.4177	9.5000e-004	0.0266	4.9800e-003	0.0315	7.5800e-003	4.5800e-003	0.0122		93.8232	93.8232	7.0000e-004		93.8378
Worker	0.1938	0.2274	2.4683	6.3500e-003	0.5011	3.6400e-003	0.5047	0.1329	3.3600e-003	0.1363		509.3606	509.3606	0.0246		509.8764
Total	0.2846	1.2808	3.4314	9.4300e-003	0.6163	0.0182	0.6345	0.1637	0.0168	0.1804		814.9886	814.9886	0.0267		815.5497

3.8 69 kV - Foundation Installation - 2016

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	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350		1,680.2971	1,680.2971	0.4414		1,689.5660
Total	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350		1,680.2971	1,680.2971	0.4414		1,689.5660

3.8 69 kV - Foundation Installation - 2016

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	0.0528	0.7545	0.5386	2.0100e-003	0.0469	0.0103	0.0572	0.0129	9.4800e-003	0.0223		202.9131	202.9131	1.4400e-003		202.9435
Vendor	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.0309	0.0502	0.5434	1.3300e-003	0.1064	7.5000e-004	0.1072	0.0282	6.9000e-004	0.0289		111.1813	111.1813	5.4200e-003		111.2951
Total	0.1173	1.2507	1.3841	4.5800e-003	0.1896	0.0187	0.2083	0.0514	0.0172	0.0686		438.5644	438.5644	7.7500e-003		438.7272

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	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350	0.0000	1,680.2971	1,680.2971	0.4414		1,689.5660
Total	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350	0.0000	1,680.2971	1,680.2971	0.4414		1,689.5660

3.8 69 kV - Foundation Installation - 2016

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	0.0528	0.7545	0.5386	2.0100e-003	0.0469	0.0103	0.0572	0.0129	9.4800e-003	0.0223		202.9131	202.9131	1.4400e-003		202.9435
Vendor	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.0309	0.0502	0.5434	1.3300e-003	0.1064	7.5000e-004	0.1072	0.0282	6.9000e-004	0.0289		111.1813	111.1813	5.4200e-003		111.2951
Total	0.1173	1.2507	1.3841	4.5800e-003	0.1896	0.0187	0.2083	0.0514	0.0172	0.0686		438.5644	438.5644	7.7500e-003		438.7272

3.9 69 kV - Pole Installation and Removal - 2016

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	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532		1,133.0957	1,133.0957	0.2728		1,138.8252
Total	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532		1,133.0957	1,133.0957	0.2728		1,138.8252

3.9 69 kV - Pole Installation and Removal - 2016

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	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004		124.4887
Worker	0.0221	0.0359	0.3882	9.5000e-004	0.0760	5.4000e-004	0.0766	0.0202	4.9000e-004	0.0207		79.4152	79.4152	3.8700e-003		79.4965
Total	0.0557	0.4819	0.6902	2.1900e-003	0.1123	8.1800e-003	0.1205	0.0305	7.5200e-003	0.0380		203.8851	203.8851	4.7600e-003		203.9852

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	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532	0.0000	1,133.0957	1,133.0957	0.2728		1,138.8252
Total	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532	0.0000	1,133.0957	1,133.0957	0.2728		1,138.8252

3.9 69 kV - Pole Installation and Removal - 2016

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	0.0337	0.4460	0.3021	1.2400e-003	0.0363	7.6400e-003	0.0439	0.0103	7.0300e-003	0.0174		124.4699	124.4699	8.9000e-004			124.4887
Worker	0.0221	0.0359	0.3882	9.5000e-004	0.0760	5.4000e-004	0.0766	0.0202	4.9000e-004	0.0207		79.4152	79.4152	3.8700e-003			79.4965
Total	0.0557	0.4819	0.6902	2.1900e-003	0.1123	8.1800e-003	0.1205	0.0305	7.5200e-003	0.0380		203.8851	203.8851	4.7600e-003			203.9852

3.9 69 kV - Pole Installation and Removal - 2017

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	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727		1,121.4317	1,121.4317	0.2682			1,127.0648
Total	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727		1,121.4317	1,121.4317	0.2682			1,127.0648

3.9 69 kV - Pole Installation and Removal - 2017

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	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.0198	0.0326	0.3509	9.5000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		76.3495	76.3495	3.5900e-003		76.4248
Total	0.0508	0.4278	0.6323	2.1800e-003	0.1123	7.1600e-003	0.1195	0.0305	6.5900e-003	0.0371		198.7139	198.7139	4.4300e-003		198.8068

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	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727	0.0000	1,121.4317	1,121.4317	0.2682		1,127.0648
Total	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727	0.0000	1,121.4317	1,121.4317	0.2682		1,127.0648

3.9 69 kV - Pole Installation and Removal - 2017

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	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.0198	0.0326	0.3509	9.5000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		76.3495	76.3495	3.5900e-003		76.4248
Total	0.0508	0.4278	0.6323	2.1800e-003	0.1123	7.1600e-003	0.1195	0.0305	6.5900e-003	0.0371		198.7139	198.7139	4.4300e-003		198.8068

3.10 69 kV - Conductor Installation - 2017

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	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192		1,027.1793	1,027.1793	0.3147		1,033.7886
Total	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192		1,027.1793	1,027.1793	0.3147		1,033.7886

3.10 69 kV - Conductor Installation - 2017

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	0.0464	0.5929	0.4221	1.8500e-003	0.0544	9.9600e-003	0.0644	0.0155	9.1600e-003	0.0247		183.5467	183.5467	1.2500e-003			183.5730
Worker	0.0198	0.0326	0.3509	9.5000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		76.3495	76.3495	3.5900e-003			76.4248
Total	0.0662	0.6255	0.7730	2.8000e-003	0.1305	0.0105	0.1409	0.0357	9.6400e-003	0.0453		259.8961	259.8961	4.8400e-003			259.9978

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	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192	0.0000	1,027.1793	1,027.1793	0.3147			1,033.7886
Total	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192	0.0000	1,027.1793	1,027.1793	0.3147			1,033.7886

3.10 69 kV - Conductor Installation - 2017

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	0.0464	0.5929	0.4221	1.8500e-003	0.0544	9.9600e-003	0.0644	0.0155	9.1600e-003	0.0247		183.5467	183.5467	1.2500e-003			183.5730
Worker	0.0198	0.0326	0.3509	9.5000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		76.3495	76.3495	3.5900e-003			76.4248
Total	0.0662	0.6255	0.7730	2.8000e-003	0.1305	0.0105	0.1409	0.0357	9.6400e-003	0.0453		259.8961	259.8961	4.8400e-003			259.9978

3.11 12 kV - Jack-and-Bore Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727		3,820.9812	3,820.9812	0.9880			3,841.7292
Total	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727		3,820.9812	3,820.9812	0.9880			3,841.7292

3.11 12 kV - Jack-and-Bore Installation - 2017

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	0.0520	0.7080	0.5405	2.1200e-003	0.0494	9.5300e-003	0.0589	0.0135	8.7700e-003	0.0223		209.9052	209.9052	1.4500e-003		209.9357
Vendor	0.0464	0.5929	0.4221	1.8500e-003	0.0544	9.9600e-003	0.0644	0.0155	9.1600e-003	0.0247		183.5467	183.5467	1.2500e-003		183.5730
Worker	0.0357	0.0587	0.6317	1.7100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		137.4290	137.4290	6.4600e-003		137.5646
Total	0.1341	1.3596	1.5943	5.6800e-003	0.2406	0.0204	0.2611	0.0653	0.0188	0.0841		530.8809	530.8809	9.1600e-003		531.0733

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727	0.0000	3,820.9812	3,820.9812	0.9880		3,841.7292
Total	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727	0.0000	3,820.9812	3,820.9812	0.9880		3,841.7292

3.11 12 kV - Jack-and-Bore Installation - 2017

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	0.0520	0.7080	0.5405	2.1200e-003	0.0494	9.5300e-003	0.0589	0.0135	8.7700e-003	0.0223		209.9052	209.9052	1.4500e-003		209.9357
Vendor	0.0464	0.5929	0.4221	1.8500e-003	0.0544	9.9600e-003	0.0644	0.0155	9.1600e-003	0.0247		183.5467	183.5467	1.2500e-003		183.5730
Worker	0.0357	0.0587	0.6317	1.7100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		137.4290	137.4290	6.4600e-003		137.5646
Total	0.1341	1.3596	1.5943	5.6800e-003	0.2406	0.0204	0.2611	0.0653	0.0188	0.0841		530.8809	530.8809	9.1600e-003		531.0733

3.12 Energization - Testing and Commissioning - 2017

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	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779		1,512.2953	1,512.2953	0.4634		1,522.0259
Total	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779		1,512.2953	1,512.2953	0.4634		1,522.0259

3.12 Energization - Testing and Commissioning - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0357	0.0587	0.6317	1.7100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		137.4290	137.4290	6.4600e-003		137.5646
Total	0.0357	0.0587	0.6317	1.7100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		137.4290	137.4290	6.4600e-003		137.5646

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	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779	0.0000	1,512.2953	1,512.2953	0.4634		1,522.0259
Total	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779	0.0000	1,512.2953	1,512.2953	0.4634		1,522.0259

3.12 Energization - Testing and Commissioning - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0357	0.0587	0.6317	1.7100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		137.4290	137.4290	6.4600e-003			137.5646
Total	0.0357	0.0587	0.6317	1.7100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		137.4290	137.4290	6.4600e-003			137.5646

3.13 Telecom - Bank and Vault Installation - 2017

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	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044		197.3953	197.3953	0.0605			198.6654
Total	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044		197.3953	197.3953	0.0605			198.6654

3.13 Telecom - Bank and Vault Installation - 2017

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	0.2699	0.2060	8.1000e-004	0.0188	3.6300e-003	0.0225	5.1500e-003	3.3400e-003	8.5000e-003		80.0109	80.0109	5.5000e-004		80.0225
Vendor	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.0000	0.0000	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	0.0507	0.6651	0.4874	2.0400e-003	0.0551	0.0103	0.0654	0.0155	9.4500e-003	0.0250		202.3754	202.3754	1.3900e-003		202.4045

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	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044	0.0000	197.3953	197.3953	0.0605		198.6654
Total	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044	0.0000	197.3953	197.3953	0.0605		198.6654

3.13 Telecom - Bank and Vault Installation - 2017

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	0.2699	0.2060	8.1000e-004	0.0188	3.6300e-003	0.0225	5.1500e-003	3.3400e-003	8.5000e-003		80.0109	80.0109	5.5000e-004		80.0225
Vendor	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.0000	0.0000	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	0.0507	0.6651	0.4874	2.0400e-003	0.0551	0.0103	0.0654	0.0155	9.4500e-003	0.0250		202.3754	202.3754	1.3900e-003		202.4045

3.14 12 kV - Cable Installation - 2017

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	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565		64.7055	64.7055	0.0198		65.1218
Total	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565		64.7055	64.7055	0.0198		65.1218

3.14 12 kV - Cable Installation - 2017

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	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.0635	0.1043	1.1230	3.0400e-003	0.2433	1.6600e-003	0.2449	0.0645	1.5300e-003	0.0660		244.3183	244.3183	0.0115		244.5593
Total	0.0944	0.4996	1.4044	4.2700e-003	0.2796	8.3000e-003	0.2879	0.0749	7.6400e-003	0.0825		366.6827	366.6827	0.0123		366.9413

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	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565	0.0000	64.7055	64.7055	0.0198		65.1218
Total	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565	0.0000	64.7055	64.7055	0.0198		65.1218

3.14 12 kV - Cable Installation - 2017

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	0.0309	0.3952	0.2814	1.2300e-003	0.0363	6.6400e-003	0.0429	0.0103	6.1100e-003	0.0165		122.3644	122.3644	8.4000e-004		122.3820
Worker	0.0635	0.1043	1.1230	3.0400e-003	0.2433	1.6600e-003	0.2449	0.0645	1.5300e-003	0.0660		244.3183	244.3183	0.0115		244.5593
Total	0.0944	0.4996	1.4044	4.2700e-003	0.2796	8.3000e-003	0.2879	0.0749	7.6400e-003	0.0825		366.6827	366.6827	0.0123		366.9413

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

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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
Aerial Lifts	2	8.00	3	62	0.31	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Aerial Lifts	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331
Total	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331

10.0 Vegetation

Vine 69/12 kV Substation Project
San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2017
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Substation parcel size set to 1.5 acre

Construction Phase - Schedule taken from Chapter 2 - Project Description. Telecom cable installation will be conducted with the same equipment as 12 kV cable installation.

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description.

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description in the Original PEA

Off-road Equipment - Default values set to zero. Construction equipment list taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 3 - Project Description of the Original PEA

Trips and VMT - Values calculated from import and export needs.

On-road Fugitive Dust - Assume 98 percent of substation hauling trips are off pavement due to site development being conducted and the final roads not being paved.

Grading - Total area disturbed has been updated to indicate the size of the substation parcel

Vehicle Trips - Conservatively estimated an average of 10 trips per day to handle operation and maintenance.

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Assume 2 bucket trucks three times per year for transmission line maintenance. Remainder of maintenance is performed from on-road vehicles.

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Off-road Equipment - Default equipment set to a quantity of zero, remaining equipment taken from Chapter 2 - Project Description of the PEA Supplement

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	129.00
tblConstructionPhase	NumDays	200.00	78.00

tblConstructionPhase	NumDays	200.00	53.00
tblConstructionPhase	NumDays	200.00	260.00
tblConstructionPhase	NumDays	200.00	90.00
tblConstructionPhase	NumDays	200.00	50.00
tblConstructionPhase	NumDays	200.00	18.00
tblConstructionPhase	NumDays	4.00	78.00
tblConstructionPhase	NumDays	2.00	157.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	PhaseEndDate	7/29/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	6/1/2016	4/30/2016
tblConstructionPhase	PhaseEndDate	7/31/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	4/27/2017	2/28/2017
tblConstructionPhase	PhaseEndDate	3/21/2017	1/21/2017
tblConstructionPhase	PhaseEndDate	10/31/2016	9/30/2016
tblConstructionPhase	PhaseEndDate	7/29/2017	4/30/2017

tblConstructionPhase	PhaseEndDate	12/29/2017	3/31/2017
tblConstructionPhase	PhaseEndDate	4/15/2017	11/15/2016
tblConstructionPhase	PhaseEndDate	9/29/2017	3/31/2017
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tblConstructionPhase	PhaseStartDate	5/1/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	4/1/2016	3/1/2016
tblConstructionPhase	PhaseStartDate	10/1/2016	9/1/2016
tblConstructionPhase	PhaseStartDate	3/1/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	3/1/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	5/1/2016	4/1/2016
tblConstructionPhase	PhaseStartDate	7/1/2017	4/1/2017
tblConstructionPhase	PhaseStartDate	7/1/2017	10/1/2016
tblConstructionPhase	PhaseStartDate	4/1/2017	11/1/2016
tblConstructionPhase	PhaseStartDate	4/1/2017	10/1/2016
tblGrading	AcresOfGrading	273.00	1.50
tblGrading	AcresOfGrading	0.00	1.50
tblGrading	MaterialExported	0.00	4,200.00
tblGrading	MaterialExported	0.00	988.00
tblGrading	MaterialImported	0.00	6,700.00
tblLandUse	LotAcreage	0.00	1.50
tblOffRoadEquipment	HorsePower	97.00	162.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.38

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tbloffRoadEquipment	OffRoadEquipmentType		Cranes
tbloffRoadEquipment	OffRoadEquipmentType		Rollers
tbloffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tbloffRoadEquipment	OffRoadEquipmentType		Air Compressors
tbloffRoadEquipment	OffRoadEquipmentType		Generator Sets
tbloffRoadEquipment	OffRoadEquipmentType	Excavators	Tractors/Loaders/Backhoes
tbloffRoadEquipment	OffRoadEquipmentType		Generator Sets
tbloffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tbloffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tbloffRoadEquipment	OffRoadEquipmentType		Air Compressors
tbloffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tbloffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tbloffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tbloffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tbloffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tbloffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	UsageHours	6.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	HaulingTripNumber	1,363.00	922.00
tblTripsAndVMT	HaulingTripNumber	0.00	27.00
tblTripsAndVMT	HaulingTripNumber	124.00	133.00
tblTripsAndVMT	HaulingTripNumber	0.00	678.00
tblTripsAndVMT	HaulingTripNumber	0.00	35.00
tblTripsAndVMT	HaulingTripNumber	0.00	51.00
tblTripsAndVMT	HaulingTripNumber	0.00	446.00
tblTripsAndVMT	PhaseName		12 kV - Bank and Vault Installation - Day
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
tblTripsAndVMT	VendorTripLength	7.30	20.00
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tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	0.00	9.00
tblTripsAndVMT	WorkerTripNumber	78.00	61.00
tblVehicleTrips	ST_TR	0.00	10.00
tblVehicleTrips	SU_TR	0.00	10.00
tblVehicleTrips	WD_TR	0.00	10.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Offroad	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331
Total	0.0967	1.6025	2.1589	3.3100e-003	0.0000	0.0566	0.0566	0.0000	0.0520	0.0520		337.8595	337.8595	0.1035	0.0000	340.0334

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
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
Offroad	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331
Total	0.0967	1.6025	2.1589	3.3100e-003	0.0000	0.0566	0.0566	0.0000	0.0520	0.0520		337.8595	337.8595	0.1035	0.0000	340.0334

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	99.99	100.00	100.00	100.00	0.00	100.00	100.00	0.00	100.00	100.00	0.00	100.00	100.00	100.00	0.00	100.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Vine - Site Development	Grading	1/1/2016	3/31/2016	6	78	
2	Vine - Wall Construction	Building Construction	3/1/2016	4/30/2016	6	53	
3	Vine - Below Grade	Site Preparation	4/1/2016	9/30/2016	6	157	
4	Vine - Equipment Installation	Building Construction	9/1/2016	6/30/2017	6	260	
5	12 kV - Bank and Vault Installation - Night	Trenching	10/1/2016	3/31/2017	6	156	
6	12 kV - Bank and Vault Installation - Day	Trenching	10/1/2016	3/31/2017	6	156	
7	69 kV - Foundation Installation	Trenching	11/1/2016	11/15/2016	6	13	
8	69 kV - Pole Installation and Removal	Building Construction	11/16/2016	2/28/2017	6	90	
9	69 kV - Conductor Installation	Building Construction	1/1/2017	2/28/2017	6	50	
10	12 kV - Jack-and-Bore Installation	Building Construction	1/1/2017	1/21/2017	6	18	
11	Energization - Testing and Commissioning	Building Construction	2/1/2017	6/30/2017	6	129	
12	Telecom - Bank and Vault Installation	Trenching	4/1/2017	4/30/2017	6	25	
13	12 kV - Cable Installation	Building Construction	4/1/2017	6/30/2017	6	78	

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Vine - Site Development	Excavators	1	6.00	162	0.38
Vine - Site Development	Graders	0	6.00	174	0.41
Vine - Site Development	Off-Highway Trucks	1	7.00	400	0.38
Vine - Site Development	Pavers	1	6.00	125	0.42

Vine - Site Development	Rollers	2	7.00	80	0.38
Vine - Site Development	Rollers	2	6.00	80	0.38
Vine - Site Development	Rubber Tired Dozers	0	6.00	255	0.40
Vine - Site Development	Rubber Tired Dozers	2	6.00	255	0.40
Vine - Site Development	Scrapers	4	7.00	361	0.48
Vine - Site Development	Skid Steer Loaders	2	3.00	64	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development	Trenchers	1	6.00	80	0.50
Vine - Wall Construction	Cranes	0	6.00	226	0.29
Vine - Wall Construction	Excavators	1	9.00	162	0.38
Vine - Wall Construction	Forklifts	0	6.00	89	0.20
Vine - Wall Construction	Generator Sets	0	8.00	84	0.74
Vine - Wall Construction	Graders	1	9.00	174	0.41
Vine - Wall Construction	Off-Highway Trucks	1	9.00	400	0.38
Vine - Wall Construction	Plate Compactors	3	9.00	8	0.43
Vine - Wall Construction	Rollers	1	9.00	80	0.38
Vine - Wall Construction	Rubber Tired Dozers	1	7.00	255	0.40
Vine - Wall Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Wall Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Wall Construction	Tractors/Loaders/Backhoes	3	9.00	97	0.37
Vine - Wall Construction	Welders	0	8.00	46	0.45
Vine - Below Grade	Graders	0	8.00	174	0.41
Vine - Below Grade	Off-Highway Trucks	1	3.00	400	0.38
Vine - Below Grade	Rubber Tired Dozers	0	7.00	255	0.40

Vine - Below Grade	Skid Steer Loaders	1	4.00	64	0.37
Vine - Below Grade	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Vine - Below Grade	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Below Grade	Trenchers	1	6.00	80	0.50
Vine - Equipment Installation	Aerial Lifts	1	6.00	62	0.31
Vine - Equipment Installation	Aerial Lifts	4	5.00	62	0.31
Vine - Equipment Installation	Cranes	0	6.00	226	0.29
Vine - Equipment Installation	Cranes	0	6.00	226	0.29
Vine - Equipment Installation	Cranes	2	6.00	226	0.29
Vine - Equipment Installation	Forklifts	0	6.00	89	0.20
Vine - Equipment Installation	Generator Sets	0	8.00	84	0.74
Vine - Equipment Installation	Generator Sets	1	24.00	84	0.74
Vine - Equipment Installation	Off-Highway Trucks	1	2.00	400	0.38
Vine - Equipment Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Vine - Equipment Installation	Welders	0	8.00	46	0.45
12 kV - Bank and Vault Installation - Night	Cranes	1	6.00	226	0.29
12 kV - Bank and Vault Installation - Night	Tractors/Loaders/Backhoes	3	8.00	162	0.38
12 kV - Bank and Vault Installation - Night	Other Construction Equipment	1	1.00	171	0.42
12 kV - Bank and Vault Installation - Night	Paving Equipment	1	6.00	130	0.36
12 kV - Bank and Vault Installation - Night	Paving Equipment	2	7.00	130	0.36
12 kV - Bank and Vault Installation - Night	Rollers	2	4.00	80	0.38
12 kV - Bank and Vault Installation - Night	Skid Steer Loaders	4	6.00	64	0.37
12 kV - Bank and Vault Installation - Night	Tractors/Loaders/Backhoes	1	8.00	97	0.37
69 kV - Foundation Installation	Bore/Drill Rigs	1	8.00	205	0.50
69 kV - Foundation Installation	Cranes	1	3.00	226	0.29
69 kV - Foundation Installation	Forklifts	1	4.00	89	0.20

69 kV - Foundation Installation	Generator Sets	1	4.00	84	0.74
69 kV - Foundation Installation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
69 kV - Pole Installation and Removal	Aerial Lifts	1	8.00	62	0.31
69 kV - Pole Installation and Removal	Air Compressors	1	8.00	78	0.48
69 kV - Pole Installation and Removal	Cranes	1	8.00	226	0.29
69 kV - Pole Installation and Removal	Forklifts	0	6.00	89	0.20
69 kV - Pole Installation and Removal	Generator Sets	0	8.00	84	0.74
69 kV - Pole Installation and Removal	Tractors/Loaders/Backhoes	0	6.00	97	0.37
69 kV - Pole Installation and Removal	Welders	0	8.00	46	0.45
69 kV - Conductor Installation	Aerial Lifts	2	7.00	62	0.31
69 kV - Conductor Installation	Cranes	0	6.00	226	0.29
69 kV - Conductor Installation	Cranes	0	6.00	226	0.29
69 kV - Conductor Installation	Cranes	1	7.00	226	0.29
69 kV - Conductor Installation	Forklifts	0	6.00	89	0.20
69 kV - Conductor Installation	Generator Sets	0	8.00	84	0.74
69 kV - Conductor Installation	Other General Industrial Equipment	1	7.00	87	0.34
69 kV - Conductor Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
69 kV - Conductor Installation	Welders	0	8.00	46	0.45
12 kV - Jack-and-Bore Installation	Aerial Lifts	1	6.00	62	0.31
12 kV - Jack-and-Bore Installation	Air Compressors	1	3.00	78	0.48
12 kV - Jack-and-Bore Installation	Bore/Drill Rigs	1	6.00	205	0.50
12 kV - Jack-and-Bore Installation	Concrete/Industrial Saws	1	4.00	81	0.73
12 kV - Jack-and-Bore Installation	Cranes	1	4.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	2	3.00	226	0.29
12 kV - Jack-and-Bore Installation	Excavators	1	6.00	162	0.38
12 kV - Jack-and-Bore Installation	Forklifts	0	6.00	89	0.20
12 kV - Jack-and-Bore Installation	Generator Sets	1	4.00	84	0.74
12 kV - Jack-and-Bore Installation	Off-Highway Trucks	1	4.00	400	0.38

12 kV - Jack-and-Bore Installation	Pumps	1	6.00	10	0.74
12 kV - Jack-and-Bore Installation	Skid Steer Loaders	1	3.00	64	0.37
12 kV - Jack-and-Bore Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Jack-and-Bore Installation	Welders	1	4.00	46	0.45
Energization - Testing and Commissioning	Cranes	0	6.00	226	0.29
Energization - Testing and Commissioning	Forklifts	0	6.00	89	0.20
Energization - Testing and Commissioning	Generator Sets	0	8.00	84	0.74
Energization - Testing and Commissioning	Off-Highway Trucks	3	3.00	400	0.38
Energization - Testing and Commissioning	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Energization - Testing and Commissioning	Welders	0	8.00	46	0.45
Telecom - Bank and Vault Installation	Skid Steer Loaders	1	3.00	64	0.37
Telecom - Bank and Vault Installation	Tractors/Loaders/Backhoes	1	3.00	97	0.37
12 kV - Cable Installation	Cranes	0	6.00	226	0.29
12 kV - Cable Installation	Forklifts	0	6.00	89	0.20
12 kV - Cable Installation	Generator Sets	0	8.00	84	0.74
12 kV - Cable Installation	Other General Industrial Equipment	1	2.00	87	0.34
12 kV - Cable Installation	Tractors/Loaders/Backhoes	0	6.00	97	0.37
12 kV - Cable Installation	Welders	0	8.00	46	0.45
12 kV - Bank and Vault Installation - Day	Generator Sets	1	6.00	84	0.74
12 kV - Bank and Vault Installation - Day	Concrete/Industrial Saws	1	6.00	81	0.73
12 kV - Bank and Vault Installation - Day	Off-Highway Trucks	1	6.00	400	0.38
12 kV - Bank and Vault Installation - Day	Air Compressors	4	3.00	78	0.48
12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Bank and Vault Installation - Day	Skid Steer Loaders	6	2.00	64	0.37

12 kV - Bank and Vault Installation - Day	Tractors/Loaders/Backhoes	6	3.00	97	0.37
12 kV - Bank and Vault Installation - Day	Excavators	1	6.00	162	0.38
12 kV - Bank and Vault Installation - Day	Cranes	1	2.00	226	0.29
12 kV - Bank and Vault Installation - Day	Cranes	1	4.00	226	0.29
12 kV - Bank and Vault Installation - Day	Rollers	2	5.00	80	0.38
12 kV - Bank and Vault Installation - Day	Surfacing Equipment	2	5.00	253	0.30
12 kV - Bank and Vault Installation - Day	Air Compressors	1	5.00	78	0.48
12 kV - Bank and Vault Installation - Day	Generator Sets	1	5.00	84	0.74

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
Vine - Site Development	20	33.00	7.00	922.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Wall Construction	11	15.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Below Grade	6	12.00	2.00	133.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Vine - Equipment Installation	9	29.00	3.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Bank and Vault Installation - Night	15	28.00	2.00	678.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Foundation Installation	5	7.00	2.00	35.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Pole Installation and Removal	3	5.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
69 kV - Conductor Installation	4	5.00	3.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Jack-and-Bore Installation	14	9.00	3.00	51.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Energization - Testing and Commissioning	3	9.00	0.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
Telecom - Bank and Vault Installation	2	0.00	2.00	27.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Cable Installation	1	16.00	2.00	0.00	20.00	20.00	20.00	LD_Mix	HDT_Mix	HHDT
12 kV - Bank and Vault Installation - Day	31	61.00	4.00	446.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Vine - Site Development - 2016

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					9.0732	0.0000	9.0732	4.9705	0.0000	4.9705			0.0000			0.0000
Off-Road	10.7311	123.2350	80.3693	0.1063		5.9854	5.9854		5.5066	5.5066		11,046.4781	11,046.4781	3.3320		11,116.4503
Total	10.7311	123.2350	80.3693	0.1063	9.0732	5.9854	15.0585	4.9705	5.5066	10.4771		11,046.4781	11,046.4781	3.3320		11,116.4503

3.2 Vine - Site Development - 2016

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	0.2579	3.4194	3.0548	8.8300e-003	7.1618	0.0454	7.2071	0.7500	0.0418	0.7917		888.7959	888.7959	6.4200e-003			888.9308
Vendor	0.1291	1.6095	1.3242	4.3200e-003	0.1270	0.0269	0.1539	0.0362	0.0247	0.0609		434.3643	434.3643	3.1500e-003			434.4305
Worker	0.1513	0.2654	2.4120	5.8900e-003	0.5017	3.5500e-003	0.5053	0.1331	3.2600e-003	0.1363		491.9731	491.9731	0.0256			492.5096
Total	0.5383	5.2943	6.7909	0.0190	7.7905	0.0758	7.8663	0.9192	0.0697	0.9890		1,815.1332	1,815.1332	0.0351			1,815.8709

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					4.0829	0.0000	4.0829	2.2367	0.0000	2.2367			0.0000			0.0000	
Off-Road	10.7311	123.2350	80.3693	0.1063		5.9854	5.9854		5.5066	5.5066	0.0000	11,046.4781	11,046.4781	3.3320			11,116.4503
Total	10.7311	123.2350	80.3693	0.1063	4.0829	5.9854	10.0683	2.2367	5.5066	7.7433	0.0000	11,046.4781	11,046.4781	3.3320			11,116.4503

3.2 Vine - Site Development - 2016

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	0.2579	3.4194	3.0548	8.8300e-003	2.1202	0.0454	2.1656	0.2467	0.0418	0.2884		888.7959	888.7959	6.4200e-003		888.9308
Vendor	0.1291	1.6095	1.3242	4.3200e-003	0.1270	0.0269	0.1539	0.0362	0.0247	0.0609		434.3643	434.3643	3.1500e-003		434.4305
Worker	0.1513	0.2654	2.4120	5.8900e-003	0.5017	3.5500e-003	0.5053	0.1331	3.2600e-003	0.1363		491.9731	491.9731	0.0256		492.5096
Total	0.5383	5.2943	6.7909	0.0190	2.7489	0.0758	2.8247	0.4159	0.0697	0.4856		1,815.1332	1,815.1332	0.0351		1,815.8709

3.3 Vine - Wall Construction - 2016

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	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209		5,210.2602	5,210.2602	1.5486		5,242.7804
Total	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209		5,210.2602	5,210.2602	1.5486		5,242.7804

3.3 Vine - Wall Construction - 2016

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	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004			124.1230
Worker	0.0688	0.1206	1.0963	2.6800e-003	0.2281	1.6100e-003	0.2297	0.0605	1.4800e-003	0.0620		223.6241	223.6241	0.0116			223.8680
Total	0.1057	0.5805	1.4747	3.9100e-003	0.2643	9.2800e-003	0.2736	0.0708	8.5400e-003	0.0794		347.7282	347.7282	0.0125			347.9910

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	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209	0.0000	5,210.2602	5,210.2602	1.5486			5,242.7804
Total	5.3897	56.3432	35.3786	0.0506		3.0633	3.0633		2.8209	2.8209	0.0000	5,210.2602	5,210.2602	1.5486			5,242.7804

3.3 Vine - Wall Construction - 2016

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	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004			124.1230
Worker	0.0688	0.1206	1.0963	2.6800e-003	0.2281	1.6100e-003	0.2297	0.0605	1.4800e-003	0.0620		223.6241	223.6241	0.0116			223.8680
Total	0.1057	0.5805	1.4747	3.9100e-003	0.2643	9.2800e-003	0.2736	0.0708	8.5400e-003	0.0794		347.7282	347.7282	0.0125			347.9910

3.4 Vine - Below Grade - 2016

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					0.0110	0.0000	0.0110	1.2300e-003	0.0000	1.2300e-003			0.0000				0.0000
Off-Road	1.5935	15.7834	10.1287	0.0156		1.0451	1.0451		0.9615	0.9615		1,616.3608	1,616.3608	0.4876			1,626.5994
Total	1.5935	15.7834	10.1287	0.0156	0.0110	1.0451	1.0561	1.2300e-003	0.9615	0.9627		1,616.3608	1,616.3608	0.4876			1,626.5994

3.4 Vine - Below Grade - 2016

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	0.0185	0.2451	0.2189	6.3000e-004	0.5133	3.2500e-003	0.5165	0.0538	2.9900e-003	0.0567		63.6968	63.6968	4.6000e-004		63.7065
Vendor	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004		124.1230
Worker	0.0550	0.0965	0.8771	2.1400e-003	0.1825	1.2900e-003	0.1837	0.0484	1.1900e-003	0.0496		178.8993	178.8993	9.2900e-003		179.0944
Total	0.1104	0.8014	1.4743	4.0000e-003	0.7320	0.0122	0.7442	0.1125	0.0112	0.1237		366.7002	366.7002	0.0107		366.9239

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					4.9600e-003	0.0000	4.9600e-003	5.5000e-004	0.0000	5.5000e-004			0.0000			0.0000
Off-Road	1.5935	15.7834	10.1287	0.0156		1.0451	1.0451		0.9615	0.9615	0.0000	1,616.3608	1,616.3608	0.4876		1,626.5994
Total	1.5935	15.7834	10.1287	0.0156	4.9600e-003	1.0451	1.0500	5.5000e-004	0.9615	0.9620	0.0000	1,616.3608	1,616.3608	0.4876		1,626.5994

3.4 Vine - Below Grade - 2016

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	0.0185	0.2451	0.2189	6.3000e-004	0.1520	3.2500e-003	0.1552	0.0177	2.9900e-003	0.0207		63.6968	63.6968	4.6000e-004		63.7065
Vendor	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004		124.1230
Worker	0.0550	0.0965	0.8771	2.1400e-003	0.1825	1.2900e-003	0.1837	0.0484	1.1900e-003	0.0496		178.8993	178.8993	9.2900e-003		179.0944
Total	0.1104	0.8014	1.4743	4.0000e-003	0.3707	0.0122	0.3829	0.0764	0.0112	0.0876		366.7002	366.7002	0.0107		366.9239

3.5 Vine - Equipment Installation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581		3,647.8570	3,647.8570	0.7076		3,662.7157
Total	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581		3,647.8570	3,647.8570	0.7076		3,662.7157

3.5 Vine - Equipment Installation - 2016

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	0.0553	0.6898	0.5675	1.8500e-003	0.0544	0.0115	0.0659	0.0155	0.0106	0.0261		186.1561	186.1561	1.3500e-003			186.1845
Worker	0.1330	0.2332	2.1196	5.1800e-003	0.4409	3.1200e-003	0.4440	0.1169	2.8600e-003	0.1198		432.3400	432.3400	0.0225			432.8115
Total	0.1883	0.9230	2.6871	7.0300e-003	0.4954	0.0146	0.5100	0.1324	0.0135	0.1459		618.4961	618.4961	0.0238			618.9960

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581	0.0000	3,647.8570	3,647.8570	0.7076			3,662.7157
Total	3.4153	33.0135	20.6767	0.0369		1.8226	1.8226		1.7581	1.7581	0.0000	3,647.8570	3,647.8570	0.7076			3,662.7157

3.5 Vine - Equipment Installation - 2016

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	0.0553	0.6898	0.5675	1.8500e-003	0.0544	0.0115	0.0659	0.0155	0.0106	0.0261		186.1561	186.1561	1.3500e-003			186.1845
Worker	0.1330	0.2332	2.1196	5.1800e-003	0.4409	3.1200e-003	0.4440	0.1169	2.8600e-003	0.1198		432.3400	432.3400	0.0225			432.8115
Total	0.1883	0.9230	2.6871	7.0300e-003	0.4954	0.0146	0.5100	0.1324	0.0135	0.1459		618.4961	618.4961	0.0238			618.9960

3.5 Vine - Equipment Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430		3,620.0476	3,620.0476	0.6878			3,634.4909
Total	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430		3,620.0476	3,620.0476	0.6878			3,634.4909

3.5 Vine - Equipment Installation - 2017

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	0.0507	0.6111	0.5331	1.8500e-003	0.0544	0.0100	0.0644	0.0155	9.1900e-003	0.0247		183.0055	183.0055	1.2700e-003		183.0321
Worker	0.1190	0.2121	1.9051	5.1800e-003	0.4409	3.0100e-003	0.4439	0.1169	2.7800e-003	0.1197		415.6234	415.6234	0.0208		416.0602
Total	0.1697	0.8232	2.4382	7.0300e-003	0.4954	0.0130	0.5084	0.1324	0.0120	0.1444		598.6289	598.6289	0.0221		599.0923

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430	0.0000	3,620.0476	3,620.0476	0.6878		3,634.4909
Total	3.0574	29.9947	20.1345	0.0369		1.5988	1.5988		1.5430	1.5430	0.0000	3,620.0476	3,620.0476	0.6878		3,634.4909

3.5 Vine - Equipment Installation - 2017

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	0.0507	0.6111	0.5331	1.8500e-003	0.0544	0.0100	0.0644	0.0155	9.1900e-003	0.0247		183.0055	183.0055	1.2700e-003			183.0321
Worker	0.1190	0.2121	1.9051	5.1800e-003	0.4409	3.0100e-003	0.4439	0.1169	2.7800e-003	0.1197		415.6234	415.6234	0.0208			416.0602
Total	0.1697	0.8232	2.4382	7.0300e-003	0.4954	0.0130	0.5084	0.1324	0.0120	0.1444		598.6289	598.6289	0.0221			599.0923

3.6 12 kV - Bank and Vault Installation - Night - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530		4,428.8554	4,428.8554	1.3359			4,456.9093
Total	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530		4,428.8554	4,428.8554	1.3359			4,456.9093

3.6 12 kV - Bank and Vault Installation - Night - 2016

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	0.0948	1.2572	1.1232	3.2500e-003	0.1317	0.0167	0.1484	0.0345	0.0154	0.0498		326.7915	326.7915	2.3600e-003		326.8411
Vendor	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004		124.1230
Worker	0.1284	0.2252	2.0465	5.0000e-003	0.4257	3.0100e-003	0.4287	0.1129	2.7700e-003	0.1157		417.4317	417.4317	0.0217		417.8870
Total	0.2601	1.9423	3.5480	9.4800e-003	0.5937	0.0274	0.6211	0.1577	0.0252	0.1829		868.3273	868.3273	0.0249		868.8511

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530	0.0000	4,428.8554	4,428.8554	1.3359		4,456.9093
Total	3.6777	41.2987	28.2518	0.0426		2.2315	2.2315		2.0530	2.0530	0.0000	4,428.8554	4,428.8554	1.3359		4,456.9093

3.6 12 kV - Bank and Vault Installation - Night - 2016

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	0.0948	1.2572	1.1232	3.2500e-003	0.1317	0.0167	0.1484	0.0345	0.0154	0.0498		326.7915	326.7915	2.3600e-003		326.8411
Vendor	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004		124.1230
Worker	0.1284	0.2252	2.0465	5.0000e-003	0.4257	3.0100e-003	0.4287	0.1129	2.7700e-003	0.1157		417.4317	417.4317	0.0217		417.8870
Total	0.2601	1.9423	3.5480	9.4800e-003	0.5937	0.0274	0.6211	0.1577	0.0252	0.1829		868.3273	868.3273	0.0249		868.8511

3.6 12 kV - Bank and Vault Installation - Night - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472		4,356.8958	4,356.8958	1.3349		4,384.9297
Total	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472		4,356.8958	4,356.8958	1.3349		4,384.9297

3.6 12 kV - Bank and Vault Installation - Night - 2017

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	0.0885	1.1210	1.0777	3.2400e-003	0.1347	0.0147	0.1494	0.0352	0.0135	0.0487		321.2250	321.2250	2.2600e-003		321.2724
Vendor	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004		122.0214
Worker	0.1149	0.2048	1.8394	5.0000e-003	0.4257	2.9100e-003	0.4286	0.1129	2.6800e-003	0.1156		401.2916	401.2916	0.0201		401.7133
Total	0.2372	1.7332	3.2725	9.4700e-003	0.5967	0.0242	0.6209	0.1584	0.0223	0.1807		844.5202	844.5202	0.0232		845.0072

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472	0.0000	4,356.8958	4,356.8958	1.3349		4,384.9297
Total	3.3713	37.3764	27.9018	0.0426		2.0078	2.0078		1.8472	1.8472	0.0000	4,356.8958	4,356.8958	1.3349		4,384.9297

3.6 12 kV - Bank and Vault Installation - Night - 2017

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	0.0885	1.1210	1.0777	3.2400e-003	0.1347	0.0147	0.1494	0.0352	0.0135	0.0487		321.2250	321.2250	2.2600e-003		321.2724
Vendor	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004		122.0214
Worker	0.1149	0.2048	1.8394	5.0000e-003	0.4257	2.9100e-003	0.4286	0.1129	2.6800e-003	0.1156		401.2916	401.2916	0.0201		401.7133
Total	0.2372	1.7332	3.2725	9.4700e-003	0.5967	0.0242	0.6209	0.1584	0.0223	0.1807		844.5202	844.5202	0.0232		845.0072

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330		6,605.6207	6,605.6207	1.5749		6,638.6935
Total	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330		6,605.6207	6,605.6207	1.5749		6,638.6935

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	0.0624	0.8270	0.7389	2.1400e-003	0.0867	0.0110	0.0976	0.0227	0.0101	0.0328		214.9691	214.9691	1.5500e-003		215.0017
Vendor	0.0483	0.3883	0.5989	9.5000e-004	0.0266	5.7900e-003	0.0323	7.5700e-003	5.3300e-003	0.0129		94.7037	94.7037	7.6000e-004		94.7196
Worker	0.2260	0.2808	2.6512	5.9600e-003	0.5011	3.7600e-003	0.5049	0.1329	3.4600e-003	0.1364		497.5596	497.5596	0.0266		498.1170
Total	0.3367	1.4961	3.9889	9.0500e-003	0.6143	0.0205	0.6348	0.1632	0.0189	0.1821		807.2323	807.2323	0.0289		807.8383

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	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330	0.0000	6,605.6207	6,605.6207	1.5749		6,638.6935
Total	6.0853	57.9376	37.3834	0.0655		3.5112	3.5112		3.3330	3.3330	0.0000	6,605.6207	6,605.6207	1.5749		6,638.6935

3.7 12 kV - Bank and Vault Installation - Day - 2016

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	0.0624	0.8270	0.7389	2.1400e-003	0.0867	0.0110	0.0976	0.0227	0.0101	0.0328		214.9691	214.9691	1.5500e-003		215.0017
Vendor	0.0483	0.3883	0.5989	9.5000e-004	0.0266	5.7900e-003	0.0323	7.5700e-003	5.3300e-003	0.0129		94.7037	94.7037	7.6000e-004		94.7196
Worker	0.2260	0.2808	2.6512	5.9600e-003	0.5011	3.7600e-003	0.5049	0.1329	3.4600e-003	0.1364		497.5596	497.5596	0.0266		498.1170
Total	0.3367	1.4961	3.9889	9.0500e-003	0.6143	0.0205	0.6348	0.1632	0.0189	0.1821		807.2323	807.2323	0.0289		807.8383

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923		6,536.8125	6,536.8125	1.5525		6,569.4149
Total	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923		6,536.8125	6,536.8125	1.5525		6,569.4149

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	0.0582	0.7374	0.7089	2.1300e-003	0.0886	9.6500e-003	0.0983	0.0232	8.8700e-003	0.0320		211.3073	211.3073	1.4900e-003		211.3385
Vendor	0.0441	0.3470	0.5672	9.5000e-004	0.0266	5.0300e-003	0.0316	7.5800e-003	4.6200e-003	0.0122		93.1016	93.1016	7.2000e-004		93.1166
Worker	0.2048	0.2552	2.3861	5.9600e-003	0.5011	3.6400e-003	0.5047	0.1329	3.3600e-003	0.1363		478.3304	478.3304	0.0246		478.8461
Total	0.3071	1.3396	3.6623	9.0400e-003	0.6163	0.0183	0.6346	0.1637	0.0169	0.1805		782.7392	782.7392	0.0268		783.3012

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	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923	0.0000	6,536.8124	6,536.8124	1.5525		6,569.4149
Total	5.5640	53.1629	36.6774	0.0656		3.1539	3.1539		2.9923	2.9923	0.0000	6,536.8124	6,536.8124	1.5525		6,569.4149

3.7 12 kV - Bank and Vault Installation - Day - 2017

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	0.0582	0.7374	0.7089	2.1300e-003	0.0886	9.6500e-003	0.0983	0.0232	8.8700e-003	0.0320		211.3073	211.3073	1.4900e-003		211.3385
Vendor	0.0441	0.3470	0.5672	9.5000e-004	0.0266	5.0300e-003	0.0316	7.5800e-003	4.6200e-003	0.0122		93.1016	93.1016	7.2000e-004		93.1166
Worker	0.2048	0.2552	2.3861	5.9600e-003	0.5011	3.6400e-003	0.5047	0.1329	3.3600e-003	0.1363		478.3304	478.3304	0.0246		478.8461
Total	0.3071	1.3396	3.6623	9.0400e-003	0.6163	0.0183	0.6346	0.1637	0.0169	0.1805		782.7392	782.7392	0.0268		783.3012

3.8 69 kV - Foundation Installation - 2016

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	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350		1,680.2971	1,680.2971	0.4414		1,689.5660
Total	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350		1,680.2971	1,680.2971	0.4414		1,689.5660

3.8 69 kV - Foundation Installation - 2016

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	0.0587	0.7788	0.6958	2.0100e-003	0.0469	0.0103	0.0573	0.0129	9.5100e-003	0.0224		202.4372	202.4372	1.4600e-003		202.4680
Vendor	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004		124.1230
Worker	0.0321	0.0563	0.5116	1.2500e-003	0.1064	7.5000e-004	0.1072	0.0282	6.9000e-004	0.0289		104.3579	104.3579	5.4200e-003		104.4717
Total	0.1277	1.2950	1.5858	4.4900e-003	0.1896	0.0188	0.2084	0.0514	0.0173	0.0687		430.8992	430.8992	7.7800e-003		431.0627

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	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350	0.0000	1,680.2971	1,680.2971	0.4414		1,689.5660
Total	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350	0.0000	1,680.2971	1,680.2971	0.4414		1,689.5660

3.8 69 kV - Foundation Installation - 2016

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	0.0587	0.7788	0.6958	2.0100e-003	0.0469	0.0103	0.0573	0.0129	9.5100e-003	0.0224		202.4372	202.4372	1.4600e-003		202.4680
Vendor	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004		124.1230
Worker	0.0321	0.0563	0.5116	1.2500e-003	0.1064	7.5000e-004	0.1072	0.0282	6.9000e-004	0.0289		104.3579	104.3579	5.4200e-003		104.4717
Total	0.1277	1.2950	1.5858	4.4900e-003	0.1896	0.0188	0.2084	0.0514	0.0173	0.0687		430.8992	430.8992	7.7800e-003		431.0627

3.9 69 kV - Pole Installation and Removal - 2016

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	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532		1,133.0957	1,133.0957	0.2728		1,138.8252
Total	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532		1,133.0957	1,133.0957	0.2728		1,138.8252

3.9 69 kV - Pole Installation and Removal - 2016

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	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004			124.1230
Worker	0.0229	0.0402	0.3655	8.9000e-004	0.0760	5.4000e-004	0.0766	0.0202	4.9000e-004	0.0207		74.5414	74.5414	3.8700e-003			74.6227
Total	0.0598	0.5001	0.7438	2.1200e-003	0.1123	8.2100e-003	0.1205	0.0305	7.5500e-003	0.0381		198.6455	198.6455	4.7700e-003			198.7457

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	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532	0.0000	1,133.0957	1,133.0957	0.2728			1,138.8252
Total	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532	0.0000	1,133.0957	1,133.0957	0.2728			1,138.8252

3.9 69 kV - Pole Installation and Removal - 2016

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	0.0369	0.4599	0.3783	1.2300e-003	0.0363	7.6700e-003	0.0440	0.0103	7.0600e-003	0.0174		124.1041	124.1041	9.0000e-004			124.1230
Worker	0.0229	0.0402	0.3655	8.9000e-004	0.0760	5.4000e-004	0.0766	0.0202	4.9000e-004	0.0207		74.5414	74.5414	3.8700e-003			74.6227
Total	0.0598	0.5001	0.7438	2.1200e-003	0.1123	8.2100e-003	0.1205	0.0305	7.5500e-003	0.0381		198.6455	198.6455	4.7700e-003			198.7457

3.9 69 kV - Pole Installation and Removal - 2017

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	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727		1,121.4317	1,121.4317	0.2682			1,127.0648
Total	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727		1,121.4317	1,121.4317	0.2682			1,127.0648

3.9 69 kV - Pole Installation and Removal - 2017

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	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004			122.0214
Worker	0.0205	0.0366	0.3285	8.9000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		71.6592	71.6592	3.5900e-003			71.7345
Total	0.0543	0.4440	0.6839	2.1200e-003	0.1123	7.1800e-003	0.1195	0.0305	6.6100e-003	0.0371		193.6629	193.6629	4.4300e-003			193.7559

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	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727	0.0000	1,121.4317	1,121.4317	0.2682			1,127.0648
Total	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727	0.0000	1,121.4317	1,121.4317	0.2682			1,127.0648

3.9 69 kV - Pole Installation and Removal - 2017

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	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004		122.0214
Worker	0.0205	0.0366	0.3285	8.9000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		71.6592	71.6592	3.5900e-003		71.7345
Total	0.0543	0.4440	0.6839	2.1200e-003	0.1123	7.1800e-003	0.1195	0.0305	6.6100e-003	0.0371		193.6629	193.6629	4.4300e-003		193.7559

3.10 69 kV - Conductor Installation - 2017

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	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192		1,027.1793	1,027.1793	0.3147		1,033.7886
Total	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192		1,027.1793	1,027.1793	0.3147		1,033.7886

3.10 69 kV - Conductor Installation - 2017

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	0.0507	0.6111	0.5331	1.8500e-003	0.0544	0.0100	0.0644	0.0155	9.1900e-003	0.0247		183.0055	183.0055	1.2700e-003		183.0321
Worker	0.0205	0.0366	0.3285	8.9000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		71.6592	71.6592	3.5900e-003		71.7345
Total	0.0712	0.6476	0.8616	2.7400e-003	0.1305	0.0105	0.1410	0.0357	9.6700e-003	0.0454		254.6647	254.6647	4.8600e-003		254.7666

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	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192	0.0000	1,027.1793	1,027.1793	0.3147		1,033.7886
Total	0.9529	10.7453	6.1259	0.0100		0.5644	0.5644		0.5192	0.5192	0.0000	1,027.1793	1,027.1793	0.3147		1,033.7886

3.10 69 kV - Conductor Installation - 2017

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	0.0507	0.6111	0.5331	1.8500e-003	0.0544	0.0100	0.0644	0.0155	9.1900e-003	0.0247		183.0055	183.0055	1.2700e-003			183.0321
Worker	0.0205	0.0366	0.3285	8.9000e-004	0.0760	5.2000e-004	0.0765	0.0202	4.8000e-004	0.0206		71.6592	71.6592	3.5900e-003			71.7345
Total	0.0712	0.6476	0.8616	2.7400e-003	0.1305	0.0105	0.1410	0.0357	9.6700e-003	0.0454		254.6647	254.6647	4.8600e-003			254.7666

3.11 12 kV - Jack-and-Bore Installation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727		3,820.9812	3,820.9812	0.9880			3,841.7292
Total	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727		3,820.9812	3,820.9812	0.9880			3,841.7292

3.11 12 kV - Jack-and-Bore Installation - 2017

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	0.0577	0.7308	0.7026	2.1100e-003	0.0494	9.5600e-003	0.0589	0.0135	8.7900e-003	0.0223		209.4122	209.4122	1.4700e-003		209.4431
Vendor	0.0507	0.6111	0.5331	1.8500e-003	0.0544	0.0100	0.0644	0.0155	9.1900e-003	0.0247		183.0055	183.0055	1.2700e-003		183.0321
Worker	0.0369	0.0658	0.5912	1.6100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		128.9866	128.9866	6.4600e-003		129.1221
Total	0.1453	1.4077	1.8269	5.5700e-003	0.2406	0.0205	0.2611	0.0653	0.0188	0.0842		521.4042	521.4042	9.2000e-003		521.5973

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727	0.0000	3,820.9812	3,820.9812	0.9880		3,841.7292
Total	3.1357	31.1673	18.9769	0.0385		1.5590	1.5590		1.4727	1.4727	0.0000	3,820.9812	3,820.9812	0.9880		3,841.7292

3.11 12 kV - Jack-and-Bore Installation - 2017

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	0.0577	0.7308	0.7026	2.1100e-003	0.0494	9.5600e-003	0.0589	0.0135	8.7900e-003	0.0223		209.4122	209.4122	1.4700e-003		209.4431
Vendor	0.0507	0.6111	0.5331	1.8500e-003	0.0544	0.0100	0.0644	0.0155	9.1900e-003	0.0247		183.0055	183.0055	1.2700e-003		183.0321
Worker	0.0369	0.0658	0.5912	1.6100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		128.9866	128.9866	6.4600e-003		129.1221
Total	0.1453	1.4077	1.8269	5.5700e-003	0.2406	0.0205	0.2611	0.0653	0.0188	0.0842		521.4042	521.4042	9.2000e-003		521.5973

3.12 Energization - Testing and Commissioning - 2017

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	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779		1,512.2953	1,512.2953	0.4634		1,522.0259
Total	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779		1,512.2953	1,512.2953	0.4634		1,522.0259

3.12 Energization - Testing and Commissioning - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0369	0.0658	0.5912	1.6100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		128.9866	128.9866	6.4600e-003		129.1221
Total	0.0369	0.0658	0.5912	1.6100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		128.9866	128.9866	6.4600e-003		129.1221

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	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779	0.0000	1,512.2953	1,512.2953	0.4634		1,522.0259
Total	0.9810	11.0636	5.2710	0.0148		0.4107	0.4107		0.3779	0.3779	0.0000	1,512.2953	1,512.2953	0.4634		1,522.0259

3.12 Energization - Testing and Commissioning - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0369	0.0658	0.5912	1.6100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		128.9866	128.9866	6.4600e-003			129.1221
Total	0.0369	0.0658	0.5912	1.6100e-003	0.1368	9.4000e-004	0.1378	0.0363	8.6000e-004	0.0372		128.9866	128.9866	6.4600e-003			129.1221

3.13 Telecom - Bank and Vault Installation - 2017

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	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044		197.3953	197.3953	0.0605			198.6654
Total	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044		197.3953	197.3953	0.0605			198.6654

3.13 Telecom - Bank and Vault Installation - 2017

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	0.0220	0.2786	0.2678	8.1000e-004	0.0188	3.6400e-003	0.0225	5.1500e-003	3.3500e-003	8.5000e-003		79.8230	79.8230	5.6000e-004		79.8348
Vendor	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004		122.0214
Worker	0.0000	0.0000	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	0.0558	0.6860	0.6232	2.0400e-003	0.0551	0.0103	0.0654	0.0155	9.4800e-003	0.0250		201.8266	201.8266	1.4000e-003		201.8562

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	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044	0.0000	197.3953	197.3953	0.0605		198.6654
Total	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044	0.0000	197.3953	197.3953	0.0605		198.6654

3.13 Telecom - Bank and Vault Installation - 2017

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	0.0220	0.2786	0.2678	8.1000e-004	0.0188	3.6400e-003	0.0225	5.1500e-003	3.3500e-003	8.5000e-003		79.8230	79.8230	5.6000e-004		79.8348
Vendor	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004		122.0214
Worker	0.0000	0.0000	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	0.0558	0.6860	0.6232	2.0400e-003	0.0551	0.0103	0.0654	0.0155	9.4800e-003	0.0250		201.8266	201.8266	1.4000e-003		201.8562

3.14 12 kV - Cable Installation - 2017

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	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565		64.7055	64.7055	0.0198		65.1218
Total	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565		64.7055	64.7055	0.0198		65.1218

3.14 12 kV - Cable Installation - 2017

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	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004		122.0214
Worker	0.0657	0.1170	1.0511	2.8600e-003	0.2433	1.6600e-003	0.2449	0.0645	1.5300e-003	0.0660		229.3095	229.3095	0.0115		229.5505
Total	0.0995	0.5244	1.4065	4.0900e-003	0.2796	8.3200e-003	0.2879	0.0749	7.6600e-003	0.0825		351.3131	351.3131	0.0123		351.5719

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	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565	0.0000	64.7055	64.7055	0.0198		65.1218
Total	0.0861	0.7462	0.5215	6.3000e-004		0.0614	0.0614		0.0565	0.0565	0.0000	64.7055	64.7055	0.0198		65.1218

3.14 12 kV - Cable Installation - 2017

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	0.0338	0.4074	0.3554	1.2300e-003	0.0363	6.6600e-003	0.0430	0.0103	6.1300e-003	0.0165		122.0036	122.0036	8.4000e-004		122.0214
Worker	0.0657	0.1170	1.0511	2.8600e-003	0.2433	1.6600e-003	0.2449	0.0645	1.5300e-003	0.0660		229.3095	229.3095	0.0115		229.5505
Total	0.0995	0.5244	1.4065	4.0900e-003	0.2796	8.3200e-003	0.2879	0.0749	7.6600e-003	0.0825		351.3131	351.3131	0.0123		351.5719

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

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

	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	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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					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	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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
Aerial Lifts	2	8.00	3	62	0.31	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Aerial Lifts	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331
Total	0.0967	1.6025	2.1588	3.3100e-003		0.0566	0.0566		0.0520	0.0520		337.8592	337.8592	0.1035		340.0331

10.0 Vegetation

Vine 69/12 kV Substation Project San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
12 kV - Bank and Vault Installation - Day	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 kV - Bank and Vault Installation - Night	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 kV - Cable Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 kV - Jack-and-Bore Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69 kV - Conductor Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69 kV - Foundation Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69 kV - Pole Installation and Removal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energization - Testing and Commissioning	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Telecom - Bank and Vault Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vine - Below Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vine - Equipment Installation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vine - Site Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vine - Wall Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Aerial Lifts	Diesel	No Change	0	9	No Change	0.00

Air Compressors	Diesel	No Change	0	7	No Change	0.00
Bore/Drill Rigs	Diesel	No Change	0	2	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	2	No Change	0.00
Cranes	Diesel	No Change	0	11	No Change	0.00
Excavators	Diesel	No Change	0	4	No Change	0.00
Forklifts	Diesel	No Change	0	1	No Change	0.00
Generator Sets	Diesel	No Change	0	5	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Off-Highway Trucks	Diesel	No Change	0	9	No Change	0.00
Other Construction Equipment	Diesel	No Change	0	1	No Change	0.00
Other General Industrial Equipment	Diesel	No Change	0	2	No Change	0.00
Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	3	No Change	0.00
Plate Compactors	Diesel	No Change	0	3	No Change	0.00
Pumps	Diesel	No Change	0	1	No Change	0.00
Rollers	Diesel	No Change	0	9	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	3	No Change	0.00
Scrapers	Diesel	No Change	0	4	No Change	0.00
Skid Steer Loaders	Diesel	No Change	0	15	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	26	No Change	0.00
Trenchers	Diesel	No Change	0	2	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00
Surfacing Equipment	Diesel	No Change	0	2	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Aerial Lifts	2.65300E-002	4.38210E-001	5.60220E-001	8.60000E-004	1.64900E-002	1.51700E-002	0.00000E+000	7.98450E+001	7.98450E+001	2.43200E-002	0.00000E+000	8.03557E+001
Air Compressors	9.98800E-002	6.49770E-001	5.35530E-001	8.50000E-004	5.27100E-002	5.27100E-002	0.00000E+000	7.28954E+001	7.28954E+001	8.13000E-003	0.00000E+000	7.30662E+001
Bore/Drill Rigs	4.38000E-003	6.48700E-002	2.67600E-002	1.20000E-004	1.89000E-003	1.73000E-003	0.00000E+000	1.08228E+001	1.08228E+001	3.29000E-003	0.00000E+000	1.08919E+001
Concrete/Industrial Saws	3.85400E-002	2.79140E-001	2.36970E-001	3.90000E-004	2.05200E-002	2.05200E-002	0.00000E+000	3.38724E+001	3.38724E+001	3.12000E-003	0.00000E+000	3.39379E+001
Cranes	2.65670E-001	3.15140E+000	1.11759E+000	2.21000E-003	1.41580E-001	1.30250E-001	0.00000E+000	2.06677E+002	2.06677E+002	6.29200E-002	0.00000E+000	2.07998E+002
Excavators	4.74400E-002	5.37300E-001	4.26940E-001	6.60000E-004	2.64400E-002	2.43200E-002	0.00000E+000	6.18817E+001	6.18817E+001	1.87500E-002	0.00000E+000	6.22755E+001
Forklifts	7.40000E-004	6.35000E-003	4.10000E-003	0.00000E+000	5.30000E-004	4.90000E-004	0.00000E+000	4.67970E-001	4.67970E-001	1.40000E-004	0.00000E+000	4.70930E-001
Generator Sets	3.02750E-001	2.33411E+000	1.91199E+000	3.32000E-003	1.59950E-001	1.59950E-001	0.00000E+000	2.85430E+002	2.85430E+002	2.43900E-002	0.00000E+000	2.85942E+002
Graders	3.03700E-002	3.09450E-001	1.46900E-001	1.90000E-004	1.73800E-002	1.59900E-002	0.00000E+000	1.75635E+001	1.75635E+001	5.30000E-003	0.00000E+000	1.76748E+001
Off-Highway Trucks	2.37760E-001	2.71261E+000	1.27653E+000	3.44000E-003	1.01590E-001	9.34600E-002	0.00000E+000	3.21970E+002	3.21970E+002	9.78500E-002	0.00000E+000	3.24025E+002
Other Construction Equipment	6.33000E-003	6.98800E-002	4.13400E-002	6.00000E-005	3.68000E-003	3.39000E-003	0.00000E+000	5.60195E+000	5.60195E+000	1.70000E-003	0.00000E+000	5.63771E+000
Other General Industrial Equipment	1.08900E-002	9.44000E-002	6.59600E-002	8.00000E-005	7.76000E-003	7.14000E-003	0.00000E+000	7.42553E+000	7.42553E+000	2.28000E-003	0.00000E+000	7.47331E+000
Pavers	1.17300E-002	1.32010E-001	8.34200E-002	1.30000E-004	6.56000E-003	6.03000E-003	0.00000E+000	1.24457E+001	1.24457E+001	3.75000E-003	0.00000E+000	1.25245E+001
Paving Equipment	5.75100E-002	6.61810E-001	4.95300E-001	7.80000E-004	3.29400E-002	3.03100E-002	0.00000E+000	7.31589E+001	7.31589E+001	2.22400E-002	0.00000E+000	7.36259E+001
Plate Compactors	3.59000E-003	2.24800E-002	1.88200E-002	4.00000E-005	8.70000E-004	8.70000E-004	0.00000E+000	2.79753E+000	2.79753E+000	2.90000E-004	0.00000E+000	2.80363E+000
Pumps	6.90000E-004	4.31000E-003	3.17000E-003	1.00000E-005	2.40000E-004	2.40000E-004	0.00000E+000	4.54180E-001	4.54180E-001	6.00000E-005	0.00000E+000	4.55360E-001
Rollers	1.09200E-001	1.01162E+000	6.64180E-001	8.70000E-004	7.42000E-002	6.82600E-002	0.00000E+000	8.14407E+001	8.14407E+001	2.46700E-002	0.00000E+000	8.19587E+001
Rubber Tired Dozers	1.01150E-001	1.13306E+000	8.56490E-001	7.30000E-004	5.27200E-002	4.85000E-002	0.00000E+000	6.84315E+001	6.84315E+001	2.06400E-002	0.00000E+000	6.88650E+001
Scrapers	1.88710E-001	2.40181E+000	1.50443E+000	2.03000E-003	9.68100E-002	8.90600E-002	0.00000E+000	1.91625E+002	1.91625E+002	5.78000E-002	0.00000E+000	1.92839E+002
Skid Steer Loaders	4.73700E-002	6.11660E-001	5.92880E-001	8.70000E-004	3.36400E-002	3.09500E-002	0.00000E+000	8.13797E+001	8.13797E+001	2.47100E-002	0.00000E+000	8.18986E+001

Surfacing Equipment	2.76100E-002	4.31500E-001	1.85040E-001	6.40000E-004	1.40200E-002	1.29000E-002	0.00000E+000	5.94639E+001	5.94639E+001	1.80800E-002	0.00000E+000	5.98435E+001
Tractors/Loaders/Backhoes	3.44670E-001	3.44460E+000	2.61742E+000	3.56000E-003	2.36670E-001	2.17740E-001	0.00000E+000	3.33485E+002	3.33485E+002	1.01110E-001	0.00000E+000	3.35608E+002
Trenchers	4.89900E-002	4.29110E-001	2.47950E-001	3.00000E-004	3.36600E-002	3.09600E-002	0.00000E+000	2.87585E+001	2.87585E+001	8.67000E-003	0.00000E+000	2.89407E+001
Welders	2.25000E-003	7.83000E-003	8.61000E-003	1.00000E-005	5.80000E-004	5.80000E-004	0.00000E+000	8.46990E-001	8.46990E-001	1.80000E-004	0.00000E+000	8.50840E-001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Aerial Lifts	2.65300E-002	4.38210E-001	5.60220E-001	8.60000E-004	1.64900E-002	1.51700E-002	0.00000E+000	7.98449E+001	7.98449E+001	2.43200E-002	0.00000E+000	8.03556E+001
Air Compressors	9.98800E-002	6.49770E-001	5.35530E-001	8.50000E-004	5.27100E-002	5.27100E-002	0.00000E+000	7.28953E+001	7.28953E+001	8.13000E-003	0.00000E+000	7.30661E+001
Bore/Drill Rigs	4.38000E-003	6.48700E-002	2.67600E-002	1.20000E-004	1.89000E-003	1.73000E-003	0.00000E+000	1.08228E+001	1.08228E+001	3.29000E-003	0.00000E+000	1.08919E+001
Concrete/Industrial Saws	3.85400E-002	2.79140E-001	2.36970E-001	3.90000E-004	2.05200E-002	2.05200E-002	0.00000E+000	3.38723E+001	3.38723E+001	3.12000E-003	0.00000E+000	3.39379E+001
Cranes	2.65670E-001	3.15140E+000	1.11759E+000	2.21000E-003	1.41580E-001	1.30250E-001	0.00000E+000	2.06677E+002	2.06677E+002	6.29200E-002	0.00000E+000	2.07998E+002
Excavators	4.74400E-002	5.37290E-001	4.26930E-001	6.60000E-004	2.64400E-002	2.43200E-002	0.00000E+000	6.18816E+001	6.18816E+001	1.87500E-002	0.00000E+000	6.22754E+001
Forklifts	7.40000E-004	6.35000E-003	4.10000E-003	0.00000E+000	5.30000E-004	4.90000E-004	0.00000E+000	4.67970E-001	4.67970E-001	1.40000E-004	0.00000E+000	4.70930E-001
Generator Sets	3.02750E-001	2.33411E+000	1.91199E+000	3.32000E-003	1.59950E-001	1.59950E-001	0.00000E+000	2.85429E+002	2.85429E+002	2.43900E-002	0.00000E+000	2.85942E+002
Graders	3.03700E-002	3.09450E-001	1.46900E-001	1.90000E-004	1.73800E-002	1.59900E-002	0.00000E+000	1.75635E+001	1.75635E+001	5.30000E-003	0.00000E+000	1.76747E+001
Off-Highway Trucks	2.37760E-001	2.71261E+000	1.27653E+000	3.44000E-003	1.01590E-001	9.34600E-002	0.00000E+000	3.21970E+002	3.21970E+002	9.78500E-002	0.00000E+000	3.24024E+002
Other Construction Equipment	6.33000E-003	6.98800E-002	4.13400E-002	6.00000E-005	3.68000E-003	3.39000E-003	0.00000E+000	5.60194E+000	5.60194E+000	1.70000E-003	0.00000E+000	5.63770E+000
Other General Industrial Equipment	1.08900E-002	9.44000E-002	6.59600E-002	8.00000E-005	7.76000E-003	7.14000E-003	0.00000E+000	7.42552E+000	7.42552E+000	2.28000E-003	0.00000E+000	7.47330E+000
Pavers	1.17300E-002	1.32010E-001	8.34200E-002	1.30000E-004	6.56000E-003	6.03000E-003	0.00000E+000	1.24457E+001	1.24457E+001	3.75000E-003	0.00000E+000	1.25245E+001
Paving Equipment	5.75100E-002	6.61810E-001	4.95300E-001	7.80000E-004	3.29400E-002	3.03100E-002	0.00000E+000	7.31588E+001	7.31588E+001	2.22400E-002	0.00000E+000	7.36258E+001
Plate Compactors	3.59000E-003	2.24800E-002	1.88200E-002	4.00000E-005	8.70000E-004	8.70000E-004	0.00000E+000	2.79753E+000	2.79753E+000	2.90000E-004	0.00000E+000	2.80363E+000
Pumps	6.90000E-004	4.31000E-003	3.17000E-003	1.00000E-005	2.40000E-004	2.40000E-004	0.00000E+000	4.54180E-001	4.54180E-001	6.00000E-005	0.00000E+000	4.55360E-001
Rollers	1.09200E-001	1.01162E+000	6.64180E-001	8.70000E-004	7.42000E-002	6.82600E-002	0.00000E+000	8.14406E+001	8.14406E+001	2.46700E-002	0.00000E+000	8.19586E+001

Rubber Tired Dozers	1.01150E-001	1.13306E+000	8.56490E-001	7.30000E-004	5.27200E-002	4.85000E-002	0.00000E+000	6.84315E+001	6.84315E+001	2.06400E-002	0.00000E+000	6.88649E+001
Scrapers	1.88710E-001	2.40181E+000	1.50442E+000	2.03000E-003	9.68100E-002	8.90600E-002	0.00000E+000	1.91625E+002	1.91625E+002	5.78000E-002	0.00000E+000	1.92839E+002
Skid Steer Loaders	4.73700E-002	6.11660E-001	5.92870E-001	8.70000E-004	3.36400E-002	3.09500E-002	0.00000E+000	8.13796E+001	8.13796E+001	2.47100E-002	0.00000E+000	8.18985E+001
Surfacing Equipment	2.76100E-002	4.31500E-001	1.85040E-001	6.40000E-004	1.40200E-002	1.29000E-002	0.00000E+000	5.94639E+001	5.94639E+001	1.80800E-002	0.00000E+000	5.98435E+001
Tractors/Loaders/Balckhoes	3.44670E-001	3.44459E+000	2.61742E+000	3.56000E-003	2.36670E-001	2.17740E-001	0.00000E+000	3.33484E+002	3.33484E+002	1.01110E-001	0.00000E+000	3.35608E+002
Trenchers	4.89900E-002	4.29110E-001	2.47950E-001	3.00000E-004	3.36600E-002	3.09600E-002	0.00000E+000	2.87585E+001	2.87585E+001	8.67000E-003	0.00000E+000	2.89406E+001
Welders	2.25000E-003	7.83000E-003	8.61000E-003	1.00000E-005	5.80000E-004	5.80000E-004	0.00000E+000	8.46990E-001	8.46990E-001	1.80000E-004	0.00000E+000	8.50840E-001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Aerial Lifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.12718E-006	1.12718E-006	0.00000E+000	0.00000E+000	1.24447E-006
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.09746E-006	1.09746E-006	0.00000E+000	0.00000E+000	1.23176E-006
Bore/Drill Rigs	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.23976E-007	9.23976E-007	0.00000E+000	0.00000E+000	1.83623E-006
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18090E-006	1.18090E-006	0.00000E+000	0.00000E+000	1.17862E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16123E-006	1.16123E-006	0.00000E+000	0.00000E+000	1.15386E-006
Excavators	0.00000E+000	1.86116E-005	2.34225E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13119E-006	1.13119E-006	0.00000E+000	0.00000E+000	1.12404E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.19119E-006	1.19119E-006	0.00000E+000	0.00000E+000	1.18905E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.13873E-006	1.13873E-006	0.00000E+000	0.00000E+000	1.13156E-006
Off-Highway Trucks	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.18023E-006	1.18023E-006	0.00000E+000	0.00000E+000	1.17275E-006
Other Construction Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.78509E-006	1.78509E-006	0.00000E+000	0.00000E+000	1.77377E-006
Other General Industrial Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.34671E-006	1.34671E-006	0.00000E+000	0.00000E+000	1.33810E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.03491E-007	8.03491E-007	0.00000E+000	0.00000E+000	1.59687E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.23020E-006	1.23020E-006	0.00000E+000	0.00000E+000	1.22240E-006

Vine - Wall Construction	Roads	0.01	0.00	0.01	0.00	0.00
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Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.00	0.15		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			

No	Land Use	Integrate Below Market Rate Housing	0.00		
	Land Use	Land Use SubTotal	0.00		
No	Neighborhood Enhancements	Improve Pedestrian Network			
No	Neighborhood Enhancements	Provide Traffic Calming Measures			
No	Neighborhood Enhancements	Implement NEV Network	0.00		
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00		
No	Parking Policy Pricing	Limit Parking Supply	0.00		
No	Parking Policy Pricing	Unbundle Parking Costs	0.00		
No	Parking Policy Pricing	On-street Market Pricing	0.00		
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00		
No	Transit Improvements	Provide BRT System	0.00		
No	Transit Improvements	Expand Transit Network	0.00		
No	Transit Improvements	Increase Transit Frequency	0.00		
	Transit Improvements	Transit Improvements Subtotal	0.00		
		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00		2.00

No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		
No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
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Institute Recycling and Composting Services Percent Reduction in Waste Disposed	
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3.4 BIOLOGICAL RESOURCES

3.4.0 Existing Conditions

Data regarding biological resources within the vicinity of the revised 12 kilovolt (kV) distribution routes were obtained through a field reconnaissance survey and a literature review of applicable reference materials and reports. Insignia Environmental biologist Shirley Innecken conducted a reconnaissance-level biological survey of the revised 12 kV distribution routes on November 21, 2014. The primary objective of the reconnaissance-level survey was to assess the existing conditions of the biological resources in the vicinity of the revised 12 kV distribution routes, focusing on conducting a plant and wildlife species inventory, assessing the potential for special-status species occurrences, and determining if jurisdictional resources are present. A detailed discussion of the reconnaissance-level biological survey is provided in Attachment 3.4-A: Updated Distribution Line Design Biological Survey Memo.

Physical Setting

The relocated distribution circuits will be installed within new underground duct banks from the proposed Vine Substation within Vine, India, West Redwood, Columbia, and West Laurel Streets. Additional duct banks will be installed along West Palm Street between Kettner Boulevard and Pacific Highway and along Pacific Highway across the intersection with West Laurel Street. Existing uses in the surrounding area include Interstate (I-) 5, gas stations, commercial uses, automobile sales, rental car facilities, parking lots, offices, residences, an electric substation, railway station, and San Diego International Airport.

Vegetation Communities and Sensitive Habitats

No additional vegetation communities are located within the vicinity of the revised 12 kV distribution routes. Developed land, ornamental vegetation, and disturbed habitat, which were described in the original PEA, are the only vegetation communities present.

General Biological Survey Results

The revised 12 kV distribution routes will be installed entirely within paved roadways. Developed land with little or no vegetation occurs along India Street. Ornamental vegetation occurs adjacent to the routes in several areas. Maintained and landscaped residential yards are located along West Redwood Street and Columbia Street. Ornamental vegetation occurs adjacent to the route on West Laurel Street near the I-5 overpass. Non-native plant species, including bottle brush (*Callistemon* sp.), Mexican fan palms (*Washingtonia robusta*), and ornamental agaves (*Agave* spp.) are present in this area. A band of ornamental vegetation also occurs adjacent to the route near the intersection of State Street and West Maple Street. Plant species observed at this location included pepper tree (*Schinus* sp.), ice plant (*Carpobrotus edulis*), and tree tobacco (*Nicotiana glauca*).

Trees are located within close proximity to the 12 kV distribution routes in three areas. Five large pine trees (*Pinus* sp.) are located on the northwest corner of Columbia Street near the intersection with West Palm Street. One large acacia (*Acacia* sp.) is present at the intersection of India Street and West Laurel Street and one large eucalyptus tree (*Eucalyptus* sp.) is located east of State Street.

During the November 21, 2014 reconnaissance-level survey, four wildlife species—red-tailed hawk (*Buteo jamaicensis*), rock dove (*Columbia livia*), American crow (*Corvus brachyrhynchos*), and black phoebe (*Sayornis nigricans*)—were observed.

Sensitive Vegetation Communities

No sensitive natural communities—as defined by the United States Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife (CDFW), and/or the City of San Diego—exist within the revised 12 kV distribution routes.

Special-Status Species

Special status species occurring within nine quadrangles centered on the Point Loma quadrangle were identified using the original California Natural Diversity Database (CNDDDB) search results for the original PEA. The potential for each species to occur was then analyzed based on the presence of suitable habitat within the vicinity of the revised 12 kV distribution routes. Based on habitat suitability and CNDDDB search results of all surrounding quadrangle maps, no special-status species have a moderate or high potential to occur within the vicinity of the revised 12 kV distribution routes. Two special status wildlife species—American peregrine falcon (*Falco peregrinus anatum*) and Mexican long-tongued bat (*Choeronycteris mexicana*)—were determined to have a low potential to occur.

Sensitive Plants

The revised 12 kV distribution routes will be installed entirely within paved public roadways. Therefore, no special-status plant species are expected to occur within the area.

Sensitive Wildlife Species

No additional special-status wildlife species were determined to have a potential to occur within the vicinity of the revised 12 kV distribution routes. As described in the original PEA, American peregrine falcon and Mexican long-tongued bat have a low potential to occur.

Critical Habitat

There are no USFWS-designated critical habitats located in the Proposed Project footprint or within one mile of the revised 12 kV distribution routes.

Wildlife Migration Corridors

The revised 12 kV distribution route alignments do not represent an important corridor for wildlife movement.

Preserve Areas

There are no preserve areas within the survey area of the revised 12 kV distribution routes.

Wetlands and Jurisdictional Waters

As described in Attachment 3.4-A: Updated Distribution Line Design Biological Survey Memo, one potentially jurisdictional hydrological feature was identified within the survey area of the revised 12 kV distribution routes. This feature is located at the southeast corner of the I-5

overpass at West Laurel Street. The feature begins as a concrete-lined drainage channel measuring approximately 30 inches wide and ends as an earthen channel measuring approximately two feet wide. The channel drains northwest into a storm drain on the south side of West Laurel Street. The last portion of the channel measuring approximately 5 feet long was inundated and consisted of vegetation. As such, this feature is a potentially jurisdictional wetland, as defined by Sections 401 and 404 of the Clean Water Act and is also potentially jurisdictional for the CDFW as a streambed under Section 1600 of the California Fish and Game Code. This feature is located outside of the area proposed duct bank alignment.

3.4.1 Impacts

No additional sensitive habitat, special-status species, migration corridors, or preserve areas were identified in the vicinity of the revised 12 kV distribution routes. Although one potentially jurisdictional hydrological feature was identified within the survey area of the revised 12 kV distribution routes, this feature will be avoided and no impacts will occur. Therefore, the impact analysis presented in the original PEA adequately addresses the potential direct impacts from the revised Proposed Project design.

3.4.2 Applicant-Proposed Measures

With implementation of SDG&E's ordinary construction/operating restrictions, potential impacts related to biological resources, will remain less than significant. As a result, no applicant-proposed measures have been proposed.

3.4.3 References

Google. Google Earth Pro Version 7.1.2.2041 Software. Program used December 18, 2014.

**ATTACHMENT 3.4-A: UPDATED DISTRIBUTION LINE DESIGN BIOLOGICAL SURVEY
MEMO**



Vine 69/12 Kilovolt Substation Project
Reconnaissance-Level Survey for Updated Distribution Line Design

MEMO

To: Edalia Olivo-Gomez, San Diego Gas & Electric Company
From: Robert Curley, Insignia Environmental (Insignia)
Date: February 20, 2015
Re: Vine 69/12 Kilovolt (kV) Substation Project (Proposed Project) Reconnaissance-Level Survey for Updated Distribution Line Design

Introduction: The Proposed Project site was originally surveyed by Insignia biologist Jeffry Coward on January 2, 2014. During the January 2014 survey, all areas that would have been impacted by the Proposed Project (Proposed Project footprint) were surveyed, including the following:

- The proposed Vine Substation site
- Areas along Kettner Boulevard and Pacific Highway where new and relocated 12 kV distribution circuits and telecommunication facilities will be installed
- Areas adjacent to Kettner Boulevard where the 69 kV loop-in will be constructed

Since the January 2014 survey, the Proposed Project footprint has been revised to include the following areas:

- A revised 12 kV route, which includes proposed 12 kV duct banks in the following locations:
 - India Street between Vine Street and West Redwood Street
 - West Redwood Street between India Street and Columbia Street
 - Columbia Street between West Redwood Street and West Laurel Street
 - West Laurel Street between Kettner Boulevard and State Street
 - State Street between West Laurel Street and West Maple Street
 - Palm Street between Kettner Boulevard and Pacific Highway, including a short section on Pacific Highway
 - The intersection of Pacific Highway and West Laurel Street

Due to limited access, the vegetation located on the northeastern and southwestern sides of Pacific Highway on West Laurel Street was visually surveyed through chain-link fencing. In addition, the northeastern sides of Interstate (I-) 5 and India Street, between Sassafras Street and Vine Street, were surveyed from the northeastern side of India Street. Figure 1: Survey Overview Map depicts the current Proposed Project components and the survey area.

Methodology: On November 21, 2014, Insignia biologist Shirley Innecken conducted a pedestrian survey to document the dominant plant communities and potential wildlife habitats within the survey area. Plant and wildlife species observed directly or detected from calls or other signs were also documented. Because the wildlife survey was performed during the day, the biologist searched for evidence of nocturnal animals. The potential for sensitive plant and animal species, determined by the presence of diagnostic habitat elements, was documented.

A field investigation of hydrological features within the survey area was also conducted to identify any jurisdictional waters regulated under the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act, and California Fish and Game Code Sections 1600 through 1606. Prior to conducting the site visit, aerial photographs and United States (U.S.) Geological Survey topographic maps of the site were examined. The presence of any jurisdictional areas or drainage channels was noted during the visit. The area was also examined for the presence of potential waters of the U.S. Figure 2: Hydrologic Features Map depicts potential jurisdictional features mapped within the survey area.

Survey Results:

Biological Resources

Eastern Route

The following list provides the biological resources observed at locations along the Proposed Project's eastern route:

- India Street between Vine Street and West Redwood Street
 - This portion of the route is paved, has little vegetation, and is lined with commercial structures (e.g., restaurants, a gas station, and bars).
 - The only vegetation present within the survey area is composed of weed patches along the unmaintained roadside/sidewalk on India Street.
- West Redwood Street between India Street and Columbia Street
 - This portion of the route contains maintained and landscaped residential yards.
- Columbia Street between West Redwood Street and West Laurel Street
 - This portion of the route contains maintained and landscaped residential yards.
 - Five large pine trees (*Pinus* sp.) are located on the northwest corner of Columbia Street near the intersection with West Palm Street (Photograph 1). These trees have the potential to provide suitable nesting sites for raptors; however, no sign of bird use (e.g., white wash or feathers) was observed.
- West Laurel Street between Kettner Boulevard and State Street
 - There is unmaintained landscaped vegetation on the eastern side of the intersection of India Street and West Laurel Street (between Kettner Boulevard and State Street) that abuts the I-5 overpass, as well as on the east side of the I-5 overpass on West Laurel Street and Columbia Street (Photographs 2 and 3). Isolated areas contain non-native plant species, including bottle brush (*Callistemon* sp.), Mexican fan palms (*Washingtonia robusta*), and ornamental agaves (*Agave* spp.). No small mammal burrows or nests were observed in these areas.



Figure 1: Survey Overview Map

Vine 69/12 kV Substation Project

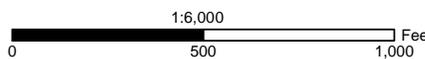
- | | |
|---|---|
|  Proposed Vine 69/12 kV Substation |  Existing 69 kV Overhead |
|  Existing Kettner Substation |  Existing 69 kV Overhead to be Removed |
| |  Proposed 69 kV Overhead |
| |  Existing 12 kV Duct Bank |
| |  Proposed 12 kV Duct Bank |
| |  Proposed 12 kV and Telecommunications Duct Bank |
| |  Proposed Telecommunications Duct Bank |

Survey Area

January 2014

November 2014

 Photograph Location



- One large acacia (*Acacia* sp.) suitable for nesting birds was present at the intersection of India Street and West Laurel Street immediately northwest of the survey area (Photograph 4).
- The I-5 overpass on West Laurel Street was inspected for potential bird nesting or bat roosting areas (Photograph 5). However, no crevices or holes suitable for nesting or bat roosting were observed, and no sign of bat or bird use (e.g., white wash, guano, feathers, etc.) was observed.
- State Street between West Laurel Street and West Maple Street
 - There was a band of vegetation that was adjacent the survey area near the intersection of State Street and West Maple Street (Photograph 6). It is likely that this was once native Diegan coastal sage scrub. However, no native plant species were observed at this location. This area has the potential to support wildlife, including nesting bird species and small mammals, and may provide an urban migratory corridor for wildlife. Plant species observed at this site included pepper tree (*Schinus* sp.), ice plant (*Carpobrotus edulis*), and tree tobacco (*Nicotiana glauca*).
 - There is a large eucalyptus tree (*Eucalyptus* sp.) located east of State Street and just south of West Maple Street within the courtyard of a multi-unit residential building (Photograph 7). The tree is offset approximately 100 feet from the survey area. However, it has the potential to support nesting birds, including raptors.

Palm Street and Pacific Highway

Small mammal burrows were observed near the driveway to the Budget Rental car facility in a small, partially landscaped plot of dirt on Palm Street between the railroad tracks and Pacific Highway (Photographs 8 and 9). This area will be avoided during construction of the Proposed Project. The intersection of Pacific Highway and West Laurel Street is a highly urbanized area that includes paved sidewalks and small islands of weedy vegetation. However, the Laurel Airport Parking Garage to the east of the intersection and adjacent to the survey area is of sufficient height to provide potential raptor nesting habitat (Photograph 10).

General Wildlife

A pair of red-tailed hawks (*Buteo jamaicensis*) was observed flying over I-5 near West Laurel Street and Columbia Street. A solitary red-tailed hawk was observed perched on a streetlight over I-5 on the west side of India Street (Photograph 11). Other wildlife species observed include an American crow (*Corvus brachyrhynchos*), rock doves (*Columba livia*), and a black phoebe (*Sayornis nigricans*).

Hydrological Features

The entire survey area was evaluated for the presence of potentially jurisdictional hydrological features. A total of 21 features were observed, of which 17 features were mapped and four features were noted. The four noted features were inaccessible due to the persistent vehicle traffic on India Street that prevented safe access. Figure 2: Hydrologic Features Map depicts potential jurisdictional features mapped within the survey area.

Eighteen of the features are roadside channels and drains designed for storm water conveyance. They consist of storm drains that measure approximately 48 inches by 24 inches; an aboveground cement drainage channel that conveys urban run-off from West Maple Street; and sidewalk "curb and gutter" drains (Photographs 12 to 14). These features

are associated with the Municipal Separate Storm Sewer System (MS4).

Two features are aboveground metal conveyance features—one pipe drains run-off from a parking lot on West Laurel Street and Columbia Street and the other drain conveys run-off from a berm adjacent to I-5 at the southeast corner of India Street and West Laurel Street (Photographs 15 and 16).

The 20 features described above drain storm water from roads, hardscape, and upland vegetation into a municipal storm drain system, and therefore, would not be considered jurisdictional waters, as defined by Sections 401 and 404 of the CWA, the Porter-Cologne Water Quality Control Act, and Section 1602 of the California Fish and Game Code.

The final feature is located at the toe of slope of a freeway embankment within the survey area, at the southeast corner of the I-5 overpass at West Laurel Street (Photograph 3). This feature begins as an approximately 30-inch-wide cement-lined channel and drains northwest into a storm drain on the south side of West Laurel Street. The final approximately 5 feet of this feature consist of a vegetated earthen channel. This portion of the feature is approximately 2 feet in width. It was observed through a chain-link fence (Photograph 17). This feature was inundated at the time of the survey and was supporting vegetation. As such, the feature is a potentially jurisdictional wetland, as defined by Sections 401 and 404 of the CWA and is also potentially jurisdictional for the California Department of Fish and Wildlife as a streambed under Section 1600 of the California Fish and Game Code.

**Photographs
(see Figure 1:
Survey
Overview Map
for the location
of each
photograph):**



Photograph 1: View looking south of five large pine trees located on the northwest corner of Columbia Street and West Palm Street.



Photograph 2: View looking northwest of unmaintained landscaped vegetation on the eastern side of the intersection of India Street and West Laurel Street (between Kettner Boulevard and State Street).



Photograph 3: View looking south of unmaintained landscaped vegetation on the east side of the I-5 overpass on West Laurel Street and Columbia Street. A potentially jurisdictional feature is visible in the foreground.



Photograph 4: View looking northwest from the intersection of India Street and West Laurel Street at a large acacia tree adjacent to I-5.



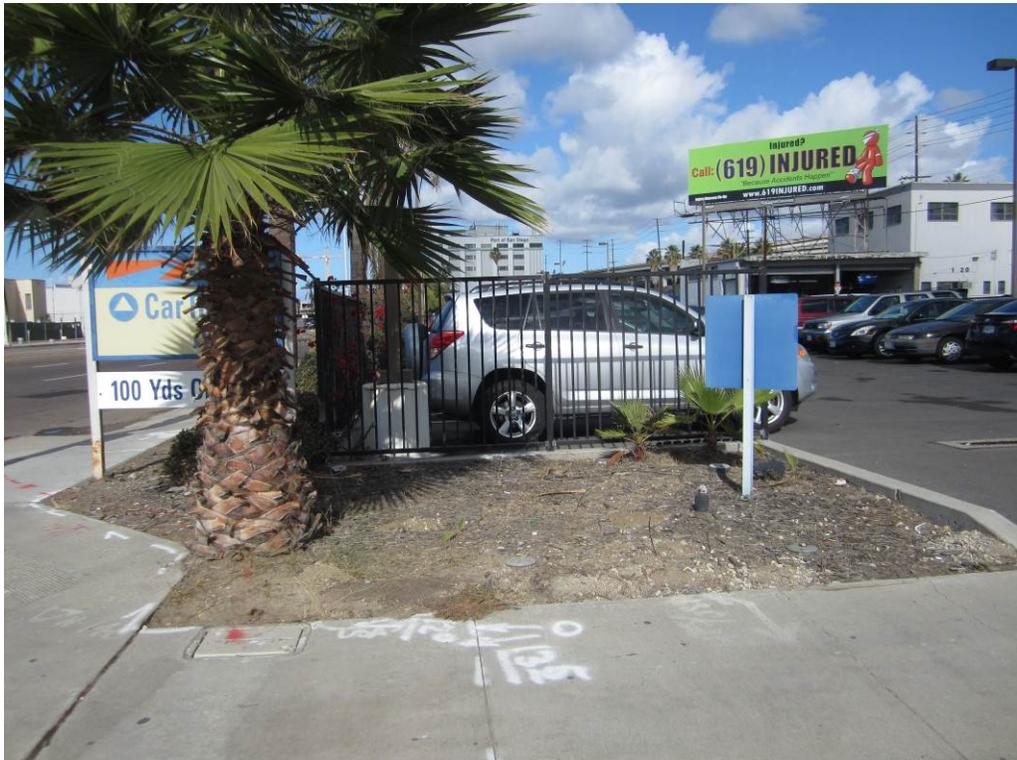
Photograph 5: View looking west at the I-5 underpass on West Laurel Street.



Photograph 6: View looking north at vegetation located on the west side of the West Maple Street and State Street intersection.



Photograph 7: View looking east at a large eucalyptus tree on State Street between West Maple Street and West Laurel Street.



Photograph 8: View looking north at the site of small mammal burrows located on West Palm Street and Pacific Highway.



Photograph 9: Small mammal burrows located on West Palm Street and Pacific Highway.



Photograph 10: View of the Laurel Airport Parking Garage, looking east from a gas station near the northeast corner of West Laurel Street and Pacific Highway.



Photograph 11: A red-tailed hawk perching on a streetlamp along I-5 near the intersection of India Street and Sassafra Street.



Photograph 12: A storm drain located at the northeast corner of West Laurel Street and Pacific Highway.



Photograph 13: Looking west at a cement drainage channel located on State Street at West Maple Street adjacent to an existing substation.



Photograph 14: Looking northwest at a "curb and gutter" storm drain located on the west side of India Street.



Photograph 15: View looking southeast at an approximately 8-inch-diameter metal pipe draining a parking lot on West Laurel Street at Columbia Street.



Photograph 16: View looking east at a metal drain conveying water west into unmaintained landscaping off of a berm adjacent to I-5.



Photograph 17: View looking southeast at a potentially jurisdictional feature from West Laurel Street and Columbia Street.

3.5 CULTURAL RESOURCES

3.5.0 Existing Conditions

This section describes the archaeological, historical, and paleontological resources identified in the vicinity of the revised 12 kilovolt (kV) distribution routes and identifies potential impacts that could result from construction, operation, and maintenance of the Vine 69/12 kV Substation Project (Proposed Project). The cultural resources analysis in this section is based on the Cultural Resources Technical Report for the Proposed Project (ASM 2014) and the Updated Cultural Resource Technical Report for the Proposed Project that was prepared by ASM Affiliates, Inc. (ASM) in January 2015 (ASM 2015). As discussed in the original Proponent's Environmental Assessment (PEA), a search of the Native American Heritage Commission (NAHC) Sacred Lands File was conducted in December of 2013 to identify potential Native American traditional cultural places. Paleontological resources in the vicinity of the revised distribution routes were identified utilizing the data presented in the Paleontological Record Search that was completed by the San Diego Natural History Museum's (SDNHM's) Department of Paleontology, in May of 2013.

Cultural Resources in the Proposed Project Area

As documented in the Updated Cultural Resource Technical Report (ASM 2015), San Diego Gas & Electric Company (SDG&E) conducted an updated records search within a 0.25-mile radius of the revised 12 kV distribution routes. One cultural resource, P-37-024258, has been recorded within the area of potential effect (APE) for the revised 12 kV distribution routes. This resource was recorded in 2001 as a historic trash scatter surrounding a pre-1925 sewer line in the vicinity of the intersection of Kalmia Street and Kettner Boulevard. The artifacts identified within the trash scatter were non-diagnostic and included metal wire, brick fragments, pipe casings, and glass fragments. The trash scatter has not been evaluated for eligibility in the California Register of Historic Resources (CRHR) and may require evaluation if ground-disturbing construction activities would be conducted in this location. The record search of the NAHC Sacred Lands File that was conducted in December 2013 revealed no known Native American traditional cultural places in the vicinity of the revised 12 kV distribution routes.

Historic Resources in the Proposed Project Area

Additional historical research was conducted by ASM as part of the ongoing design process. During this process, the Santa Fe Railway and San Diego Trolley were identified as historical resources that may potentially be present, buried beneath pavement, within the proposed APE. These resources are discussed in the subsections that follow.

Santa Fe Railway

The Santa Fe Railway (Santa Fe) was constructed between the mid to late 1880s and by 1882 California Southern Railroad had constructed 211 miles of track from National City south of San Diego, north to Fallbrook Junction, just north east of Oceanside, and from there inland through Temecula Canyon to San Bernardino through Colton. In 1888, Santa Fe constructed a new shoreline route—the Surf Line as it later became known—that extended north of Fallbrook Junction along the coast to Fullerton. This route served as the main line between Los Angeles and San Diego. Santa Fe continued to operate until the National Railroad Passenger Corporation

(Amtrak) took control of the Santa Fe passenger service in 1971 and in 1995 the Santa Fe merged with Burlington Northern. Following the acquisition of the Santa Fe by Burlington Northern, the railway was renamed the Burlington Northern and Santa Fe Railway (BNSF).

The BNSF currently runs north-south along California Street, parallel to Pacific Highway and Kettner Boulevard. A revised 12 kV distribution route crosses the BNSF along West Palm Street between Kettner Boulevard and Pacific Highway.

Santa Diego Electrical Railways Trolley Line

In 1886, the San Diego Street Company was founded and a trolley line was installed along Arctic Street, which is currently Kettner Boulevard. In 1891, the trolley system was acquired by the San Diego Electric Railway Company. The trolley line along Kettner Boulevard remained in operation until the 1930s when several street car routes were converted to bus routes, which caused a temporary closure of the trolley line. The Kettner Boulevard route reopened in 1942 to transport Consolidated Aircraft workers during World War II until 1949, when the San Diego Electric Railway Company was sold and the San Diego street car system was ultimately abandoned.

The historical trolley line reportedly exists, buried beneath pavement, potentially along portions of Kettner Boulevard where new duct banks and vaults are proposed. Because the trolley line is buried and not visible on the ground surface, the specific location and condition of the trolley line is unknown.

Paleontological Resources in the Proposed Project Area

Paleontological resources in the vicinity of the revised 12 kV distribution routes were identified in the Paleontological Record Search conducted by the SDNHM in May 2013. The results of the records search indicated that several fossil localities may be present along India Street where new duct banks are proposed. As described in the original PEA, these fossil localities exist within deposits of the San Diego Formation, which is considered to be a geologic formation with a high paleontological sensitivity.

3.5.1 Impact Evaluation

Construction activities associated with the revised 12 kV distribution routes will have the potential to impact cultural, historical, and paleontological resources in the vicinity of the Proposed Project area. An analysis of potential impacts to cultural, historical, and paleontological resources is provided in the following subsections.

Question 3.5a – Historical Resource Change

Construction – Less-than-Significant Impact

Based on archival information, two historical resources are located within the Proposed Project area. The historic Santa Fe Railway (current BNSF Railway) is located adjacent to California Street and will be crossed by the revised 12 kV distribution route along West Palm Street. The horizontal jack-and-bore technique will be used in this location to install approximately 200 feet of conduit underneath the railway and avoid disturbing the existing known tracks. In addition, as described in the response to Question 4.16a of the original PEA, SDG&E will coordinate with

rail transit providers to schedule the work and obtain necessary right-of-entry permits. Therefore, the Santa Fe Railway will not be damaged during construction and potential impacts to the existing railway will be less than significant.

An historic San Diego Electric Railways Trolley Line reportedly exists below ground surface along Kettner Boulevard where new duct banks and vaults are proposed. Due to the size of the proposed vaults (which will be between nine and 12 feet wide and approximately 10 feet tall), the historic trolley line may be encountered during construction. In order to reduce the potential for disturbance to the historic trolley line, applicant-proposed measure (APM)-CUL-01 from the original PEA will be implemented as revised in Section 3.5.2 Applicant-Proposed Measures. This APM requires an archaeological monitor be present during initial ground-disturbing activities. In the event that historical features or deposits are encountered, the monitor will have the authority to stop work in the vicinity of the find and will contact SDG&E's Cultural Resources Specialist and Project Manager. If locomotive and/or electric rails are discovered during construction and fall within a recommended period of significance, and cannot be preserved in place, they will be immediately documented using standard documentation. All materials that cannot be preserved in place will be offered to the Pacific Southwest Railway Museum for preservation. If preservation is not feasible, the monitor will photograph, map and document the location of the resource and summarize the results in a Department of Parks and Recreation (DPR 523) form that will be submitted to the South Coastal Information Center (SCIC). Since this location will likely be within franchise, a short letter report and the DPR 523 forms will also be submitted to the City of San Diego Development Services Department to detail the findings of the construction monitoring.

In addition, SDG&E will implement a Safety and Environmental Awareness Program as part of its ordinary construction restrictions. This program will include training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations. Based on the presence of an archaeological monitor during excavation activities, the completion and submittal of applicable documentation, and the preservation of significant materials, potential impacts to historical resources will be less than significant.

Operation and Maintenance – No Impact

Operation and Maintenance (O&M) activities associated with the revised 12 kV distribution routes are similar to those described in the original PEA and will not require ground disturbance; however, if ground disturbance is required for the repair of Proposed Project components, it will be reviewed by an SDG&E archaeologist per SDG&E's ordinary operating restrictions and conducted in areas that were previously disturbed during construction of the Proposed Project. Therefore, O&M activities will not have an adverse effect on historical resources, and no impact will occur.

Question 3.5b – Archaeological Resource Change

Construction – Less-than-Significant Impact

One archaeological resource, an historic trash scatter/pre-1925 sewer line, has been previously documented within the Proposed Project area near the intersection of Kalmia Street and Kettner

Boulevard. However, the proposed construction activities in the vicinity of this intersection include the installation of cable within existing duct banks; therefore, no ground disturbance will occur near the reported location of the scatter/pre-1925 sewer line. In addition, as described in the original PEA and in the response to Question 3.5a, SDG&E will implement APM-CUL-01 to minimize potential impacts to unknown archaeological resources during ground-disturbing activities. With the presence of an archaeological monitor during excavation activities, the completion and submittal of applicable documentation, and the preservation of significant materials, potential impacts to archaeological resources will be less than significant.

Operation and Maintenance – No Impact

As previously described, O&M activities associated with the revised 12 kV distribution routes will be similar to those described in the original PEA and will not require ground disturbance. However, if ground disturbance is required for the repair of Proposed Project components, it will be reviewed by an SDG&E archaeologist per SDG&E's ordinary operating restrictions and conducted in areas that were previously disturbed during construction of the Proposed Project. Therefore, O&M activities will not have an adverse effect on archaeological resources, and no impact will occur.

Question 3.5c – Paleontological Resource Destruction

Construction – Less-than-Significant Impact

As described in the original PEA, direct impacts to paleontological resources occur when earthwork activities cut into geological deposits within which fossils are buried. Based on a review of the previously conducted Paleontological Record Search (SDNHM 2013), several fossil localities were identified along India Street within the San Diego Formation, which is considered to be a geologic formation with a high paleontological sensitivity. Excavation between six and 12 feet are anticipated along India Street during the construction phase of the project. In order to reduce the potential impacts to paleontological resources, APM-CUL-02 from the original PEA will be implemented during construction. This APM requires a paleontological monitor be present to observe excavation operations that involve the original cutting of deposits with high paleontological resource sensitivity. This APM also allows for the halting of work and contacting SDG&E's Cultural Resource Specialist if a paleontological resource is discovered. SDG&E will also implement a Safety and Environmental Awareness Program as part of its ordinary construction restrictions. This program will include training regarding the appropriate work practices necessary to effectively implement the APMs and to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural resources. With implementation of the APM and SDG&E's ordinary construction restrictions, any Proposed Project impacts to paleontological resources will be reduced to a less-than-significant level.

Operation and Maintenance – No Impact

As previously described, O&M activities associated with the revised 12 kV distribution routes are similar to those described in the original PEA and will not require ground disturbance. However, if ground disturbance is required for the repair of Proposed Project components, it will be reviewed by an SDG&E archaeologist per SDG&E's ordinary operating restrictions and conducted in areas that were previously disturbed during construction of the Proposed Project.

Therefore, O&M activities will not have an adverse effect on paleontological resources, and no impact will occur.

Question 3.5d – Human Remains Disturbance

Construction – Less-than-Significant Impact

Based on current records and literature, no known cemeteries exist and no recorded Native American or other human remains have been previously identified within or adjacent to the revised 12 kV distribution routes. In addition, a Sacred Lands File search was conducted with the NAHC in December of 2013 as part of this effort by ASM and the result were negative. As such, the potential for the unintended discovery of Native American or other human remains during subsurface construction activities required for the Proposed Project is considered to be low. If human remains are encountered during the course of construction, work will be halted in the vicinity of the find, and SDG&E will implement the appropriate notification processes as in accordance with the California PRC (Sections 5097.94, 5097.98, and 5097.99), and State Health and Safety Code (Section 7050.5). As a result, any potential impacts will be less than significant.

Operation and Maintenance – No Impact

As previously described, the presence of human remains is considered unlikely in the Proposed Project area. Typically, O&M activities associated with the Proposed Project will not require ground disturbance; however, if ground disturbance is required for the repair of Proposed Project components, it will be reviewed by an SDG&E archaeologist per SDG&E's ordinary operating restrictions and in areas that were previously disturbed during construction of the Proposed Project. As a result, it is not anticipated that human remains will be encountered during such activities, and there will be no impact.

3.5.2 Applicant-Proposed Measures

As described previously, APM-CUL-01 and APM-CUL-02 from the original PEA will continue to be implemented as part of the Proposed Project to reduce any potential impacts to cultural or paleontological resources to a less-than-significant level. APM-CUL-01 has been modified, as follows, to include procedures for the potential preservation of locomotive or electric rails:

- APM-CUL-01: An archaeological monitor will be present during ground-disturbing activities. In the event that cultural resources are discovered, the archaeological monitor will have the authority to divert or temporarily halt ground disturbance to allow evaluation of the potentially significant cultural resources. The archaeological monitor will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeological monitor, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function

and chronology as they relate to the history of the area. Faunal material will be identified to the species level. If locomotive and/or electric rails are discovered during construction and fall within a recommended period of significance, and cannot be preserved in place, they will be immediately documented using standard documentation. All materials that cannot be preserved in place will be offered to the Pacific Southwest Railway Museum for preservation. If preservation is not feasible, the monitor will photograph, map and document the location of the resource and summarize the results in a Department of Parks and Recreation (DPR 523) form that will be submitted to the SCIC. A monitoring results report—which includes appropriate graphics and describes the results, analyses, and conclusions of the monitoring program—will be prepared and submitted to SDG&E’s Cultural Resource Specialist and Environmental Project Manager following completion of the program. Any cultural sites or features encountered will be recorded on appropriate Department of Parks and Recreation forms. All forms and reports will be submitted to the SCIC at San Diego State University and to the City of San Diego Development Services Department.

3.5.3 References

ASM

2014 *Cultural Resource Review for the SDG&E proposed Vine 69/12 kV Substation Project, San Diego County, California (SDG&E ETS# 25059, ASM Project#)*. Prepared for SDG&E. Unpublished report on file at the South Coastal Information Center.

ASM

2015 *Updated Cultural Resource Review for SDG&E’s Revised Vine 69/12 kV Substation Project, San Diego County, California (SDG&E ETS# 25059, ASM Project# 21430)*. . Prepared for SDG&E. Unpublished report on file at the South Coastal Information Center

SDNHM

2013 *Paleontological Record Search for the SDG&E Vine 69/12kV Substation (eTS No. 25059)*. Prepared for SDG&E. Unpublished report on file at the San Diego Natural History Museum, Department of Paleontology.

3.6 GEOLOGY AND SOILS

3.6.0 Existing Conditions

A review of United States Geological Survey (USGS) and Natural Resources Conservation Service (NRCS) data was conducted for areas in the vicinity of the revised 12 kilovolt (kV) distribution routes to verify soil composition in these locations. Soils underlying the proposed duct bank installation areas are mapped as urban land soils. These soils are comprised of non-agricultural, man-made materials, which are generally covered by streets, parking lots, buildings, and other structures.

The San Diego section of the Newport-Inglewood-Rose Canyon fault zone crosses the revised 12 kV distribution route directly north of the intersection of India Street and Sassafras Street. However, this fault was addressed in the original Proponent’s Environmental Assessment (PEA) and was not considered to be an active or potentially active fault.

3.6.1 Impact Evaluation

The location, geologic setting, and soil composition in the vicinity of the revised 12 kV distribution routes are similar to areas that were previously analyzed in the original PEA. Therefore, geologic hazards associated with faults, seismic activity, or soil composition are not expected to occur in the vicinity of the revised 12 kV distribution routes. Furthermore, no additional active faults will be crossed by the revised 12 kV distribution routes. As a result, the impact analysis presented in the original PEA adequately addresses the potential impacts from the revised design.

3.6.2 Applicant-Proposed Measures

Because the updated distribution design will not result in any new impacts related to geology or soils, no additional applicant-proposed measures are proposed.

3.6.3 References

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Vallecito Faults, Northern Baja California, Mexico.” Journal of Geophysical Research. Vol. 107, No. B10, 2226.

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3.7 GREENHOUSE GAS EMISSIONS

3.7.0 Existing Conditions

This section of the Proponent’s Environmental Assessment (PEA) Supplement describes potential impacts relating to greenhouse gases (GHG) from the changes associated with the revised 12 kilovolt (kV) distribution route design for the proposed San Diego Gas & Electric Company (SDG&E) Vine 69/12 kV Substation Project (Proposed Project). Because the revised 12 kV distribution routes will be located in the same air basin as the Proposed Project, the original PEA adequately describes the existing conditions for the updated design.

3.7.1 Impacts

Question 3.7a – Greenhouse Gas Emissions

Construction – Less-than-Significant Impact

The main source of GHG emissions associated with the Proposed Project will be fossil fuel combustion during construction. GHG emissions for the Proposed Project with the revised 12 kV distribution routes incorporated were calculated using the same approach as criteria pollutant emissions for overall construction emissions, as described in Section 3.3 Air Quality. Estimated GHG emissions include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), and they are summarized in Table 3.7-1: Greenhouse Gas Construction Emissions.

Table 3.7-1: Greenhouse Gas Construction Emissions

Category	GHG Emissions (metric tons [MT])		
	CO ₂	CH ₄	N ₂ O
Total Construction Emissions	2,370.66	0.54	0.00
Global Warming Potential	1	21	310
CO ₂ Equivalent (CO ₂ e)	2,370.66	11.43	0.00
Total CO ₂ e	2,382.09		
Amortized Construction Emissions (Amortized over 30 Years)	79.40		

The South Coast Air Quality Management District (SCAQMD) has adopted and the County of San Diego Planning & Development Services has issued a significance threshold of 10,000 MT of CO₂e emissions annually for industrial sources. The total annualized construction CO₂e emissions will be 79.40 MT with the incorporation of the proposed changes to the 12 kV distribution routes. These emissions will be below the significance threshold of 10,000 MT of CO₂e emissions annually. This level of GHG emissions will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

The operation and maintenance activities of the revised 12 kV distribution routes will not change as a result of the proposed modifications. As described in the original PEA, these activities will generate a minor amount of GHG emissions from vehicles and/or equipment used to inspect and maintain the facilities. GHG emissions associated with operation and maintenance will be well below the applicable significance thresholds.

Table 3.7-2: Greenhouse Gas Operation and Maintenance Emissions summarizes the annual GHG emissions from the Proposed Project with the incorporation of the revised 12 kV distribution routes. The total annual emissions are anticipated to be approximately 83.08 MT of CO₂e. This level will be below the SCAQMD's and the County of San Diego's annual significance threshold of 10,000 MT of CO₂e emissions for industrial sources. Accordingly, impacts will be less than significant.

Table 3.7-2: Greenhouse Gas Operation and Maintenance Emissions

Source	GHG Emissions (MT of CO₂e per year)
Off-Road Equipment and On-Road Vehicle Use	0.46
Fugitive Circuit Breaker Emissions	3.22
Amortized Construction Emissions	79.40
Total	83.08

Question 3.7b – Applicable Greenhouse Gas Plan Conflicts***Construction – No Impact***

The Proposed Project's GHG emissions from construction will be below the significance threshold when amortized over a 30-year period, as recommended by the SCAQMD and the County of San Diego. Equipment and vehicles supporting construction of the Proposed Project will comply with the requirements implemented by the California Air Resources Board to reduce GHG emissions and will be consistent with the goals in the California Global Warming Solutions Act of 2006, also known as Assembly Bill 32. Accordingly, there will be no impact associated with construction.

Operation and Maintenance – No Impact

As described previously, the revisions to the 12 kV distribution routes will not change the planned operation and maintenance activities. The simulated emissions from operation and maintenance will be well below the applicable thresholds for industrial sources and, as a result, there will be no impact.

3.7.2 Applicant-Proposed Measures

With implementation of SDG&E's ordinary construction practices, potential impacts related to GHG will remain less than significant. As a result, no new applicant-proposed measures have been proposed.

3.8 HAZARDS AND HAZARDOUS MATERIALS

3.8.0 Existing Conditions

The State Water Resources Control Board's GeoTracker database and the California Department of Toxic Substances Control's Envirostor database were reviewed to identify hazardous sites in the vicinity of the revised 12 kilovolt (kV) distribution routes. In addition, a search was conducted for schools, airports, and applicable evacuation and emergency plans in the vicinity of the revised 12 kV distribution routes. The findings of this research are summarized in the following subsections.

Existing Hazardous Sites

No upgradient, open hazardous sites were identified in the immediate vicinity of the revised 12 kV distribution routes.

Fire Hazards

Based on the Wildland Fire Hazards Map depicted in the City of San Diego's General Plan, as well as California Department of Forestry and Fire Protection data, the revised 12 kV distribution routes will not be located in a wildland fire hazard area.

Schools

No additional schools are located within 0.25 mile of the revised 12 kV distribution routes. The Montessori School of San Diego, which was addressed in the original Proponent's Environmental Assessment (PEA), is the only school within 0.25 mile of the Vine 69/12 kV Substation Project (Proposed Project). Due to the proposed duct bank installation areas along India Street, this school is now located approximately 160 feet northeast of the Proposed Project.

Airports

No additional airports are located in the vicinity of the revised 12 kV distribution routes. The San Diego International Airport, which was addressed in the original PEA, is the only airport within one mile of the Proposed Project.

Emergency Response and Evacuation Plans

No new emergency response and evacuation plans exist in the vicinity of the revised 12 kV distribution routes.

3.8.1 Impact Evaluation

No additional hazardous sites, schools, airports, or applicable evacuation and emergency plans were identified in the vicinity of the revised 12 kV distribution routes. Therefore, the impact analysis presented in the original PEA adequately addresses the potential impacts from the revised design for the Proposed Project. Although the Montessori School of San Diego is located approximately 160 feet from the revised 12 kV distribution routes, the presence of hazardous materials in the vicinity of the school will be addressed as described in the response to Question 4.8c within the original PEA.

3.8.2 Applicant-Proposed Measures

Because the updated distribution design will not result in any new impacts associated with the transport, use, or disposal of hazardous materials, no additional applicant-proposed measures are proposed.

3.8.3 References

- California Public Utilities Commission. Memorandum. *Applicants Filing Proponent's Environmental Assessment*. November 24, 2008.
- California Resources Agency. 2007. Title 14 CCR, Chapter 3 Guidelines for Implementation of the California Environmental Quality Act. CEQA Guidelines.
- City of San Diego. 1988. *Uptown Community Plan*. Online. <http://www.sandiego.gov/planning/community/profiles/pdf/cp/cputfullversion.pdf>. Site Visited November 25, 2014.
- City of San Diego. 2000. Airport Environs Overlay Zone. Online. <http://docs.sandiego.gov/municode/MuniCodeChapter13/Ch13Art02Division03.pdf>. Site visited March 5, 2014.
- City of San Diego. 2008. *General Plan*. Public Facilities, Services, and Safety Element.
- County of San Diego. 1975. *County of San Diego General Plan*. Public Safety Element.
- Geosyntec Consultants. Preliminary Geotechnical and Geologic Hazards Investigation, Vine Substation. December 2013.
- Google. Google Earth Pro Version 7.1.1. Software. Program used December 10, 2011.
- San Diego County Regional Airport Authority. July 2013. *Draft San Diego International Airport Land Use Compatibility Plan*.
- San Diego Fire-Rescue Department. Online. <http://www.sandiego.gov/fireandems/>. Site visited June 16, 2010.
- San Diego International Airport. Land Use Compatibility. Online. <http://www.san.org/Airport-Projects/Land-Use-Compatibility>. Site visited December 10, 2013.
- United States Environmental Protection Agency. 2011. RCRA Orientation Manual 2011. Online. <http://www.epa.gov/osw/inforesources/pubs/orientat/>. Site visited May 8, 2014.

3.9 HYDROLOGY AND WATER QUALITY

3.9.0 Existing Conditions

Data regarding hydrology and water quality within the vicinity of the revised 12 kilovolt (kV) distribution routes were obtained through a field reconnaissance survey and a literature review of applicable reference materials and reports. Insignia Environmental biologist Shirley Innecken conducted a reconnaissance-level hydrological survey of the revised 12 kV distribution routes on November 21, 2014. The primary objective of the reconnaissance-level survey was to assess the existing conditions of the revised distribution routes, identify any hydrological features, and determine if any jurisdictional resources are present. A detailed discussion of the reconnaissance-level survey is provided in Attachment 3.4-A: Updated Distribution Line Design Biological Survey Memo in Section 3.4 Biological Resources.

General Setting

The revised 12 kV distribution routes will be located in close proximity (i.e., within approximately 300 to 1,000 feet) of the proposed 12 kV duct bank on Kettner Boulevard. Therefore, the general hydrological setting description presented in the original Proponent's Environmental Assessment (PEA) adequately describes the updated version of the Vine 69/12 kV Substation Project (Proposed Project).

Surface Waters

As described in Attachment 3.4-A: Updated Distribution Line Design Biological Survey Memo in Section 3.4 Biological Resources, 21 hydrological features were identified within the survey area, adjacent to the revised 12 kV distribution routes. Twenty of the features are designed for storm water conveyance and drain storm water from roads, hardscape, and upland vegetation into a municipal storm drain system.

One potentially jurisdictional hydrological feature was identified at the southeast corner of the Interstate 5 overpass at West Laurel Street. The feature begins as a concrete-lined drainage channel measuring approximately 30 inches wide, and it ends as an earthen channel measuring approximately two feet wide. The channel drains northwest into a storm drain on the south side of West Laurel Street. The last portion of the channel, which is approximately five feet long, was inundated and consisted of vegetation. As such, this feature is a potentially jurisdictional wetland, as defined by Sections 401 and 404 of the Clean Water Act, and is also potentially jurisdictional for the California Department of Fish and Wildlife as a streambed under Section 1600 of the California Department of Fish and Game Code. This feature is located outside of the proposed trench alignment.

Groundwater

Groundwater conditions are the same as those described in the original PEA for the Proposed Project.

Surface Water Quality

No known or impaired waterbodies will be crossed by the revised 12 kV distribution routes.

Floodplains

According to the Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Maps, the revised 12 kV distribution routes are in FEMA Zone X. The portion of the route located on State Street between West Laurel Street and West Maple Street is directly adjacent to FEMA Flood Hazard Zone A. However, the revised 12 kV distribution routes do not cross or lie within a 100-year or 500-year flood zone.

Dam Failure Inundation Areas

The revised 12 kV distribution routes will not be located within an inundation area for dam failure.

3.9.1 Impacts

Although 20 hydrological features designed for storm water conveyance and one potentially jurisdictional hydrological feature were identified adjacent to the revised 12 kV distribution route alignments, these features will be avoided and no direct impacts are anticipated. As described in the original PEA and as required by law, a Proposed Project-specific Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention, Control, and Countermeasure (SPCC) Plan will be implemented to avoid indirect impacts. In addition, best management practices (BMPs) from San Diego Gas & Electric Company's (SDG&E's) Water Quality Construction BMP Manual will also be implemented, as described in Chapter 3 – Project Description of the original PEA. Therefore, the impact analysis presented in the original PEA adequately addresses the potential direct and indirect impacts from the revised design for the Proposed Project.

3.9.2 Applicant-Proposed Measures

The revised design for the Proposed Project will result in a less-than-significant impact to hydrology and water quality with implementation of the Proposed Project's SWPPP and SPCC Plan, which are both required by law, and by implementing the BMPs in SDG&E's Water Quality Construction BMP Manual. Therefore, no applicant-proposed measures are proposed.

3.9.3 References

FEMA. FEMA Map Service Center. Online. <https://msc.fema.gov/>. Site visited December 19, 2014.

Google. Google Earth Pro Version 7.1.2.2041 Software. Program used December 19, 2014.

3.10 LAND USE AND PLANNING

3.10.0 Existing Conditions

The land use analysis for the revised 12 kilovolt (kV) distribution routes involved a review of various land use plans, policies, and regulations for the City of San Diego, including the City of San Diego General Plan, Municipal Code, and Uptown Community Plan. The San Diego County Regional Airport Authority Airport Land Use Compatibility Plan (ALUCP) for San Diego International Airport (SDIA) was reviewed as well. The land use analysis also involved a study of Google Earth aerial imagery of the Vine 69/12 kV Substation Project (Proposed Project) area. In addition, San Diego Gas & Electric Company's (SDG&E's) Subregional Natural Community Conservation Plan (NCCP) and the City of San Diego's Multiple Species Conservation Program (MSCP) Subarea Plan were reviewed.

The Proposed Project is located in the City of San Diego General Plan, the Midway/Pacific Highway Corridor Community Plan, and the City of San Diego Uptown Community Planning area. The Uptown Community Plan, along with the existing uses near the updated distribution design, is described in relation to the Proposed Project in the following sections.

Existing Land Uses

The relocated distribution circuits will be installed within new underground duct banks from the proposed Vine Substation within Vine, India, West Redwood, Columbia, and West Laurel Streets. The approximately one-mile-long alignment will be located within the public right-of-way (ROW). In addition, approximately 500 feet of new underground duct bank will be installed within West Palm Street. South of West Laurel Street, the distribution circuits will utilize existing conduits for approximately 1.3 miles within Pacific Highway, Kettner Boulevard, West Laurel Street, and State Street. Existing uses in the surrounding area include Interstate (I-) 5, gas stations, commercial uses, automobile sales, rental car facilities, parking lots, offices, residences, an electric substation, railway station, and SDIA.

Designated Land Uses

City of San Diego General Plan

As shown in Table 3.10-1: Existing and Designated Land Uses, lands adjacent to the relocated distribution circuits have a General Plan designation of Residential and Multiple Use. A wide variety of land uses are specified as being appropriate within these designations, including single-family and multi-family housing, offices, general commercial uses, and civic and institutional uses. While utility uses are not explicitly designated as being allowed under these General Plan designations, the General Plan specifically discusses the need to integrate design elements and space requirements necessary for public utilities into planning efforts throughout the city. Figure 3.10-1: Land Use Map presents a depiction of the general land use categories within the Proposed Project area.

Table 3.10-1: Existing and Designated Land Uses

Proposed Project Component	Existing Land Use	General Plan Designation(s)	Zoning Designation(s)	Community Plan Designation(s)
12 kV Distribution Relocation	Public street ROW	Residential, Multiple Use	MCCPD-CL-6, MCCPD-MR-1500, CC-4-5	Residential, Commercial

Note: The telecommunication system extension will be collocated with portions of the 12 kV distribution relocation. Sources: City of San Diego, 2008; City of San Diego General Plan Land Use Map, 2010; City of San Diego Municipal Code; City of San Diego, 2009; City of San Diego, 1988.

City of San Diego Municipal Code

The 12 kV distribution relocation is zoned MCCPD-CL-6, MCCPD-MR-1500, and CC-4-5 (Commercial Linear, Multi-Family Residential, and Commercial-Community designations). These designations are intended to provide automobile-oriented commercial districts in which residential or mixed-use development is encouraged, as well as multi-family residential uses and community-serving commercial services, retail uses, and limited industrial uses of moderate intensity and small to medium scale. Utility-related uses (e.g., substations and communications facilities) are allowed uses under the MCCPD-CL-6 zoning designation. Under the CC-4-5 zoning designation, utility-related uses (e.g., power lines, switching stations, and communications facilities) are generally allowed uses with a Conditional Use Permit.

City of San Diego Uptown Community Plan

A portion of the revised 12 kV distribution routes (east of I-5) is subject to the Uptown Community Plan. The plan establishes guidelines for the form of the community and provides specific recommendations for land uses designed to meet the existing and future needs of the community. The Uptown Community Plan also recommends actions that will implement the goals and objectives of the City of San Diego's General Plan.

The Proposed Project area is designated as Residential (low-medium and medium density) and Commercial/Residential. The low-medium density designation allows 10 to 15 dwelling units per acre, and is generally applied in areas that are close to transportation corridors. The medium density designation allows 15 to 29 dwelling units per acre and is typical characterized by two-story development. The Commercial/Residential designation is generally applied to linear areas between mixed-use commercial nodes. Permitted uses include general commercial, office, or residential at densities ranging from very high to medium.

City of San Diego Local Coastal Program

The Proposed Project area is located outside of the City of San Diego Coastal Zone, except for the approximately 2,400-foot portion of the 12 kV distribution relocation that will be placed in existing conduit within Palm Street and Pacific Highway, and an approximately 370-foot portion of the 12 kV distribution relocation that will be placed in new conduit within West Palm Street.

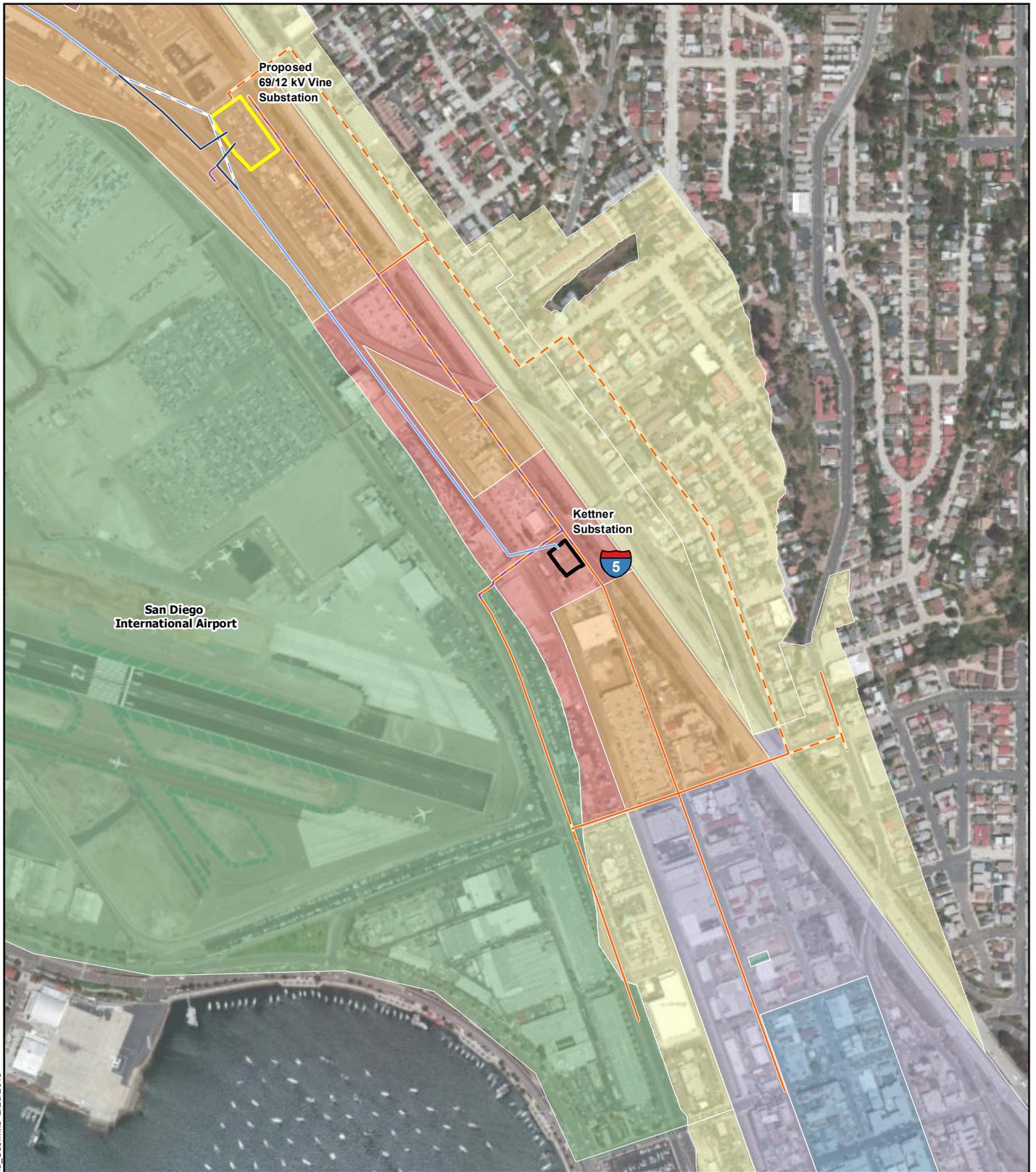
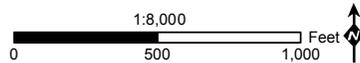


Figure 3.10-1: Land Use Map

Vine 69/12 kV Substation Project

- | | | | |
|-----------------------------------|---|------------------|------------------------------------|
| Proposed Vine 69/12 kV Substation | Existing 69 kV Overhead | Land Use | Heavy Commercial |
| Existing Kettner Substation | Existing 69 kV Overhead to be Removed | Open Space | Neighborhood Mixed Use Center |
| | Proposed 69 kV Overhead | Mixed Use | Industrial |
| | Existing 12 kV Duct Bank | Mixed Commercial | Airport/Airport Related Commercial |
| | Proposed 12 kV Duct Bank | | |
| | Proposed 12 kV and Telecommunications Duct Bank | | |
| | Proposed Telecommunications Duct Bank | | |



San Diego County Regional Airport Authority Airport Land Use Compatibility Plan

The ALUCP is implemented to protect the public's health, safety, and welfare and to prevent encroachment from degrading the operational capability of the airport. The ALUCP provides the requisite analysis of noise levels, accident potential, and obstruction clearance criteria necessary for safe airport operations. The Proposed Project is located within the SDIA Airport Influence Area.

3.10.1 Impact Evaluation

Question 3.10a – Physical Division of an Established Community – *No Impact*

The Proposed Project area is located in a highly urbanized area within the City of San Diego. The area supports a variety of commercial and residential uses. The proposed underground 12 kV distribution relocation is bound by public streets, and commercial and residential uses. Installation of the 12 kV distribution relocation will require temporary lane closures; however, such traffic control measures will be temporary during the six-month duct bank construction and vault installation. These lane and/or road closures are not anticipated to create a division between area land uses or within the larger community. In addition, the Proposed Project will obtain and comply with the requirements of a City of San Diego ROW permit, and any roadway restrictions will be coordinated with the city. Therefore, existing established communities will not be physically divided as a result of the revised 12 kV distribution routes, and no impact will occur.

Operation and maintenance (O&M) activities of the Proposed Project will be the similar to those currently performed by SDG&E in the area to maintain existing facilities, and these activities will occur on land owned by SDG&E or within public road ROWs. Such activities do not currently divide an established community, nor will they be anticipated to do so as a result of the Proposed Project; therefore, there will be no impact.

Question 3.10b – Plans and Policy Conflicts – *No Impact*

A summary of the revised 12 kV distribution routes' consistency with applicable goals and policies is provided in Table 3.10-2: Applicable Land Use Plans and Policies Consistency Analysis. Consistency with the City of San Diego General Plan and the Uptown Community Plan are specifically discussed. The Proposed Project does not conflict with these applicable plans and their respective policies.

The proposed 12 kV distribution relocation and the telecommunication system extension will be located within areas designated as Multiple Use and Residential by the City of San Diego's General Plan, and also in areas zoned for commercial and multi-family residential uses by the City of San Diego's Municipal Code. As previously stated, a variety of land use types are allowed within these designations, including general commercial uses, mixed-use development, multi-family residential, and limited industrial uses. Utility-related uses (e.g., electric substations and lines, switching stations, and communications facilities) are typically considered allowed uses (or are allowed with a Conditional Use Permit) within these areas. Therefore, the Proposed Project will not conflict with applicable City of San Diego land use plans, and there will be no impact.

Table 3.10-2: Applicable Land Use Plans and Policies Consistency Analysis

Plan or Policy	Consistent? (Yes/No)	Explanation
City of San Diego General Plan		
<i>Land Use and Community Planning Element</i>		
Airport Land Use Compatibility Goal: Protection of the health, safety, and welfare of persons within an airport influence area by minimizing the public’s exposure to high levels of noise and risk of accidents.	Yes	The proposed 12 kV distribution relocation will be undergrounded within existing public streets. Construction of the distribution relocation may temporarily expose the public to construction-generated noise. Thus, the Proposed Project will be consistent with this goal.
Policy LU-G.5: Implement the height standards used by the FAA as defined by Code of Federal Regulations Title 14, Part 77 through development regulations and zoning ordinances.	Yes	The Proposed Project site is within 20,000 feet of a public use airport with a runway measuring more than 3,200 feet, so it is subject to obstruction evaluation. The proposed 12 kV distribution relocation will be undergrounded within existing public streets. The Proposed Project will be consistent with this policy.
<i>Public Facilities, Services, and Safety Element</i>		
<i>Goals</i>		
Public utility services provided in the most cost-effective and environmentally sensitive way.	Yes	The Proposed Project is intended to provide improved substation and circuit reliability, as well as reduce substation loading conditions in the Proposed Project area. In addition, the revised 12 kV distribution routes have been designed to reduce potential environmental impacts to a less-than-significant level or to avoid impacts to sensitive resources. As a result, the revised 12 kV distribution design will be consistent with this goal.
Public utilities that sufficiently meet existing and future demand with facilities and maintenance practices that are sensible, efficient, and well-integrated into the natural and urban landscape.	Yes	As stated previously, the Proposed Project is intended to effectively meet the area’s electric capacity needs, provide improved substation and circuit reliability, and reduce substation loading conditions in the Proposed Project area. The revised 12 kV distribution design will be consistent with surrounding commercial and residential land uses, and will be designed to avoid impacts to sensitive resources to the extent possible.

Plan or Policy	Consistent? (Yes/No)	Explanation
<i>Policies</i>		
PF-M.1: Ensure that public utilities are provided, maintained, and operated in a cost-effective manner that protects residents and enhances the environment.	Yes	The Proposed Project is intended to provide improved substation and circuit reliability with added tie-in capacity, and to reduce substation loading in the Proposed Project area to optimum operating conditions. The revised 12 kV distribution design is consistent with this policy.
PF-M.4: Cooperatively plan for and design new or expanded public utilities and associated facilities (e.g., telecommunications infrastructure, planned energy generation facilities, gas compressor stations, gas transmission lines, electrical substations and other large-scale gas and electrical facilities) to maximize environmental and community benefits. b. Provide adequate buffering and maintained landscaping between utility facilities and residential and non-residential uses, including the use of non-building areas and/or rear setbacks.	Yes	The revised 12 kV distribution relocation will be undergrounded within existing public streets. Following construction, the 12 kV distribution relocation will not be visible to residential uses. Therefore, the Proposed Project is consistent with this policy.
<i>Mobility Element Policies</i>		
ME-A.5: Provide adequate sidewalk widths and clear path of travel, as determined by street classification, adjoining land uses, and expected pedestrian usage. a. Minimize obstructions and barriers that inhibit pedestrian circulation.	Yes	Temporary sidewalk closures may be required during construction of the 12 kV distribution relocation. If sidewalk closures are required for any portion of the Proposed Project, alternative pedestrian routes will be provided around construction areas. In addition, Proposed Project vaults will be placed underground, and any aboveground fixtures will be placed so that they do not obstruct pedestrian circulation in the area. Thus, the Proposed Project is consistent with this policy.
Uptown Community Plan		
<i>Goals</i>		
Ensure compatibility of neighboring uses.	Yes	The proposed 12 kV distribution relocation will be undergrounded within existing public streets. As a result, the Proposed Project will be consistent with this goal.

Plan or Policy	Consistent? (Yes/No)	Explanation
<i>Urban Design Guidelines</i>		
New construction and improvements to existing structures should be compatible with the existing architectural detail and overall appearance of the quality development in the surrounding neighborhood.	Yes	The proposed 12 kV distribution relocation will be undergrounded within existing public streets. As a result, the Proposed Project will be consistent with this guideline.
Above ground utility boxes and trash receptacles should be screened from view and located away from public sidewalks when feasible.	Yes	The revised 12 kV distribution routes will be undergrounded within existing public streets. Any aboveground facilities associated with the revised 12 kV distribution routes will be screened from view and located away from public sidewalks to the extent feasible. As a result, the Proposed Project will be consistent with this guideline.

Because the project is located within the SDIA Airport Influence Area per the ALUCP and the City of San Diego Municipal Code, an Obstruction Evaluation will be conducted by the Federal Aviation Administration (FAA) prior to construction. The Proposed Project will comply with all FAA requirements resulting from the Obstruction Evaluation. Because the Proposed Project will comply with all FAA requirements, no conflict will occur with the ALUCP or requirements of the SDIA Airport Influence Area. Therefore, there will be no impact.

As previously stated, the Proposed Project lies within the boundaries of the SDG&E Subregional NCCP and the City of San Diego's MSCP Subarea Plan. However, no land use-related policies were identified within those documents. Therefore, no impact will occur as a result of construction, operation, or maintenance of the revised 12 kV distribution routes.

Question 3.10c – Habitat Conservation Plan or Natural Community Conservation Plan Conflicts – *No Impact*

As described in the original Proponent's Environmental Assessment (PEA), SDG&E's existing Subregional NCCP and the City of San Diego's MSCP Subarea Plan are the only conservation plans that are relevant to the Proposed Project area. SDG&E will implement the Subregional NCCP protocols to avoid and/or minimize potential impacts resulting from construction of the 12 kV distribution relocation, as further described in Section 4.4 Biological Resources of the original PEA. Therefore, the Proposed Project will not conflict with any applicable conservation plan, and no impacts will occur.

O&M activities for the Proposed Project will be the similar to those currently performed by SDG&E in the Proposed Project area to maintain existing facilities. While the Proposed Project is located in an urban area with limited biological resources, Subregional NCCP protocols will still be applied as they are currently in order to avoid and/or minimize potential species impacts during O&M activities. Because SDG&E will apply the protocols in its existing Subregional NCCP during O&M activities for the Proposed Project, there will be no conflict with the plan, and no impact will occur.

3.10.2 Applicant-Proposed Measures

No conflict with applicable land use plans or policies will occur as a result of construction of the revised 12 kV distribution routes. In addition, the design changes will not divide an established community. As such, no applicant-proposed measures are proposed.

3.10.3 References

City of San Diego. 1988. *Uptown Community Plan*. Online.

<http://www.sandiego.gov/planning/community/profiles/pdf/cp/cputfullversion.pdf>. Site visited November 26, 2014.

City of San Diego. 1997. MSCP – City of San Diego Subarea Plan.

City of San Diego. 2008. *General Plan*. Online.

<http://www.sandiego.gov/planning/genplan/pdf/generalplan/adoptedtoc.pdf>. Site visited November 26, 2014.

City of San Diego. 2009. Zoning Map, Grid 15. Online. <http://www.sandiego.gov/development-services/zoning/pdf/maps/grid15.pdf>. Site visited November 26, 2014.

City of San Diego. Zoning Ordinance. Online. <http://docs.sandiego.gov/municode/MuniCodeChapter13/Ch13Art01Division06.pdf>. Site visited November 26, 2014.

San Diego County Regional Airport Authority. ALUCP Mapping Tool. Online. <http://aviation.cseengineers.com/alucp/sandiego/>. Site visited December 12, 2014.

SDG&E. 1995. Subregional NCCP.

SDIA. 2015. Airport Land Use Compatibility. Online. <http://www.san.org/Airport-Projects/Land-Use-Compatibility#San-Diego-International-Airport-Approved-Apr-3-2014-398>. Site visited December 12, 2014.

3.11 MINERAL RESOURCES

3.11.0 Existing Conditions

The revised 12 kilovolt (kV) distribution routes will be located within the City of San Diego's Uptown Community Planning area. Therefore, mineral resource data were obtained from the associated plan, as well as the California Department of Conservation (DOC). No new mineral resources or active mines were identified in the vicinity of the revised 12 kV distribution routes.

3.11.1 Impact Evaluation

As discussed previously, no new mineral resources or active mines were identified in the vicinity of the revised 12 kV distribution routes. As a result, the impact analysis presented in the original Proponent's Environmental Assessment adequately addresses the potential impacts to mineral resources.

3.11.2 Applicant-Proposed Measures

Because the updated Vine 69/12 kV Substation Project design will not result in any new impacts to mineral resources, no additional applicant-proposed measures are proposed.

3.11.3 References

- City of San Diego. 1988. *Uptown Community Plan*. Online.
<http://www.sandiego.gov/planning/community/profiles/pdf/cp/cputfullversion.pdf>. Site Visited November 25, 2014.
- City of San Diego. 2008. *General Plan*. Conservation Element. Online.
<http://www.sandiego.gov/planning/genplan/pdf/2012/ce120100.pdf>. Site visited March 3, 2014.
- DOC. 2012. Mineral Resources. Surface Mining and Reclamation Act Mineral Land Classification. Aggregate Sustainability in California - Map Sheet 52. Online.
http://www.consrv.ca.gov/cgs/information/publications/ms/Documents/MS_52_2012.pdf. Site visited March 3, 2014.

3.12 NOISE

3.12.0 Existing Conditions

Noise Monitoring

Due to the revisions to the 12 kilovolt (kV) distribution routes, 25-hour noise monitoring was conducted on November 17 and 18, 2014, at two additional locations along Columbia Street. The first monitor was placed along Columbia Street, approximately 250 feet south of West Palm Street, and the second was placed along Columbia Street near the intersection of West Maple Street. The monitoring period did not include any seasonal abnormalities; therefore, it was considered to be representative of a typical day at the Vine 69/12 kV Substation Project (Proposed Project) site. Table 3.12-1: Noise Monitoring Results summarizes the results of this monitoring, including the Community Noise Equivalent Level (CNEL) and equivalent sound levels (L_{eq}) measured in A-weighted decibels (dBA). Attachment 3.12–A: Supplemental Noise Technical Report provides a more detailed description of the noise measurement results.

Table 3.12-1: Noise Monitoring Results

Location	CNEL (dBA)	Average Daytime L_{eq} (dBA)	Maximum 1-hour L_{eq} (dBA)
Columbia Street near West Palm Street	72	67	70
Columbia Street near West Maple Street	71	65	72

Existing Noise Sources

The dominant ambient noise sources in the vicinity of the revised 12 kV distribution routes are transportation-related. One of these sources is aircraft traffic from San Diego International Airport. As shown in Attachment 3.12–A: Supplemental Noise Technical Report (Acentch 2015), the revised 12 kV distribution routes are partially located within the airport's 65 decibel (dB) CNEL contour. Additional sources include heavy on-road traffic from Interstate (I-) 5 and rail traffic from the Amtrak, North County Transit District (NCTD) Coaster, and San Diego Metropolitan Transit System (MTS) Trolley railroad tracks.

3.12.1 Impacts

Question 3.12a – Noise in Excess of Standards

Construction – Less-than-Significant Impact

As described in the original Proponent's Environmental Assessment (PEA), construction will require the temporary use of various types of noise-generating equipment, including excavators, loaders, cranes, dump trucks, flatbed boom trucks, rigging and mechanic trucks, air compressors and generators, concrete trucks, and man lifts. Typical noise levels from construction equipment were provided in Table 4.12-3: Noise Levels Generated by Typical Construction Equipment in Section 4.12 Noise of the original PEA. As noted in this table, noise levels from this equipment during construction will typically range from 70 to 89 dBA when measured at a reference

distance of 50 feet. Two distinct phases of construction—the installation of 12 kV duct banks on the east side of I-5 and the jack-and-bore installation along West Palm Street—were modeled to determine the potential temporary increases in ambient noise resulting from these activities. The results of the modeling and associated impacts are discussed in the subsections that follow.

12 kV Duct Bank Installation

As described in Attachment 3.12–A: Supplemental Noise Technical Report, the construction schedule and equipment list from Chapter 2 – Project Description was used to simulate the anticipated 12-hour average noise levels from construction of the revised 12 kV distribution routes. The maximum 12-hour L_{eq} (86 dBA at a distance of 50 feet) during the 12 kV duct bank installation will occur during the saw cutting phase. This phase will involve using a saw cutting machine to cut the existing pavement along the proposed route. This activity will progress along the entire route, spending approximately one day in front of each residence. As described in Attachment 3.12–A: Supplemental Noise Technical Report, this activity was modeled using the CadnaA noise model to identify locations where noise could exceed 75 dBA during construction. The results of the model indicate noise at residences within 130 feet of the distribution routes could intermittently exceed 75 dBA during construction. As a result, construction-related noise levels may exceed the allowable levels in the City of San Diego’s Noise Ordinance.

As described in Section 3.6.5 Construction Schedule in Chapter 3 – Project Description of the original PEA, construction activities will typically occur during normal work hours (between 7:00 a.m. and 7:00 p.m.) from Monday through Saturday. As an ordinary construction restriction, San Diego Gas & Electric Company (SDG&E) met and conferred with the City of San Diego to discuss the potential that activities could be conducted outside of the hours permitted by the Noise Ordinance and that residences could be exposed to noise levels in excess of 75 dBA. SDG&E discussed the need to temporarily deviate from the requirements of the Noise Ordinance and SDG&E’s consideration of additional practical measures to reduce potential noise levels. The City of San Diego was comfortable with the revised 12 kV distribution routes and associated construction methodology. The City of San Diego did not express any concerns about SDG&E exceeding the temporary noise thresholds as long as SDG&E minimized the impact for residents and local businesses. As an additional ordinary construction restriction, functional mufflers will be maintained on all equipment to minimize noise levels during construction. Further, the noise levels presented in Attachment 3.12–A: Supplemental Noise Technical Report are those that would be experienced by people outdoors. A building will attenuate construction noise by up to 17 dBA when windows are open and up to 27 dBA with all windows closed.

Work in the proximity of any single general location will likely last no more than 10 days at a time as construction moves along the distribution routes. As a result, no single receptor will be exposed to significant noise levels for an extended period of time, and impacts will be less than significant.

Jack-and-Bore Installation

Noise levels from the jack-and-bore installation along West Palm Street are also analyzed in Attachment 3.12–A: Supplemental Noise Technical Report. The maximum average 12-hour L_{eq} (84 dBA at a distance of 50 feet) will occur during the saw cutting process required to establish

the bore pits. The CadnaA model was used to determine the footprint of the 75 dBA contour during construction based on the noisiest day of construction. As shown in Attachment 3.12–A: Supplemental Noise Technical Report, there will be no residential parcels located within the 75 dBA contour. Furthermore, the jack-and-bore installation will typically occur during the 12-hour period between 7:00 a.m. and 7:00 p.m., as permitted by the City of San Diego’s Noise Ordinance. Depending on the soil conditions encountered during the boring operation, the boring rig may need to be operated continuously for 24 hours per day until the process is complete. If 24-hour use of this equipment is required, SDG&E will meet and confer with the City of San Diego to discuss temporarily deviating from the requirements of the Noise Ordinance. All other ordinary construction restrictions would be implemented, as appropriate, to reduce the potential noise levels from construction. As a result, impacts will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

The revised 12 kV distribution circuits will be installed entirely underground; therefore, they will not generate any operational noise. Maintenance, which may include replacement of damaged cables or connectors, will be conducted by crews of four to six personnel and will require a tool truck, cable truck, assist truck, and/or troubleshooter truck. Routine inspections will occur annually to identify connection problems or to inspect for equipment degradation. Because SDG&E operates existing distribution facilities in the vicinity of the relocated circuits, noise from operation and maintenance activities will be consistent with the activities that are currently conducted in the area. As a result, impacts will be less than significant.

Question 3.12b – Groundborne Vibration and Noise

Construction – No Impact

As described in the original PEA, construction activities can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. The effect of vibrations on buildings located in the vicinity of construction often varies depending on soil type, ground strata, and construction characteristics of the receiving buildings.

The California Department of Transportation’s (Caltrans) Transportation- and Construction-Induced Vibration Guidance Manual was used to determine the significance of groundborne vibrations on buildings associated with construction. An activity’s peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal and is typically expressed in inches per second. PPV is most frequently used to describe vibration impacts to buildings. Table 3.12-2: Vibration Damage Threshold Guidance states that intermittent vibration sources with a PPV greater than 0.5 inch per second and one inch per second have the potential to significantly affect older residential structures and newer residential structures, respectively.

When compared to Figure 3.12-1: Construction Vibration Amplitudes, a PPV of 0.5 inch per second is generated at a distance of less than 10 feet during trenching and drilling activities. Because there are no buildings located within 10 feet of the revised 12 kV distribution routes, impacts to buildings from vibrations will be less than significant.

Table 3.12-2: Vibration Damage Threshold Guidance

Structure Type/Condition	Maximum PPV ¹ (inches per second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, and ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans, 2004

Figure 3.12-1: Construction Vibration Amplitudes

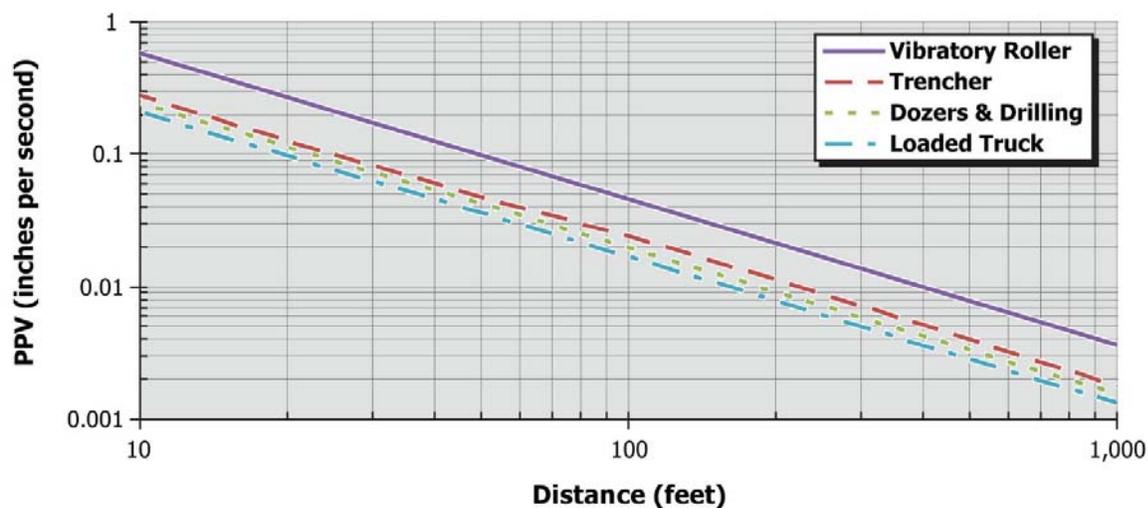


Table 3.12-3: Human Response to Transient Vibration states that vibrations become barely perceptible by humans at an amplitude of approximately 0.035 inch per second. When compared to Figure 3.12-1: Construction Vibration Amplitudes, a PPV of 0.035 inch per second is generated at a distance of approximately 50 feet by a loaded truck and approximately 70 feet by trenching activities. Residences along the revised 12 kV distribution routes will be located within 70 feet of trenching activities; therefore, they may be exposed to perceptible levels of vibration. Duct bank installation activities are anticipated to progress at a rate of 85 to 95 feet

¹ Transient sources (e.g., blasting or drop balls) create a single, isolated vibration event. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

per day. As a result, the potential exposure to barely perceptible vibration will be short-term, lasting up to 10 days at one location. Due to the limited duration of the vibration, and because the vibration will be barely perceptible, the construction of the revised 12 kV distribution routes will not expose people to excessive levels of vibration, and impacts will be less than significant.

Table 3.12-3: Human Response to Transient Vibration

Human Response	PPV (inches/second)
Severe	> 0.9
Strongly Perceptible	0.24 to 0.9
Distinctly Perceptible	0.035 to 0.24
Barely Perceptible	< 0.035

Source: Caltrans, 2004

Operation and Maintenance – Less-than-Significant Impact

Operation of the revised 12 kV routes will consist of routine maintenance activities and emergency repairs. As described in the original PEA, it is unlikely that these activities will produce significant groundborne vibrations because operation and maintenance activities will not require significant ground-disturbing activities. In addition, SDG&E currently maintains existing power line facilities along the revised 12 kV distribution routes. Once operational, the 12 kV circuits will not generate vibration. Therefore, impacts will be less than significant.

Question 3.12c – Substantial Permanent Ambient Noise Increases

Construction – No Impact

As described in the original PEA, construction activities will occur over a finite period of time; therefore, no permanent increase in noise will occur, and there will be no impact.

Operation and Maintenance – Less-than-Significant Impact

As described in the response to Question 3.12a – Noise in Excess of Standards, the revised 12 kV distribution routes will be installed underground or in enclosures; therefore, they will not generate any perceptible noise during operation. As a result, there will be no new source of permanent ambient noise and no change in the existing operational noise in the area. As a result, impacts will be less than significant.

Question 3.12d – Substantial Temporary or Periodic Ambient Noise Level Increases

Construction – Less-than-Significant Impact

Construction noise will be temporary, and impacts during construction have been previously identified in the response to Question 3.12a – Noise in Excess of Standards. Construction activities along the revised 12 kV distribution routes will result in short-term noise impacts; however, such impacts will be temporary, localized, and intermittent. As described in Chapter 3 – Project Description of the original PEA, ordinary construction restrictions will be implemented

in order to minimize noise impacts from construction. In the event that noise is anticipated to exceed 75 dBA at the boundary of any residential parcels, SDG&E will work with residents to accommodate, as needed, per the meet and confer discussion with the City of San Diego. As a result, impacts will be less than significant.

Operation and Maintenance – No Impact

As discussed previously in the response to Question 3.12a – Noise in Excess of Standards, the maintenance activities conducted for the revised 12 kV distribution routes will result in less-than-significant temporary and periodic increases in ambient noise levels associated with the operation of crew trucks and heavy equipment. The revised 12 kV distribution routes are located in close proximity to multiple dominant noise sources, including the San Diego International Airport, I-5, and the rail corridor utilized by Amtrak, the NCTD Coaster, and the MTS Trolley. As a result, the periodic increases in ambient noise from construction vehicles will be masked by the existing transportation noise in the area. In addition, SDG&E already performs similar maintenance activities in the Proposed Project area that will not change following construction. Therefore, there will be no impact.

Question 3.12e – Air Traffic Noise from Public Airports – Less-than-Significant Impact

The revised 12 kV distribution routes will be located approximately one mile from San Diego International Airport and are within the area covered by the Airport Land Use Compatibility Plan (ALUCP). The noise compatibility policies and standards in the ALUCP are designed to avoid the establishment of new noise-sensitive land uses (including residences, public and private schools, hospitals and convalescent homes, and places of worship) within the 65 dB CNEL contour. While portions of the revised 12 kV distribution routes are located within the 65 dB CNEL contour, they will not be considered an incompatible land use. As a result, the revised 12 kV distribution routes will not expose workers to excessive noise levels, and impacts will be less than significant.

Question 3.12f – Air Traffic Noise from Private Airstrips – No Impact

There are no private airstrips located within two miles of the revised 12 kV distribution routes. Therefore, people working along the revised routes during the construction, operation, or maintenance phases will not be exposed to excessive noise levels attributable to a private airstrip, and no impact will occur.

3.12.2 Applicant-Proposed Measures

Because the revised 12 kV distribution routes will have a less-than-significant impact with regard to noise, no applicant-proposed measures are proposed.

3.12.3 References

- Acentech. 2015. *Supplemental Noise Analysis for Vine 69/12 Kilovolt Substation Project – Duct Bank Noise Analysis*.
- Caltrans. 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*.

ATTACHMENT 3.12-A: SUPPLEMENTAL NOISE TECHNICAL REPORT



February 13, 2015

Robert Curley
Insignia Environmental
258 High Street
Palo Alto, CA 94301

Subject: Supplemental Noise Analysis for Vine 69/12 Kilovolt Substation Project – Duct Bank Noise Analysis
Acentech Job No. 625511

Dear Rob:

Introduction

This analysis of the revised 12 kilovolt (kV) routes is a supplement to our noise analysis report dated April 2, 2014.¹

PROJECT LOCATION & DESCRIPTION

The proposed Vine Substation site is located at the southwest corner of Vine Street and Kettner Boulevard in the City of San Diego.

As shown in the Project Overview Map on the next page, the 69/12 kV substation includes two 12 kV underground duct routes to connect the substation to the existing SDG&E electrical grid.

1. **Proposed 12 kV and Telecommunications Duct Bank** that extends south from the Proposed Vine Substation and follows along Kettner Boulevard. At the intersection of Kettner Boulevard and West Palm Street, the duct bank turns westerly and travels along West Palm Street. An approximately 200-foot-long section of the duct bank will be installed using the jack-and-bore method of construction within West Palm Street. This section of duct bank will continue until intersecting Pacific Highway. The route generally has the railroad and airport to the west and I-5 freeway to the east.
2. **Proposed 12 kV Duct Bank** extends from the north side of Proposed Vine Substation, follows Vine street east to India Street where it turns southerly and follows India Street to West Redwood Street. It then follows West Redwood Street one block east and turns south again on Columbia Street. It follows Columbia Street south to an existing 12 kV duct bank on West Laurel Street. Both India Street and Columbia Street have residential land uses bordering the street.

The noise levels from the remaining Proposed Project components were analyzed previously in our April 2 report.

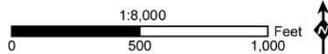
¹ Letter dated 2 April 2014 from Ramon Nugent of Acentech to Robert Curley of Insignia Environmental, “Vine Substation Noise Analysis.”



Project Overview Map

Vine 69/12 kV Substation Project

- Proposed Vine 69/12 kV Substation
- Existing Kettner Substation
- Existing 69 kV Overhead
- Existing 69 kV Overhead to be Removed
- Proposed 69 kV Overhead
- Existing 12 kV Duct Bank
- Proposed 12 kV Duct Bank
- Proposed 12 kV and Telecommunications Duct Bank
- Proposed Telecommunications Duct Bank



Applicable Noise Regulations & Standards

The applicable Federal regulations were presented in our previous report¹, which provided the basis for the local and State regulations that take precedent.

Environmental Setting

SETTING & LOCATION

The existing noise environment along the revised 12 kV routes include contributions from the following sources:

- San Diego Freeway (I-5)
- Pacific Highway
- Amtrak and Metrolink Trains along the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor
- San Diego International Airport
- Local Traffic on Kettner Boulevard, India Street, and Columbia Street

EXISTING NOISE CONDITIONS

The sound levels in most communities fluctuate depending upon the activity of nearby and distant noise sources and time of the day. Noise monitoring was performed along the revised 12 kV duct bank route along Columbia Street for 25 hours starting 17 November 2014 and ending 18 November 2014. The noise monitors were Larson Davis Model 870 Precision Integrating Sound Level Meters. The meters were field calibrated before and after the measurements using a calibrator traceable to the National Institute of Standards and Technology. The microphone was positioned at a height of 1.5 meters and fitted with a windscreen.

The noise environment is greatly influenced by local traffic on nearby streets and I-5, rail traffic on the LOSSAN rail corridor, and airplanes arriving to and departing from San Diego International Airport. As a result, very little seasonal fluctuations are expected and the noise data are considered representative of a typical day. Figure 1 and Figure 2 present the ambient noise measurement results occurring during the monitoring period. The CNEL at System 4 location was 72 dBA and at the System 5 location was 71 dBA. The daytime hourly equivalent noise level (Leq) averaged 67 dBA at System 4 location and 65 dBA at System 5 location. The loudest hour resulted in Leq(1-hr) of 70 dBA at System 4 location and 72 dBA at System 5 location.

The noise contribution to the local noise environment from aircraft activities related to San Diego International Airport is indicated by Figure 3 published by the San Diego International Airport that shows the CNEL contour for the airport activities. The revised 12 kV routes are located within of San Diego International Airport's CNEL 65 dBA Contour.

Construction Noise

Construction activities associated with the duct bank installation will occur over an approximately six-month period and include saw cutting, trenching, laying of conduit, encasing and burying the conduit, installing conductor, and finishing the street surface. The noise levels associated with each of these activities are discussed in the subsections that follow.

Figure 1 Ambient Noise Levels at System 4

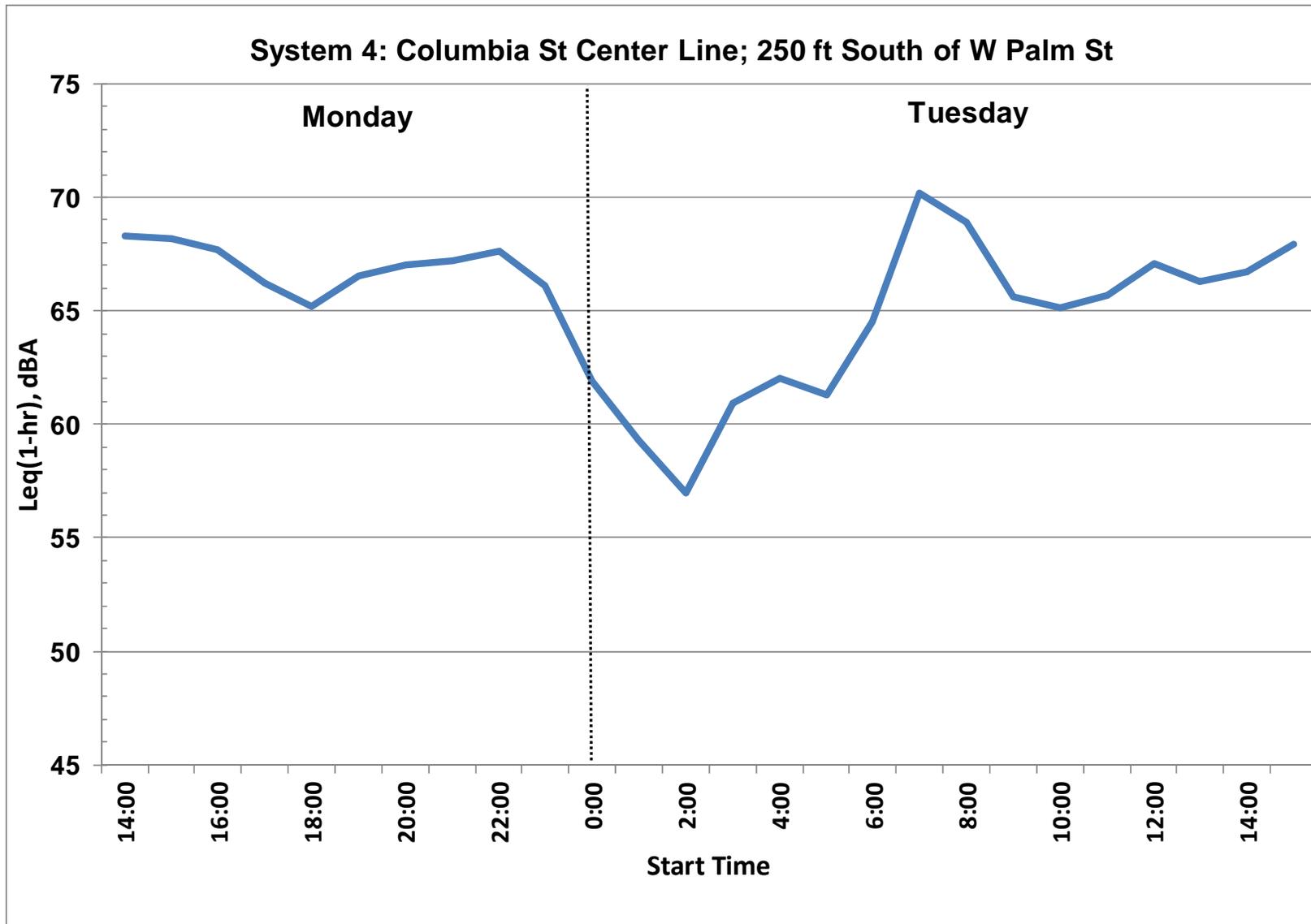


Figure 2 Ambient Noise Levels at System 5

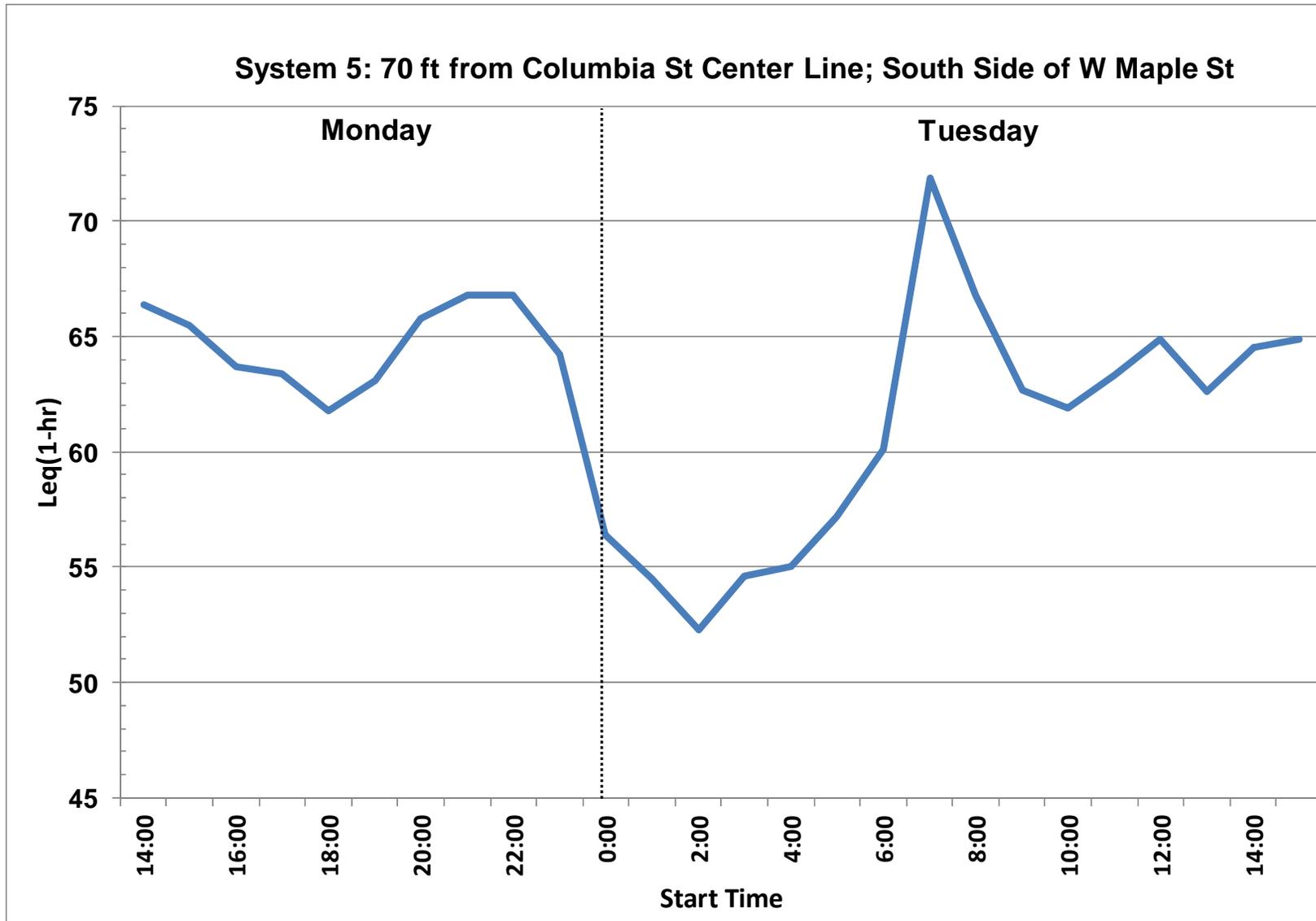
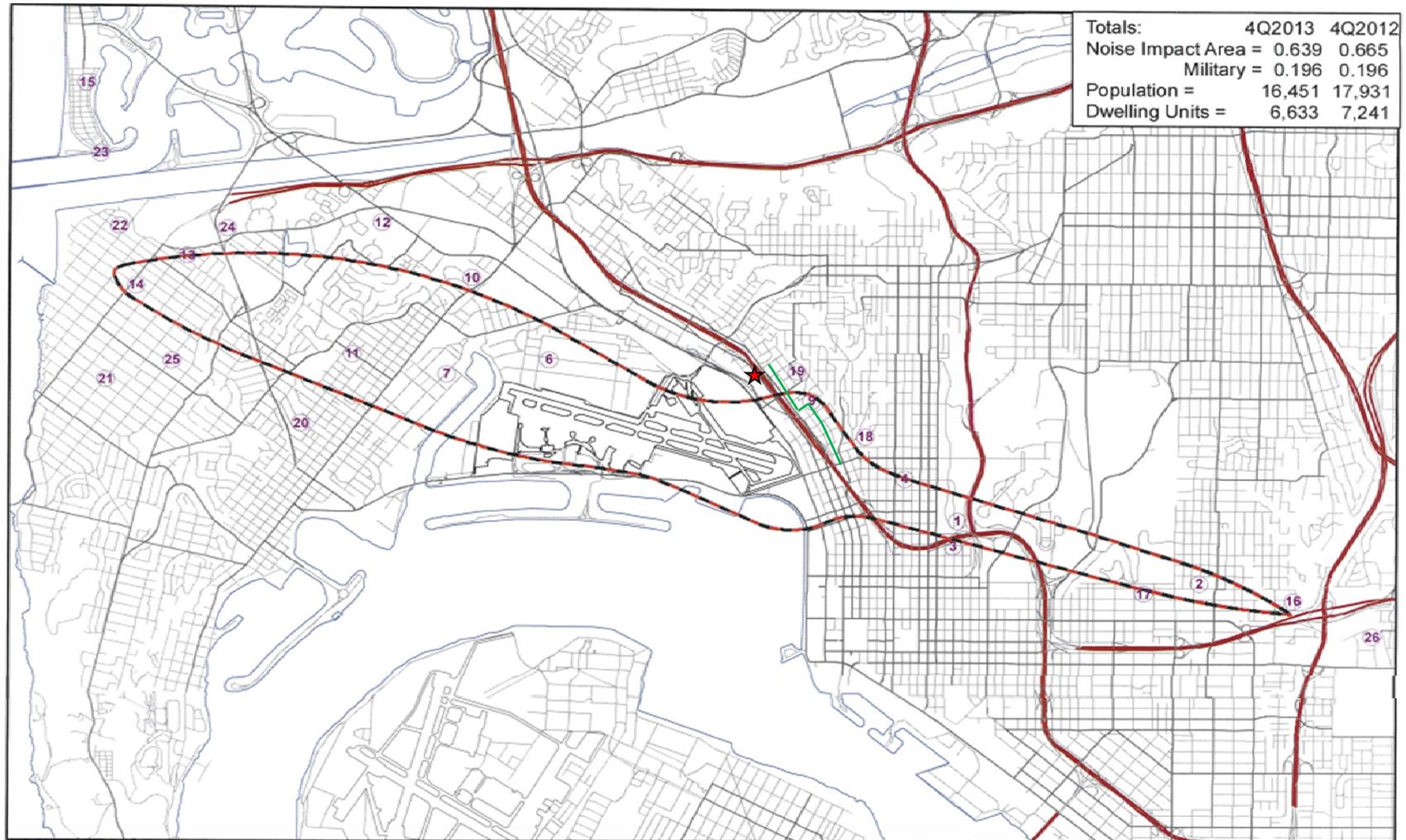


Figure 3 San Diego International Airport CNEL 65 dB Contour



Comparison of the 2012 and 2013 Fourth Quarter 65 dB Community Noise Equivalent Level (CNEL) Contours



4th Quarter 2013
 4th Quarter 2012
 Proposed Vine Substation



SAN DIEGO INTERNATIONAL AIRPORT

12 kV DISTRIBUTION RELOCATION

Duct Bank Construction and Vault Installation

Construction activities associated with substation duct bank construction and vault installation will occur over an approximately six-month period within the proposed 12 kV duct route on the east side of the I-5 freeway. The noisiest phase of construction will be the phase where concrete saws will be used to saw cut the trench. This activity will progress down the street, spending approximately one day in front of a residence. Table 1 Duct Bank Construction Noise Emissions presents the number and type of equipment used, the typical percent usage during the day, the maximum noise level (Lmax) and the daily average noise emission, Leq(12-hour).

Table 1 Duct Bank Construction Noise Emissions – Saw Cutting Phase

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Equipment Trucks	1	2	75	50	40	60
Pickup	2	2	55	50	40	43
Truck w/generator	6	1	82	50	50	76
Saw machine	6	1	90	50	50	84
Vacuum	6	1	85	50	50	79
Equipment Trucks	1	2	75	50	40	60
Composite Leq(12-hr)						86

Source: SDG&E, Acentech Incorporated

Following this activity a crew will remove the top surface, excavate to the depth where the conduit and manhole sets will be placed, place the conduit and manhole sets, back fill and resurface the street. Each phase of the duct bank construction will progress down the streets at an average rate of approximately 65 to 85 feet per day over a 6-month period. The construction activity will be intermittent and there may be no construction activity for weeks at any one location along the route.

Table 2 Duct Bank Construction Noise Emissions – Foreign Utilities Identification Phase

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Equipment Trucks	1	2	75	50	40	60
Pickup	6	2	55	50	40	48
Compressor	5	2	90	50	40	82
Compressor	0.5	1	80	50	40	62
Compressor	0.5	1	80	50	40	62
Equipment Trucks	1	2	75	50	40	60
Composite Leq(12-hr) @50 ft						85

Source: SDG&E, Acentech Incorporated

Table 3 Duct Bank Construction Noise Emissions – Mechanical Excavation Phase

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Equipment Trucks	1	2	75	50	40	60
Large backhoe	6	1	80	50	40	73
Dump trucks	2	3	84	50	40	72
Small backhoe	2	1	80	50	40	68
Bobcat w/sweeper	2	1	80	50	40	68
Concrete truck	0.33	6	80	50	20	57
Backhoe	1	1	80	50	40	65
Bobcat w/sweeper	1	1	80	50	40	65
Equipment Trucks	1	2	75	50	40	60
Composite Leq(12-hr) @50 ft						80

Source: SDG&E, Acentech Incorporated

Table 4 Vault Installation Noise Emissions – Mechanical Excavation Phase, Day 1

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Equipment Trucks	1	2	75	50	40	60
Large track hoe excavator	6	1	85	50	40	78
Dump trucks	1.5	4	84	50	40	71
Truck trailer with small crane	2	1	85	50	16	69
Small backhoe	2	1	80	50	40	68
Bobcat w/sweeper	2	1	80	50	40	68
Backhoe	1	1	80	50	40	65
Bobcat w/sweeper	1	1	82	50	10	61
Equipment Trucks	1	2	75	50	40	60
Composite Leq(12-hr) @50 ft						82

Source: SDG&E, Acentech Incorporated

Table 5 Vault Installation Noise Emissions – Mechanical Excavation Phase, Day 2

Equipment Type	Hours Operating at Site/Day	Quantity Required	L_{max,ref}, dBA	d_{ref}, ft.	Acoustical Use Factor %	Leq(12-hr) @ d_{ref}, dBA
Equipment Trucks	1	2	75	50	40	60
Crew truck	2	1	75	50	40	63
Pickup	2	1	55	50	40	43
Backhoe	2	1	80	50	40	68
70-ton crane	4	1	85	50	16	72
Tractor truck/trailer	1	1	84	50	40	69
Tractor truck/trailer	1	1	84	50	40	69
Concrete truck	0.25	8	79	50	40	58
Backhoe	1	1	80	50	40	65
Bobcat w/sweeper	1	1	82	50	10	61
Equipment Trucks	1	2	75	50	40	60
Composite Leq(12-hr) @50 ft						78

Source: SDG&E, Acentech Incorporated

Table 6 Street Repair Noise Emissions – Base Paving

Equipment Type	Hours Operating at Site/Day	Quantity Required	L_{max,ref}, dBA	d_{ref}, ft.	Acoustical Use Factor %	Leq(12-hr) @ d_{ref}, dBA
Equipment Trucks	1	2	75	50	40	60
Backhoe	5	1	80	50	40	72
Dump truck	5	1	84	50	40	76
Emulsion trailer	5	1	75	50	40	67
Compactor/roller	5	1	83	50	20	72
Pickup	1	1	55	50	40	40
Equipment Trucks	1	2	75	50	40	60
Composite Leq(12-hr) @50 ft						79

Source: SDG&E, Acentech Incorporated

Table 7 Street Repair Noise Emissions – Final Paving

Equipment Type	Hours Operating at Site/Day	Quantity Required	L_{max,ref}, dBA	d_{ref}, ft.	Acoustical Use Factor %	Leq(12-hr) @ d_{ref}, dBA
Equipment Trucks	1	2	75	50	40	60
Backhoe	5	1	80	50	40	72
Dump truck	5	2	84	50	40	76
Grinding machine with dump truck assist	5	1	90	50	40	82
Asphalt spreader machine	5	1	81	50	50	74
Bobcat w/sweeper	5	1	82	50	10	68
Emulsion trailer	5	1	75	50	40	67
Compactor/roller	5	1	83	50	20	72
Equipment Trucks	1	2	75	50	40	60
Composite Leq(12-hr) @ 50 ft						85

Source: SDG&E, Acentech Incorporated

The noise during the noisiest one day of construction activity was modeled using CadnaA noise model to identify the extent of the 75 dBA contour. The noise model considers the spatial locations and sizes of noise sources, the elevation of sources and the surrounding topography, and ground and air absorption. Figure 4 Construction Noise Contours, Leq(12-hr), dBA shows the noise contours swept by the 12 kV duct bank construction. The construction of the duct banks could expose residential land uses to noise levels exceeding 75 dBA on either side of the street without the implementation of additional noise controls. Residences within approximately 130 feet of the construction activity could exceed 75 dBA for intermittent periods each lasting approximately one day. The pin locations on the map identify the ambient noise measurement locations discussed above.

Jack-and-Bore Construction Under MTS Rail Tracks

SDG&E will use the horizontal jack-and-bore construction technique to install approximately 200 feet of proposed conduit near the intersection of West Palm Street and the MTS tracks. Horizontal jack-and-bore is an auguring operation that simultaneously pushes a casing under an obstacle and removes the spoil inside the casing with a rotating auger. Boring operations will begin with excavating bore pits at the sending and receiving ends of the bore. The entry pit will measure approximately 40 feet by 12 feet and the receiving pit will measure approximately 10 feet by six feet. The proposed bore pits will be between 10 and 20 feet deep, depending on the soil type and facilities that will be crossed. In addition, an approximately 30-foot-long section of the existing raised island will be temporarily removed to allow access to be maintained to the surrounding businesses.

Once the bore pit is complete and shored, boring equipment will be delivered to the site and installed into the bore pit at the sending end. It is anticipated that a 42-inch casing size made of either steel or hobus pipe will be used for the crossing. A 20-foot section of the casing will be lowered into the pit with the auger inserted and attached to the auguring machine. As the casing is jacked toward the receiving pit, additional 20-foot sections of casing will be attached until the casing breaks through at the receiving pit. The entire process is anticipated to last approximately eleven workdays. Table 8 through Table 14 presents the equipment and noise emission assumption for the eleven days of jack-and-bore construction.

Table 8 Jack-and-Bore - Day 1: Saw Cutting

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Pickup	2	1	55	50	40	43
Equipment Trucks	1	1	75	50	40	60
Pickup	2	1	55	50	40	43
Truck w/generator	4	1	82	50	50	74
Sawcutting machine	4	1	90	50	50	82
Vacuum	4	1	85	50	50	77
Composite Leq(12-hr) @50 ft						84

Source: SDG&E, Acentech Incorporated

Table 9 Jack-and-Bore - Day 2: Pit Excavation

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Case 330 Excavator	6	1	85	50	40	78
Backhoe	6	1	80	50	40	73
Dump Trucks	0.25	34	84	50	40	79
Composite Leq(12-hr) @50 ft						82

Source: SDG&E, Acentech Incorporated

Table 10 Jack-and-Bore - Day 3: Prepare Pits

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Tractor Trailer	0.25	3	84	50	40	68
90 Ton Crane	3	1	85	50	16	71
90 Ton Crane	2	1	85	50	16	69
12 Ton Boom Truck	3	1	80	50	40	70
35 Ton Crane	4	1	80	50	16	67
Composite Leq(12-hr) @50 ft						76

Source: SDG&E, Acentech Incorporated

Table 11 Jack-and-Bore - Day 4 – 8: Jack & Bore Operation

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Pick Up	4	1	55	50	40	46
Bore Rig	6	1	80	50	50	74
Pump/ 10HP Generator	6	1	77	50	50	71
Crew Truck/Welding Equipment	4	1	73	50	40	64
35 Ton Crane	4	1	80	50	16	67
Backhoe	4	1	80	50	40	71
Dump Truck	0.25	2	84	50	40	66
Composite Leq(12-hr) @50 ft						78

Source: SDG&E, Acentech Incorporated

Table 12 Jack-and-Bore - Day 9: Install Pipe

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
12 Ton Boom Truck	6	1	80	50	40	73
Air Compressor	3	1	80	50	50	71
Pickup	3	1	55	50	40	45
Generator	3	1	82	50	50	73
Composite Leq(12-hr) @50 ft						77

Source: SDG&E, Acentech Incorporated

Table 13 Jack-and-Bore - Day 10: Remove Equipment from Pits and Backfill

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max,ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Concrete Truck	0.25	4	85	50	40	70
35 Ton Crane	2	1	80	50	16	64
Concrete Truck	0.25	34	82	50	20	74
Tractor Trailer	0.25	3	84	50	40	68
Composite Leq(12-hr) @50 ft						76

Source: SDG&E, Acentech Incorporated

Table 14 Jack-and-Bore - Day 11: Site Cleanup

Equipment Type	Hours Operating at Site/Day	Quantity Required	L _{max} _{ref} , dBA	d _{ref} , ft.	Acoustical Use Factor %	Leq(12-hr) @ d _{ref} , dBA
Bobcat w/sweeper	3	1	80	50	40	70
Equipment Trucks	1	1	75	50	40	60
Composite Leq(12-hr) @50 ft						70

Source: SDG&E, Acentech Incorporated

The noise during the noisiest day of construction activity was modeled using CadnaA noise model to identify the extent of the 75 dBA contour. The noise model considers the spatial locations and sizes of noise sources, the elevation of sources and the surrounding topography, and ground and air absorption. Figure 5 Jack-and-Bore Noise Contours, Leq(12-hr), dBA shows the noise level contours for the noisiest day (Day 1).

CONCLUSIONS

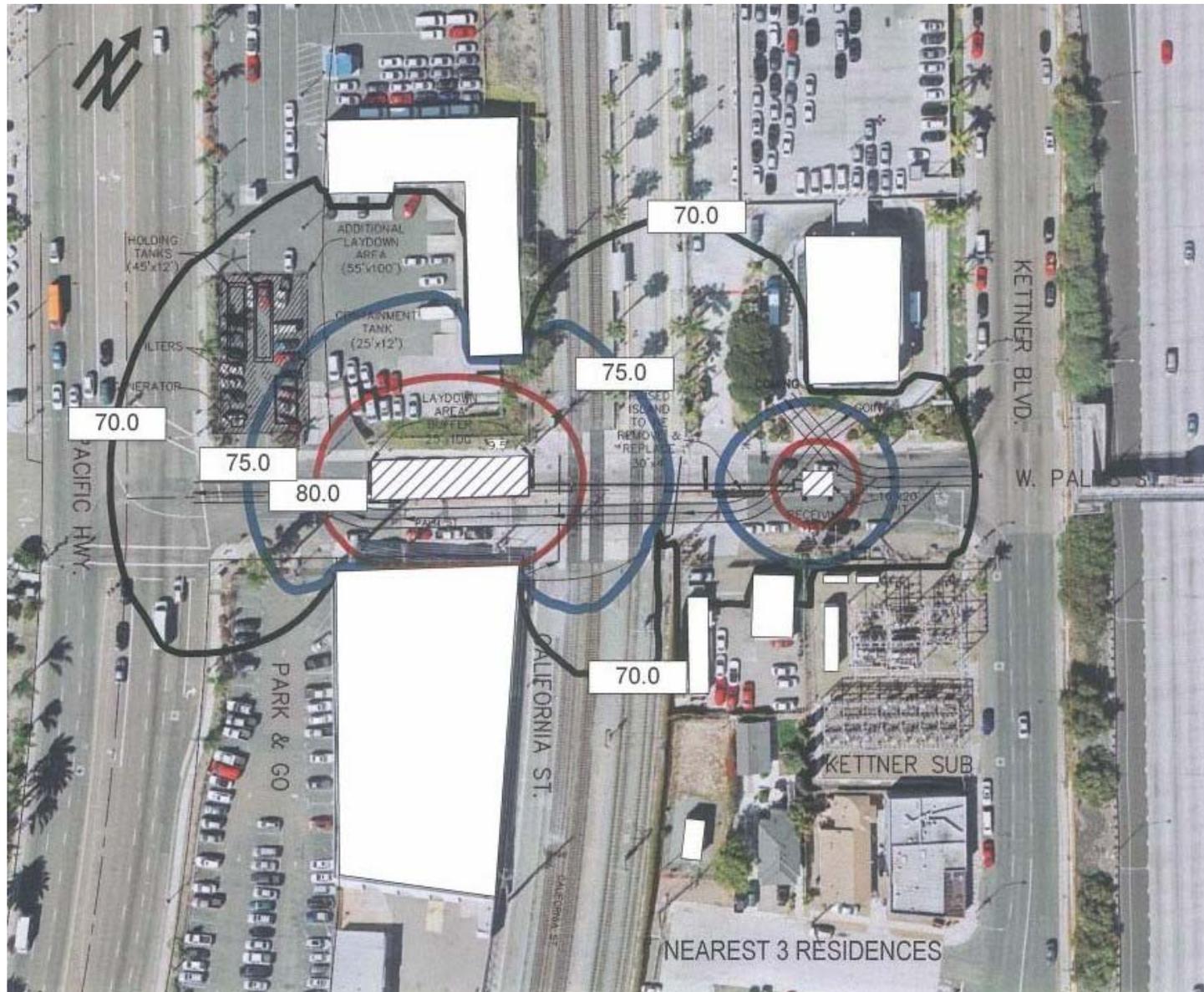
Acentech Inc. has completed an acoustical analysis for the Proposed Project. The results of our analysis indicate that residences could be exposed to noise levels in excess of 75 dBA during some construction activities associated with the 12 kV duct bank installation.

Sincerely,
 ACENTECH INCORPORATED



Ramon E. Nugent, PE
 Principal Consultant

Figure 5 Jack-and-Bore Noise Contours, Leq(12-hr), dBA



3.13 POPULATION AND HOUSING

3.13.0 Existing Conditions

The revised 12 kilovolt (kV) distribution routes will be located within the City of San Diego's Uptown Community Planning area. As a result, demographic and economic analyses were obtained primarily from statistical reports published by the United States (U.S.) Census Bureau and the California Employment Development Department (EDD) to analyze this addition to the Vine 69/12 kV Substation Project (Proposed Project) area. A literature search was also conducted and included City of San Diego publications and government websites, such as the San Diego Association of Governments (SANDAG) website.

Population

Table 3.13-1: Population Totals and Trends identifies population totals and trends within the City of San Diego, the Midway/Pacific Highway Corridor Community Planning area, and the Uptown Community Planning area.

Table 3.13-1: Population Totals and Trends

Jurisdiction	2000 Census Total	2010 Census Total	Approximate Percentage Change Between 2000 and 2010	Projected Population for 2020
City of San Diego	1,223,400	1,301,617	6	1,542,324
Midway/Pacific Highway Corridor Community Planning area	4,660	4,628	-1	4,398
Uptown Community Planning area	35,722	37,612	5	39,542

Source: SANDAG, 2011

Housing

Table 3.13-2: Housing Units and Vacancy Rates identifies data for the County of San Diego and the City of San Diego with regard to the number of housing units and associated vacancy rates. In 2010, the U.S. Census Bureau estimated that the County of San Diego had 1,164,786 housing units with a vacancy rate of approximately 6.7 percent. In 2010, the City of San Diego had an estimated 516,033 housing units with a vacancy rate of approximately 6.4 percent. In 2010, the Midway/Pacific Highway Corridor Community Planning area had 1,851 housing units. In 2010, the Uptown Community Planning area had 22,998 housing units.

Table 3.13-2: Housing Units and Vacancy Rates

County/City	Total Housing Units	Approximate Percentage of Vacant Units
County of San Diego	1,164,786	6.7
City of San Diego	516,033	6.4

Source: U.S. Census Bureau

3.13.1 Impact Evaluation

Because the revised 12 kV distribution routes will be constructed entirely within existing roads, no housing units or people will be displaced. Because the Vine 69/12 kV Substation Project is designed to respond to projected load growth, it will not result in population growth. As a result, no impacts to population and housing will occur, and the analysis presented in the original Proponent's Environmental Assessment adequately addresses the potential impacts to population and housing.

3.13.2 Applicant-Proposed Measures

Because the updated Proposed Project will have no new impacts on population and housing, no applicant-proposed measures are proposed.

3.13.3 References

- California EDD. 2013. Monthly Labor Force Data for Counties. Online.
<http://www.calmis.ca.gov/file/lfmonth/countyur-400c.pdf>. Site visited December 6, 2013.
- California Public Utilities Commission. 2008. Memorandum. *Applicants Filing Proponent's Environmental Assessment*.
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- City of San Diego. 2006. *Midway/Pacific Highway Corridor Community Plan*. Online.
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3.14 PUBLIC SERVICES

3.14.0 Existing Conditions

Research regarding fire, police, emergency services, and public libraries located along the revised 12 kilovolt (kV) distribution routes involved a review of data from the City of San Diego. Data pertaining to local area schools were obtained from the San Diego Unified School District. Statistics pertaining to local hospitals and recreational amenities were also obtained through additional research online.

Fire, Emergency, Police Protection, and Other Services

No additional fire, emergency, police protection, or other services were identified in the revised Vine 69/12 kV Substation Project (Proposed Project) area.

Police Protection Services

There will be no change to the provision of police protection services.

Hospitals

No additional hospitals were identified.

Schools

The following schools are within approximately one mile of the Proposed Project:

- Montessori School of San Diego,¹ located approximately 200 feet east of the Proposed Project;
- Museum School,² located approximately 0.4 mile southeast of the Proposed Project;
- Washington Elementary School, located approximately 0.5 mile south of the Proposed Project;
- Urban Discovery Academy, located approximately 0.7 mile east of the Proposed Project;
- City Tree Christian School, located approximately 0.7 mile south of the Proposed Project;
- Mission Hills Community Preschool, located approximately 0.85 mile northeast of the Proposed Project;
- Kipp Adelante Preparatory Academy, located approximately 0.9 mile south of the Proposed Project; and
- King Chaves High School, located approximately 0.9 mile south of the Proposed Project.

3.14.1 Impact Evaluation

The updated distribution design will not result in a permanent need for new or additional public services, because it will not directly induce population growth or result in the construction of residential or other land uses that will indirectly induce area population growth. As a result, the

¹ This school was identified as approximately 0.25 mile southeast of the Proposed Project in the original Proponent's Environmental Assessment (PEA).

² This school was identified as approximately one mile southeast of the Proposed Project in the original PEA.

analysis in the original PEA adequately addresses the potential impacts to public services from the revised 12 kV distribution routes.

3.14.2 Applicant-Proposed Measures

Because the Proposed Project will have no impacts on public services, no applicant-proposed measures are proposed.

3.14.3 References

City of San Diego. 2008. *General Plan*. Online.

<http://www.sandiego.gov/planning/genplan/pdf/generalplan/fullversion.pdf>. Site visited March 7, 2014.

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Thomas Guide – San Diego County Street Guide. Rand McNally. 2006.

3.15 RECREATION

3.15.0 Existing Conditions

The revised 12 kilovolt (kV) distribution routes will be located within the City of San Diego's Uptown Community Planning area. As a result, this plan was reviewed in conjunction with aerial photography to identify potential recreational facilities in the vicinity of the revised 12 kV distribution routes; however, no new recreational facilities were identified.

3.15.1 Impact Evaluation

As discussed previously, no additional recreational facilities were identified in the vicinity of the revised 12 kV distribution routes. Therefore, the analysis in the original PEA adequately addresses the potential impacts to recreational resources.

3.15.2 Applicant-Proposed Measures

The updated Vine 69/12 kV Substation Project design will not result in any new impacts to recreational resources; therefore, no additional applicant-proposed measures are proposed.

3.15.3 References

City of San Diego. 2008. *General Plan*. Online. <http://www.sandiego.gov/planning/genplan/>. Site visited December 5, 2013.

City of San Diego. 2014. *Park and Recreation*. Online. <http://www.sandiego.gov/park-and-recreation/>. Site visited December 5, 2013.

City of San Diego. 1988. *Uptown Community Plan*. Online. <http://www.sandiego.gov/planning/community/profiles/pdf/cp/cputfullversion.pdf>. Site Visited November 25, 2014.

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3.16 TRANSPORTATION AND TRAFFIC

3.16.0 Existing Conditions

The revised 12 kilovolt (kV) distribution routes will be located in commercial, industrial, and residential areas within the City of San Diego. A majority of the revised 12 kV distribution routes will be located within the boundaries of the City of San Diego Uptown Community Planning area, which encompasses several areas east of Interstate (I-) 5. Therefore, the associated plan was reviewed in conjunction with available literature to obtain transportation and traffic data along the revised routes. Relevant transportation data for these locations are presented in the following subsections.

Existing Roadway Network

As described in the original Proponent's Environmental Assessment (PEA), I-5 is the major north-south transportation corridor that will provide access to the Proposed Project. Construction vehicles and equipment will likely utilize the South Kettner Boulevard and the North India Street exits from I-5 to access the revised 12 kV distribution routes. India Street and Columbia Street will serve as the primary access roads for the revised routes. West Laurel Street, West Palm Street, Sassafras Street, Pacific Highway, and State Street will also be used during construction. Table 3.16-1: Public Roadways Adjacent to the Revised 12 kV Distribution Routes includes the number of lanes, level of service (LOS) information (where available), and the allowable increase in traffic volume-to-capacity ratio for each roadway that will be used during construction.

Railway

The proposed 12 kV duct banks along West Palm Street will be installed underneath four parallel sets of rail lines using the jack-and-bore method of construction. As described in the original PEA, the North County Transit District (NCTD) Coaster provides commuter rail service to the Proposed Project area along these lines. The service links the North County and the City of San Diego and operates more than 20 Coaster trains each weekday, with 10 trains operating on Saturdays. The Coaster does not operate regular service on Sundays. Amtrak (a service of Caltrans and Amtrak) also operates the Pacific Surfliner train, which runs from San Luis Obispo to the Santa Fe Depot in the City of San Diego along these tracks, which are owned by the BNSF Railway. The Pacific Surfliner runs between five and seven trains on a daily basis, generally between 5:50 a.m. and 12:59 p.m. By using the jack-and-bore method of construction, the tracks will not be disturbed by the revised 12 kV duct banks.

Bus

According to the City of San Diego Uptown Community Plan, the San Diego Metropolitan Transit System's (MTS's) Bus Route 5 utilizes India Street where new duct banks will be installed. In addition, Bus Route 3 intersects a proposed duct bank installation route along West Palm Street. New cable will be installed within existing duct banks along Pacific Highway, which is used by Bus Route 3, and State Street/Reynard Way, which is used by Bus Route 43.

Table 3.16-1: Public Roadways Adjacent to the Revised 12 kV Distribution Routes

Roadway	Cross Street(s)	Number of Lanes	Average Weekday Traffic Volume	LOS a.m./p.m. Peak	Allowable Increase in Volume/Capacity Ratio
Vine Street	Kettner Boulevard and California Street	2	Not Available (NA)	NA	NA
Pacific Highway	Sassafras Street and West Laurel Street	6	12,800	A	0.10
West Palm Street	Pacific Highway and Kettner Boulevard	2	6,000	C	0.04
Columbia Street	Palm Street and West Redwood Street	2	NA	NA	NA
West Redwood Street	India Street	2	NA	NA	NA
India Street	Upas Street and Quince Street	4	16,700	B	0.06
Laurel Street	India Street and State Street	4	9,900	A	0.10
West Quince Street	State Street	2	NA	NA	NA
West Nutmeg Street	Columbia Street	2	NA	NA	NA
Ibis Street	India Street	2	NA	NA	NA
Sassafras Street	Kettner Boulevard and Pacific Highway	2	9,700	B	0.06
Upas Street	India Street	2	NA	NA	NA

Source: San Diego Association of Governments (SANDAG], 2008; City of San Diego, 1998

Trolley

As described in the original PEA, the MTS Trolley’s Green Line connects downtown San Diego in the south to the City of Santee in the northeast. This trolley line is located adjacent to the previously described Amtrak and NCTD Coaster tracks. The Middletown Station will be located adjacent to the proposed 12 kV duct banks within West Palm Street. Westbound weekday service from the Santee station to downtown begins at 5:04 a.m. and continues until 11:19 p.m., with trolleys departing every 15 minutes. Eastbound weekday service from the Downtown Station (12th and Imperial) to Santee begins at 4:51 a.m. and continues until 11:36 p.m., with trolleys departing every 15 minutes.

Bicycle Facilities

Existing bikeways in the vicinity of the revised 12 kV distribution routes include Class III routes that run along India Street and State Street. As defined by the City of San Diego Uptown Community Plan, Class III bikeways provide signage only and do not include striped lanes.

3.16.1 Impact Evaluation

Construction activities associated with the 12 kV distribution routes will have the potential to temporarily affect existing traffic patterns or cause traffic delays due to the transport of equipment and materials to and from the Proposed Project area. An analysis of potential impacts to transportation and traffic is provided in the following subsections.

Question 3.16a – Circulation Plan or Policy Conflicts

Construction – Less-than-Significant Impact

A majority of the construction activities associated with the revised 12 kV distribution routes will occur within Vine Street, Columbia Street, West Redwood Street, India Street, West Laurel Street, West Palm Street, and Pacific Highway where new duct banks are proposed. Additional work areas to facilitate the installation of new cable within existing duct banks will occur along Pacific Highway, State Street, West Laurel Street, and Sassafras Street. As described in the original PEA, at least one lane of travel through construction areas will typically remain open to cars, buses, bicycles, and pedestrians utilizing the public right-of-way (ROW). Detours may need to be established in some locations where the existing roadway is not wide enough to accommodate through traffic and construction activities simultaneously. In addition, transportation policies within the City of San Diego Uptown Community Plan do not conflict with the revised 12 kV distribution routes.

Although new duct banks will be installed underneath existing railways associated with Amtrak California, NCTD Coaster, and San Diego MTS Trolley systems, San Diego Gas & Electric Company (SDG&E) will coordinate with rail transit providers to conduct work at night (or during other transit provider-preferred times) when train service is less frequent. SDG&E will obtain the necessary Right-of-Entry permits from the North County Transit District (NCTD) and MTS, as well as an easement from MTS, and a Temporary Occupancy Agreement and a Utility Agreement License from BNSF Railway. Therefore, impacts from conflicts with applicable plans and policies will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance (O&M) activities associated with the revised 12 kV distribution routes are similar to those described in the original PEA and will not result in additional impacts to transportation or traffic resources. Therefore, the impact analysis presented in the original PEA is applicable to O&M activities associated with the revised 12 kV distribution routes.

Question 3.16b – Congestion Management Program Conflict

Construction – Less-than-Significant Impact

Daytime construction activities associated with the revised 12 kV distribution routes on the east side of I-5 will result in temporary lane closures and potential impacts to existing traffic patterns. However, only 500 feet of trench will be opened at a time and the trenches will be plated to maintain traffic flow outside of active construction areas. In addition, the number of workers and daily transportation schedules associated with the construction of the revised 12 kV distribution routes will be similar to those previously described in the original PEA. As described in the original PEA, SDG&E will secure the required Public ROW Permit from the City of San Diego and will comply with all of the permit's requirements. SDG&E, as part of its ordinary construction restrictions described in Chapter 3 – Project Description of the original PEA, will prepare and implement a Traffic Management Plan to further reduce potential impacts. As required by the City of San Diego, the Traffic Management Plan will provide a detailed drawing of the area where work will occur (including any transition area, buffer space, work area, and termination area), directional signage to be posted, a detour plan (if required), and a pedestrian and bicycle plan. Therefore, the impact analysis provided in response to Question 4.16b of the original PEA is applicable to the construction of the revised 12 kV distribution routes, and impacts will be less than significant.

Operation and Maintenance – No Impact

SDG&E currently operates and maintains existing distribution facilities in the vicinity of the revised 12 kV distribution routes, and O&M activities associated with the new routes will be similar to those described in the original PEA. Therefore, the impact analysis presented in the original PEA is applicable to O&M activities associated with the revised 12 kV distribution routes, and there will be no impact.

Question 3.16c – Air Traffic Changes

Construction – No Impact

Helicopter use is not anticipated for construction activities associated with the revised 12 kV distribution routes. Because no aircraft will be required for the revised 12 kV distribution routes, no changes to air traffic patterns will be required to accommodate construction. Thus, there will be no impact.

Operation and Maintenance – No Impact

As previously described, O&M activities associated with the revised 12 kV distribution routes are similar to those described in the original PEA and will not result in additional impacts to transportation or traffic resources. In addition, the new routes will be underground and O&M activities will not result in a potential obstruction to air traffic. Therefore, the impact analysis

presented in the original PEA is applicable to O&M activities associated with the revised 12 kV distribution routes, and there will be no impact.

Question 3.16d – Increase in Hazards

Construction – Less-than-Significant Impact

Construction activities associated with the revised 12 kV distribution routes will result in temporary lane closures primarily along India Street, West Redwood Street, Columbia Street, and Vine Street during the installation of new duct banks. Additional lane closures will occur along Pacific Highway and perpendicular to West Laurel Street where new cable will be installed within existing conduit. However, as described in the original PEA, SDG&E will obtain the required Public ROW Permit from the City of San Diego and will implement the traffic control measures included in that permit. While there may be a limited increase in hazards due to obstructions implemented as part of the lane closures, the closures will be temporary and will be conducted in compliance with City of San Diego safety standards and requirements. In addition, only 500 feet of trench will be opened at a time, and the trenches will be plated to maintain traffic flow outside of active construction. Therefore, impacts will be less than significant.

Operation and Maintenance – No Impact

As previously described, O&M activities associated with the revised 12 kV distribution routes are similar to those described in the original PEA and will not result in additional impacts to transportation or traffic resources. Therefore, the impact analysis presented in the original PEA is applicable to O&M activities associated with the revised 12 kV distribution routes, and there will be no impact.

Question 3.16e – Emergency Access Effects

Construction – Less-than-Significant Impact

As described in Section 3.8 Hazards and Hazardous Materials, the revised 12 kV distribution routes will not cross any additional emergency response and evacuation routes that were not discussed in the original PEA. Nonetheless, all streets will remain open to emergency vehicles at all times throughout construction. Further, SDG&E will coordinate with adjacent residents and local emergency providers to ensure that ingress and egress routes are maintained for the duration of construction. Therefore, the impact analysis provided in response to Question 4.16e of the original PEA is applicable to the construction of the revised 12 kV distribution routes and impacts will be less than significant.

Operation and Maintenance – No Impact

As previously described, O&M activities associated with the revised 12 kV distribution routes are similar to those described in the original PEA and will not result in additional impacts to transportation or traffic resources. Therefore, the impact analysis presented in the original PEA is applicable to O&M activities associated with the revised 12 kV distribution routes, and there will be no impact.

Question 3.16f – Alternative Transportation Conflicts

Construction – Less-than-Significant Impact

The Proposed Project is located in a highly urbanized area. Construction activities associated with the revised 12 kV distribution routes will occur within the public ROW and SDG&E-owned land, and underneath railways utilized by Amtrak, NCTD Coaster, and the MTS Trolley systems. Duct bank installation is proposed to occur underneath these railways at along West Palm Street between Kettner Boulevard and Pacific Highway. However, SDG&E will coordinate with the rail agencies to conduct work at night (or during other transit provider-preferred times, as feasible) to minimize rail service disruptions or delays.

In addition, construction activities associated with the revised 12 kV distribution routes will occur along MTS Bus Routes 3, 5, and 43. However, as previously described, new duct bank installation will require only 500 feet of trench to be open at a time, and the trenches will be plated to maintain traffic flow outside of active construction areas. Therefore, impacts to alternative transportation modes will be less than significant.

Operation and Maintenance – No Impact

As previously described, O&M activities associated with the revised 12 kV distribution routes are similar to those described in the original PEA and will not result in additional impacts to transportation or traffic resources. Therefore, the impact analysis presented in the original PEA is applicable to O&M activities associated with the revised 12 kV distribution routes, and there will be no impact

3.16.2 Applicant-Proposed Measures

Because the updated distribution design will not result in impacts to transportation and traffic, no additional applicant-proposed measures are proposed.

3.16.3 References

City of San Diego. 1988. *Uptown Community Plan*. Online.

<http://www.sandiego.gov/planning/community/profiles/pdf/cp/cputfullversion.pdf>. Site Visited November 25, 2014.

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3.17 UTILITIES AND SERVICE SYSTEMS

3.17.0 Existing Conditions

Information regarding local utilities was obtained from the City of San Diego’s General Plan and Urban Water Management Plan. Internet searches were also conducted to gather information regarding utility service providers in the vicinity of the Vine 69/12 Kilovolt (kV) Substation Project (Proposed Project).

Potable Water, Electricity, Cable and Telephone, Sewer, and Solid Waste

The revised 12 kV distribution routes will not be located in areas served by any additional providers of potable water, electricity, cable and telephone, sewer, or solid waste.

Water Drainage Facilities

As described in Attachment 3.4-A: Updated Distribution Line Design Biological Survey Memo, the revised 12 kV distribution routes were surveyed on November 21, 2014, for the presence of hydrological features, including water drainage facilities. As part of this pedestrian survey, 18 roadside channels and drains (i.e., sidewalk “curb and gutter” drains) designed for storm water conveyance were identified. These channels and drains convey storm water from roads, hardscape, and upland vegetation into the municipal storm drain system. Two additional aboveground metal conveyance features were identified; one pipe drains run-off from a parking lot on West Laurel Street and Columbia Street, and the other drain conveys run-off from a berm adjacent to Interstate 5 at the southeast corner of India Street and West Laurel Street.

3.17.1 Impact Evaluation

The potential impacts from the revised 12 kV distribution routes are discussed in the subsections that follow.

Question 3.17a – Wastewater Treatment Requirement Exceedances – *No Impact*

Construction of the revised 12 kV distribution routes will generate limited wastewater during construction. As described in the original Proponent’s Environmental Assessment (PEA), portable toilets will be provided for on-site use by construction workers and will be maintained by a licensed sanitation contractor. Portable toilets will be used in accordance with applicable sanitation regulations established by the Occupational Safety and Health Administration, which generally requires one portable toilet for every 10 workers. The licensed contractor will dispose of the waste at an off-site location and in compliance with standards established by the Regional Water Quality Control Board (RWQCB).

Further, dewatering is not anticipated during construction; however, in the event that groundwater is encountered, the water will be pumped to a desiltation tank and tested to ensure compliance with the RWQCB National Pollutant Discharge Elimination System (NPDES) requirements. Depending on the results of the water test, the water will be discharged to land, transported to a nearby sewer inlet, or disposed of at an approved San Diego Gas & Electric Company (SDG&E) disposal site. As a result, it will not require treatment at a wastewater facility, and no impact will occur.

The jack-and-bore method of construction will be used to install new conduit within West Palm Street. Depending on the soil conditions at the jack-and-bore site, water may be used to lubricate the auger. If water is used, it will be collected, tested, and disposed of in compliance with RWQCB NPDES requirements.

Because the revised 12 kV distribution routes will be installed entirely underground, operation and maintenance (O&M) of the updated distribution design will not generate wastewater. As a result, the updated design will not exceed wastewater treatment requirements, and no impact will occur.

Question 3.17b – Water and Wastewater Treatment Facility Expansion – *No Impact*

As described previously, wastewater generated by construction will be limited to the use of portable toilets, groundwater encountered during trenching and excavation activities, and water used during jack-and-bore operations. This water will be disposed of in accordance with RWQCB requirements. O&M of the updated distribution design will not generate wastewater. Therefore, the updated distribution design will not require additional capacity to be added to existing municipal water or wastewater treatment systems and, therefore, will have no impact on these systems.

Question 3.17c – Stormwater Drainage Facilities – *No Impact*

Construction of the revised 12 kV distribution routes will require the removal of existing pavement and the excavation of soils. These areas will be backfilled, restored to their original contours, and the pavement will be repaired, as appropriate. As described in the original PEA, construction-related activities will have the potential to temporarily contribute additional runoff water to existing or planned storm water drainage systems during construction. To reduce potential impacts to water quality from runoff during construction activities, SDG&E will implement measures from its Water Quality Construction Best Management Practice (BMP) Manual. In addition, SDG&E will obtain coverage under the State Water Resources Control Board's General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-0009-DWQ. SDG&E will implement the Proposed Project's Storm Water Pollution Prevention Plan to reduce impacts to municipal storm water drainage facilities due to sedimentation transport. Construction of the revised 12 kV distribution routes will not change the amount of impervious surface in the Proposed Project area as all construction activities will take place within paved public roadways. As a result, no new storm water drainage facilities will be constructed nor will existing facilities be expanded. Therefore, no impact will occur.

Question 3.17d – Water Supply Availability – *No Impact*

The original PEA indicated that the Proposed Project will require approximately 1,440,000 total gallons of water during site grading and below-grade construction activities to control dust on non-paved portions of the Proposed Project area. It is anticipated that the revised distribution design will require an additional 275,000 gallons of water. Approximately 3,750 gallons of water will also be required for the initial landscaping at the proposed Vine Substation. As described in the original PEA, water will be obtained from municipal water sources. The City of San Diego has approximately 78 billion gallons of water available in its water supply during a normal year; therefore, a sufficient water supply is available to meet water demands for

construction needs. The demand for water will be temporary and short-term, and no new entitlements will be required. Therefore, no impact will occur.

Question 3.17f – Landfill Capacity – *Less-than-Significant Impact*

The updated distribution design will result in negligible changes to the amount of solid waste generated during construction (i.e., refuse, spoils, trash, and poles). All waste will ultimately be transported to the Miramar Landfill or another approved facility, and will be disposed of properly and in accordance with all applicable federal, state, and local laws regarding solid and hazardous waste disposal. The Miramar Landfill has sufficient capacity to accommodate the amount of waste anticipated to be generated during construction. Therefore, impacts will be less than significant.

Question 3.17g – Solid Waste Statutes and Regulations – *No Impact*

Construction of the Proposed Project—including the updated distribution design—will generate a minimal amount of solid waste (i.e., refuse, spoils, trash, and poles). As previously discussed, solid waste produced during construction will be disposed of at a nearby licensed landfill. Management and disposal of solid waste will comply with all applicable federal, state, and local statutes and regulations. Thus, the Proposed Project will not violate any solid waste statutes or regulations, and there will be no impact.

3.17.2 Applicant-Proposed Measures

Because no potentially significant impacts to utilities and service systems will result from the updated distribution design, no applicant-proposed measures are proposed.

3.17.3 References

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3.18 CUMULATIVE ANALYSIS

3.18.0 Introduction

The revised 12 kV distribution routes have expanded the footprint of the Proposed Project; therefore, the cumulative analysis presented in the original PEA has been updated. As described in the original PEA, existing conditions and reasonably foreseeable projects were identified within a one-mile radius of each Proposed Project component. Information was gathered from Internet searches of local planning department and state agency websites and correspondence with agency staff. The websites of the following entities were reviewed, and/or these agencies were contacted regarding development projects, road and utility improvement projects, and capital investment projects:

- California Energy Commission (CEC),
- California Department of Transportation (Caltrans),
- California Independent System Operator (CAISO),
- California Public Utilities Commission (CPUC),
- City of San Diego,
- County of San Diego,
- San Diego International Airport, and
- San Diego Unified Port District (Port District).

3.18.1 Timeframe of Analysis

For the purpose of this cumulative impacts analysis, the Proposed Project is defined in terms of construction duration and post-construction operation and maintenance. SDG&E anticipates that construction of the Proposed Project will take a total of approximately 19 months. Construction of the proposed Vine Substation is anticipated to begin in January 2016. Construction of the 12 kV distribution duct banks and vault installation is anticipated to begin in October 2016 and last approximately six months. The operational lifetime of the Vine Substation is anticipated to be approximately 40 years.

3.18.2 Area of Analysis

A list of past, present, and planned future projects within one mile of the Proposed Project with the revised 12 kV distribution routes incorporated has been developed in accordance with CEQA Guidelines Section 15130(b). Potential cumulative impacts were analyzed within one mile of the Proposed Project components because this distance was estimated to be the farthest that Proposed Project impacts will extend.

3.18.3 Foreseeable Projects Inventory

For the purposes of this document, “reasonably foreseeable” refers to projects that federal, state, or local agency representatives have knowledge of resulting from the formal application process. Table 3.18-1: Planned and Proposed Projects Within One Mile lists 28 known projects that are within one mile of all of the Proposed Project components; which represents an increase of 13 projects from the original PEA due to the expanded footprint. As described in the original PEA, an approximately one-mile radius is appropriate based on the size, location, and the minimal impacts associated with the Proposed Project.

Table 3.18-1: Planned and Proposed Projects Within One Mile

Project	Approximate Location	Nearest Project Component	Approximate Distance from the Proposed Project	Project Description/Size	Anticipated Construction Schedule	
					Start	End
Pacific Beach Pipeline South Project	Within Kettner Boulevard, from Upas Street to Walnut Avenue; within Vine Street; within Walnut Avenue, between California Street and Kettner Boulevard; within California Street, just north of Vine Street	Vine Substation	Adjacent	Replacement of 38,725 linear feet of existing cast iron water main and 6,731 linear feet of existing vitrified clay sewer main to new 16-inch polyvinyl-chloride mains, and abandonment of the Pacific Beach Reservoir, which is no longer in use.	2015	2018
San Diego County Airport North Side Development Project – Consolidated Car Rental Facilities	North side of San Diego International Airport, west of Pacific Highway	Vine Substation	0.15 mile	Construction of an approximately 17-acre consolidated car rental facility	2013	2016
Pacific Highway Obstructed Curb Ramp Barrier Removal (Capital Improvement Project)	West side of Pacific Highway	Vine Substation	0.35 mile	Installation of missing curb ramps at three locations along Pacific Highway: Frontage Road at Bandini Street, Estudillo Street, and Sutherland Street	2015	2016

Project	Approximate Location	Nearest Project Component	Approximate Distance from the Proposed Project	Project Description/Size	Anticipated Construction Schedule	
					Start	End
Sewer and Water Group 701 (B00452)	Within Columbia Street, from Quince to Laurel Streets; within portions of Quince, Palm, Olive, Union, and State Streets	Distribution Relocation	Adjacent	Replacement, rehabilitation, and realignment of 6- and 8-inch concrete pipe and vitrified clay sewer mains, and replacement of a 10-inch parallel cast iron pipe	2015	2016
Kettner Lofts	East side of Kettner Boulevard between Hawthorne and Ivy Streets	Distribution Relocation	Adjacent	Construction of 133 apartments and 10,000 square feet of retail	2015	2016
Water and Sewer Group Job 954 (B10187)	Within Pacific Highway, from approximately Upas to Laurel Streets	Vine Substation	Adjacent	Replacement of approximately 0.95 mile of cast iron water pipe within Pacific Highway	2016	2017
Harbor View Hotel (Fat City)	Pacific Highway and Hawthorn Street	Distribution Relocation	0.08 mile	Construction of a 364-room hotel	2014	2015
Bella Pacifico Condominiums	Grape Street at Pacific Highway (1919 Pacific Highway)	Distribution Relocation	0.15 mile	Construction of a 71-unit residential condominium development, approximately 3,200 square feet of retail and commercial space, and 118 parking spaces	Not Available	Not Available

Project	Approximate Location	Nearest Project Component	Approximate Distance from the Proposed Project	Project Description/Size	Anticipated Construction Schedule	
					Start	End
Palatine Apartments	North side of Fir Street between Columbia and State Streets	Distribution Relocation	0.19 mile	Construction of 101 apartment units	Not Available	Not Available
H.G. Fenton Development (India and Date Apartments)	Date Street between India and Columbia Streets	Distribution Relocation	0.25 mile	Construction of 97 apartment units and approximately 14,000 square feet of retail	Not Available	Not Available
Bayside Fire Station	1595 Pacific Highway (southeast corner of Pacific Highway and Cedar Street)	Distribution Relocation	0.29 mile	Construction of a three-bay fire station	Not Available	Not Available
County Waterfront Park	Pacific Highway and Cedar Street	Distribution Relocation	0.29 mile	Conversion of the existing, approximately eight-acre, on-grade parking lots north and south of the historic Administration Center to a large community and regional open space amenity. The park will include large civic greens, a children’s play area, intimate garden rooms, and an expansive interactive fountain. Parking will be provided in a new underground parking garage off of Ash Street.	2012	2015

Project	Approximate Location	Nearest Project Component	Approximate Distance from the Proposed Project	Project Description/Size	Anticipated Construction Schedule	
					Start	End
Kettner and Ash Condominiums	Southwest corner of Kettner Boulevard and Ash Street	Distribution Relocation	0.45 mile	Construction of 285 condominium residences and approximately 25,000 square feet of retail space	Not Available	Not Available
401 West Ash Street Hotel Development	Northeast corner of Ash, Columbia, and State Streets	Distribution Relocation	0.49 mile	Construction of a 410-room hotel, approximately 3,200 square feet of retail/commercial space, and 133 parking spaces.	2014	2016
Columbia Tower	South side of A Street between India and Columbia Streets	Distribution Relocation	0.54 mile	Construction of a 387-room hotel and six condominiums	Not Available	Not Available
Citiplace	North side of Ash Street between Front and First Streets	Distribution Relocation	0.54 mile	Construction of 140 apartments and 3,000 square feet retail	Not Available	Not Available
915 Grape Street	Southwest corner of Grape and California Streets	Distribution Relocation	0.62 mile	Construction of 78 apartments and 2,000 square feet of retail	Not Available	Not Available
Atmosphere	South side of Beech Street between Fourth and Fifth Avenues	Distribution Relocation	0.67 mile	Construction of 205 apartments and 1,000 square feet retail	Not Available	Not Available

Project	Approximate Location	Nearest Project Component	Approximate Distance from the Proposed Project	Project Description/Size	Anticipated Construction Schedule	
					Start	End
San Diego Central Courthouse	Bordered by B and C Streets to the north and south, and Front and Union Streets to the east and west	Distribution Relocation	0.68 mile	Construction of a 704,000-square-foot County courthouse building	2014	2016
Pacific and Broadway (Bosa Development)	East side of Pacific Highway at Broadway	Distribution Relocation	0.75 mile	Construction of 232 condominium residences and approximately 16,000 square feet of retail	Not Available	Not Available
Sixth Avenue Suites	East side of Sixth Avenue between Ash and Beech Streets	Distribution Relocation	0.75 mile	Construction of a 95-room hotel	2015	2016
Lane Field	900 West Broadway	Distribution Relocation	0.76 mile	Construction of a 400-room, dual-branded hotel in a single building on the northern portion of the site fronting Pacific Highway, and an approximately two-acre public park on the western portion fronting Harbor Drive	2015	2018
450 B Street Office Building	North side of B Street between Fourth and Fifth Avenues	Distribution Relocation	0.77 mile	Construction of 50,000 square feet of office and 9,000 square feet retail	Not Available	Not Available

Project	Approximate Location	Nearest Project Component	Approximate Distance from the Proposed Project	Project Description/Size	Anticipated Construction Schedule	
					Start	End
777 Beech Street	South side of Beech Street between Seventh and Eighth Avenues	Distribution Relocation	0.80 mile	Construction of 78 condominiums and 15,000 square feet retail	Not Available	Not Available
719 Ash Street	South side of Ash Street between Seventh and Eighth Avenues	Distribution Relocation	0.85 mile	Construction of a 340-room hotel; two condominiums; and 5,000 square feet retail	2015	2017
Seventh & A Mixed Use Development	North side of A Street between Seventh and Eighth Avenues	Distribution Relocation	0.87 mile	Construction of 256 apartments and 12,000 square feet retail	2015	2017
Navy Broadway Complex	West side of Harbor Drive	Distribution Relocation	0.90 mile	Development of approximately 1,265 square feet of office space, approximately 350,000 square feet of Navy office space, approximately 1,500 square feet of hotel space, approximately 160,000 square feet of retail space, and an approximately 40,000-square-foot museum	Not Available	Not Available
Blue Sky	Bounded by Eighth and Ninth Avenues and A and B Streets	Distribution Relocation	0.94 mile	Construction of 939 apartments	Not Available	Not Available

3.18.4 Potential Cumulative Impacts

This section discusses whether the Proposed Project will result in significant short-term or long-term environmental impacts when combined with other past, present, and planned and probable future projects in the area. Short-term impacts are generally associated with construction of the Proposed Project, while long-term impacts are those that result from permanent Proposed Project features or operation of the Proposed Project.

Construction, operation, and maintenance of the Proposed Project with the revised 12 kV distribution routes will not impact the following resources and, therefore, will not contribute to a cumulative effect in these areas:

- Agriculture and Forestry Resources,
- Biological Resources,
- Geology and Soils,
- Land Use and Planning,
- Mineral Resources,
- Population and Housing,
- Public Services,
- Recreation, and
- Utilities and Service Systems.

As a result, these resource areas were not further analyzed with regard to cumulative impacts.

Cumulative impacts to the following resources could occur as a result of construction of the Proposed Project in conjunction with the other planned and probable projects:

- Aesthetics,
- Air Quality,
- Cultural Resources,
- Greenhouse Gas Emissions,
- Hazards and Hazardous Materials,
- Hydrology and Water Quality,
- Noise, and
- Transportation and Traffic.

These resources are discussed further in the subsections that follow.

Aesthetics

Cumulative impacts to visual resources could occur where Proposed Project facilities are viewed in combination with other past, present, and probable developments. The significance of cumulative visual impacts depends on a number of factors, including the degree to which the viewshed is altered and the extent to which scenic resources in the area are disrupted due to either view obstructions or direct impacts to scenic resource features. The Proposed Project viewshed is defined as the general area from which it is visible or can be seen. For the purpose of this analysis, the potential effects on foreground viewshed conditions are emphasized. The

foreground is defined as the zone between 0.25 and 0.5 mile from the viewer. Landscape detail is most noticeable and objects generally appear most prominent when seen in the foreground.

The Proposed Project components will be located within an SDG&E right-of-way or within lands that are owned by SDG&E. The construction schedule for the Proposed Project could overlap with the construction schedules for 12 of the planned and proposed projects listed Table 3.18-1: Planned and Proposed Projects Within One Mile. An additional 15 projects have construction timelines that are unknown and could overlap with the Proposed Project. These projects will increase the potential for adverse cumulative impacts to occur from construction equipment, vehicles, materials, staging areas, and project personnel. However, adverse visual impacts during construction will be temporary and are generally accepted by the public. While portions of the Proposed Project site will be visible during construction, surrounding lands are characterized by light-and medium-industrial and office uses, apartment and condominium buildings, residences, parking lots, and rental car facilities, and resulting visual impacts will be minimal when compared to the existing visual setting. In addition, views of construction from these cumulative projects would not likely be visible within the same view shed as the Proposed Project given the intervening topography and existing structures. These temporary aesthetic impacts will be cumulative; however, they are not expected to be significant.

Permanent cumulative visual impacts could occur as a result of project components being located near other proposed developments in the project area. Expected visual changes associated with the future development in the project area will result from a combination of the Proposed Project with other planned projects. Fourteen of the projects identified in Table 3.18-1: Planned and Proposed Projects Within One Mile are located within 0.5 mile of the Proposed Project. However, from many locations in the surrounding area, views of the Proposed Project are partially or fully screened by intervening topography and structures. Following completion of construction, the distribution relocation components will be underground and not visible to surrounding viewers; therefore, they will not substantially affect views of the San Diego Bay or the downtown San Diego skyline. For these reasons, the Proposed Project is not expected to result in a cumulatively considerable impact to aesthetics.

Air Quality

The construction schedule for the Proposed Project and 12 of the projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile could occur simultaneously. In addition, the construction schedules for 15 additional projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile are unknown and could overlap with the Proposed Project. As a result, a cumulative air quality impact could occur in the Proposed Project area during construction. SDG&E will implement ordinary construction restrictions to reduce emissions and dust during construction, as discussed in Section 3.3 Air Quality. Similarly, other projects within the study area will be required to comply with ordinances and regulations regulating air quality, including dust control during construction activities. Measures will be required for the cumulative projects to reduce potential impacts on air quality to less than significant. As a result, cumulative impacts are expected to be less than significant.

In addition, a significant impact may occur if a project is inconsistent with the rules and regulations of the San Diego County Air Pollution Control District (SDAPCD) or if it induces growth in excess of that anticipated by the SDAPCD Regional Air Quality Strategy. Long-term

operation of the proposed Vine Substation will not include any permanent, stationary sources of pollution, and will not induce population growth or area employment. Therefore, the Proposed Project will not contribute to a cumulatively considerable air quality impact associated with operation or power generation, or population growth.

Cultural Resources

Cumulative impacts to cultural resources could occur as a result of increased ground-disturbing activities by multiple projects within the study area. The results of the record search conducted for the Proposed Project indicate that no cultural resources or cultural resource sites are located within the Proposed Project area. Two historical resources—the Santa Fe Railway and San Diego Trolley—were identified as historical resources that may be potentially present beneath the existing pavement. The historic Santa Fe Railway (current BNSF Railway) is located adjacent to California Street and will be crossed by the revised 12 kV distribution route along West Palm Street. The horizontal jack-and-bore technique will be used in this location to install approximately 200 feet of conduit underneath the railway and avoid disturbing the existing known tracks. In addition, as described in the response to Question 4.16a of the original PEA, SDG&E will coordinate with rail transit providers to schedule the work and obtain necessary right-of-entry permits. Therefore, the Santa Fe Railway will not be damaged during construction and potential impacts to the existing railway will be less than significant. An historic San Diego Electric Railways Trolley Line reportedly exists below ground surface along Kettner Boulevard where new duct banks and vaults are proposed. Due to the size of the proposed vaults (which will be between 9 and 12 feet wide and approximately 10 feet tall), the historic trolley line may be encountered during construction. SDG&E will implement the APMs discussed in Section 3.5 Cultural Resources, which will require an archaeological monitor be present during initial ground-disturbing activities. Ground-disturbing construction activities have the potential to inadvertently impact unknown cultural resources within the Proposed Project area. These activities disturb subsurface soils and can potentially disturb or destroy unknown buried cultural deposits (i.e., archaeological sites). However, the Proposed Project areas have been previously disturbed for the construction of the parking lot and roadways; therefore, the potential to discover unknown cultural resources is unlikely. All the projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile will occur within areas that are previously disturbed/developed, and where no resources are likely to occur. As a result, the Proposed Project will not result in anticipated cumulatively considerable impact to cultural resources.

Although no known paleontological resources have been identified on the Proposed Project site, the site is located in an area with a high potential—the Bay Point and San Diego formations—and moderate potential—within the Lindavista Formation—for discovery of a sensitive paleontological resource. As such, fossils may be encountered during excavation activities for the Proposed Project. However, due to the disturbed nature of the Proposed Project area, the likelihood of discovering buried paleontological resources is improbable. In addition, all projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile will occur within areas that are previously disturbed/developed, where the likelihood of encountering paleontological resources is unlikely. Regardless, SDG&E will implement the APMs discussed in Section 4.5.4 Applicant-Proposed Measures of the original PEA, which include implementation of a complete paleontological resource mitigation program that will reduce the

Proposed Project's impacts to a less-than-significant level. For these reasons, the Proposed Project will not result in a cumulatively considerable impact to paleontological resources.

Operation and maintenance activities associated with the Proposed Project will be conducted in areas that were previously disturbed during construction of the Proposed Project. As a result, it is not anticipated that cultural and paleontological resources will be encountered during such activities, and there will be no cumulative impact.

Hazards and Hazardous Materials

Cumulative impacts to hazards and/or hazardous materials can result from the construction of concurrent projects and the Proposed Project having an increased effect on public or worker safety, including exposure to hazardous materials, increased fire potential, or physical hazards. The Proposed Project and 12 of the projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile could occur simultaneously. In addition, 15 other projects do not have a defined timeline. As a result, several of these projects have the potential to result in a cumulative impact to overall hazards or hazardous materials when combined with the Proposed Project. Because each of these projects requires construction equipment, these projects have the potential to create a temporary impact from accidental releases of diesel and gasoline fuel, hydraulic fluids, and other hazardous liquids. While no impact is anticipated, there is a potential for accidental spills or leaks. Though this potential hazard will exist during construction, it is very unlikely that a spill will occur in the same immediate vicinity during a similar timeframe. Large releases of hazardous materials from multiple projects are highly unlikely with adherence to federal and state regulations. Small releases will be contained, cleaned up, and disposed of properly. As the nearest project that could be constructed during the Proposed Project's timeframe is approximately 0.15 mile away, the potential for accidental releases to result in a cumulative impact is low. As a result, a cumulative impact to hazardous materials is not anticipated.

Greenhouse Gas Emissions

The construction schedule for the Proposed Project and 12 of the projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile could occur simultaneously. In addition, 15 other projects do not have defined construction timelines. A cumulative greenhouse gas (GHG) impact in the Proposed Project area could occur during construction of these projects. The vehicles and heavy equipment used during construction will be the primary sources of these emissions. However, emissions generated during Proposed Project construction will be negligible when compared to existing baseline GHG emissions in the area. SDG&E will be required to adhere to the standards and requirements established by the SDAPCD to minimize the potential for the Proposed Project's construction activities to contribute to potential cumulative impacts with regard to GHG emissions. The other projects in the area will also be required to adhere to the SDAPCD standards and requirements. As such, impacts will be reduced to a less-than-significant level and will not be cumulatively considerable.

During operation, various projects may potentially contribute to GHG accumulation by emitting carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Projects that will contribute to GHG accumulation generally include those that will induce population growth, such as condominium developments and hotels. The Proposed

Project, on the other hand, will not contribute to this cumulative impact because SDG&E already operates and patrols facilities in the area. As a result, no cumulative impact will occur.

Hydrology and Water Quality

Cumulative impacts to hydrology and/or water quality have the potential to result from increases in local groundwater use and alterations to the existing and natural drainage patterns of the landscape. All of the projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile will be constructed in previously developed areas where there are no existing hydrological or natural drainage features. Pollutants or sediment disturbed during grading or construction could potentially enter the watershed and increase the potential for construction-related contaminants to reach surface water or groundwater. However, other planned or future projects within the cumulative study area will be required to conform to City of San Diego regulations and policies and/or the National Pollutant Discharge Elimination System General Construction Permit, which requires the implementation of best management practices to reduce potential construction-related and long-term impacts on hydrology and water quality to a less-than-significant level. As a result, a cumulative impact is not anticipated.

Noise

Construction of the Proposed Project and 12 of the projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile could occur simultaneously. Fifteen additional projects could also occur in the same timeframe, as their construction schedules are currently not defined. The simultaneous construction of these projects could result in a cumulative impact to overall noise levels when combined with the Proposed Project. The nearest cumulative projects within the vicinity of the Proposed Project—the Pacific Beach Pipeline South Project, Water and Sewer Group Job 954, Sewer and Water Group 701, and Kettner Lofts—are located adjacent to the Proposed Project. A temporary cumulative increase in noise could result when construction of these projects occurs simultaneously with construction of the Proposed Project. The Pacific Beach Pipeline South Project is located adjacent to the proposed Vine Substation. The three other cumulative projects are located adjacent to the 12 kV distribution relocation. The Water and Sewer Group Job 954 will occur within Pacific Highway, from approximately Upas to Laurel Streets; the Sewer and Water Group 701 project is located east of I-5, within Columbia Street; and the Kettner Lofts project is located on Kettner Boulevard, between Hawthorne and Ivy Streets. Because the adjacent cumulative projects are spread out amongst the Proposed Project components, and given the existing dominant noise sources in area (e.g., San Diego International Airport, railroad use, and I-5), it is unlikely that construction noise from simultaneous projects would be discernable at a sensitive receptor. The construction-related noise levels from the Proposed Project may temporarily exceed the 75 A-weighted decibel threshold from the City of San Diego's Noise Ordinance. However, these potential exceedances will last only a few days in one location. As part of SDG&E's ordinary construction practices, SDG&E will coordinate with the City of San Diego before any exceedance occurs. In addition, noise-sensitive receptors will not experience a significant increase in ambient noise during construction activities. Impacts will be less than significant due to the short-term nature of the construction phase of the Proposed Project and the existing transportation-related ambient noise sources in the area. Therefore, the Proposed Project is not anticipated to contribute to a cumulatively significant noise impact.

Long-term operation of the proposed Vine Substation will not significantly increase noise levels beyond the noise levels that presently exist in the area, because surrounding land uses (e.g., San Diego International Airport) and several roadways (e.g., I-5, Kettner Boulevard and Pacific Highway) currently experience high-volume traffic and associated vehicle noise. As a result, the Proposed Project's contribution to a significant cumulative noise impact will be minimal and the cumulative impact will be less than significant.

Transportation and Traffic

During the construction phase, cumulative traffic impacts will occur from projects that have overlapping construction timeframes. In this case, the Proposed Project will potentially overlap with 12 of the projects listed in Table 3.18-1: Planned and Proposed Projects Within One Mile. Fifteen additional projects could also overlap with Proposed Project construction as their construction timelines are unknown. Traffic could be increased in the surrounding area during concurrent construction of these projects. As described in the original PEA, I-5 is the major north-south transportation corridor that will provide access to the Proposed Project. Construction vehicles and equipment will likely utilize the South Kettner Boulevard and the North India Street exits from I-5 to access the revised 12 kV distribution routes. India and Columbia Streets will serve as the primary access roads for the revised routes. West Laurel Street, West Palm Street, Sassafras Street, Pacific Highway, and State Street will also be used during construction. Construction activities associated with the revised 12 kV distribution routes will occur within the public right-of-way (ROW) and SDG&E-owned land, and underneath railways utilized by Amtrak California, North County Transit District Coaster, and the San Diego Metropolitan Transit System Trolley systems. Duct bank installation is proposed to occur underneath these railways along West Palm Street between Kettner Boulevard and Pacific Highway. SDG&E will coordinate with the rail agencies to conduct work at night (or during other transit provider-preferred times, as feasible) to minimize rail service disruptions or delays. As described in the original PEA, at least one lane of travel through construction areas will typically remain open to cars, buses, bicycles, and pedestrians utilizing the public ROW. Detours may need to be established in some locations where the existing roadway is not wide enough to accommodate through traffic and construction activities simultaneously. As described in the original PEA, SDG&E will secure the required Public ROW Permit from the City of San Diego and will comply with all of the permit's requirements. SDG&E, as part of its ordinary construction restrictions described in Chapter 3 – Project Description of the original PEA, will prepare and implement a Traffic Management Plan to further reduce potential impacts. As required by the City of San Diego, the Traffic Management Plan will provide detailed drawings of the areas where work will occur (including any transition area, buffer space, work area, and termination area), directional signage to be posted, and a detour plan (if required). In addition, all of the roadways within the Proposed Project area are currently operating at acceptable LOS standards—with the exception of West Laurel Street.

Due to the locations of the majority of the cumulative projects, it is unlikely there will be overlapping traffic resulting in significant cumulative traffic impacts. Cumulative projects that would have the most potential to result in cumulative traffic impacts are those that would occur within the same public roads as the Proposed Project—the Pacific Beach Pipeline South Project, Water and Sewer Group Job 954, and Sewer and Water Group 701. As previously discussed, SDG&E will secure the required Public ROW Permit from the City of San Diego and will

comply with all of the permit's requirements. It is unlikely that significant transportation and traffic-related impacts will occur as a result of these projects, when combined with the Proposed Project. Construction of the Proposed Project is not expected to cause a significant impact because Proposed Project-generated traffic will be minimal, will occur over the course of the day, and will not result in an increase of the volume/capacity ratio to the point that a significant impact will occur, per the City of San Diego Traffic Impact Study Manual. For these reasons, the Proposed Project's contribution to transportation and traffic impacts will not be cumulatively considerable.

Permanent cumulative impacts are not anticipated as a result of the Proposed Project in combination with the other proposed projects. Operation of the proposed Vine Substation will generate approximately six trips per year by a two- to four-person crew and SDG&E already operates and maintains facilities in the vicinity of the substation. Therefore, a significant impact is not expected. For these reasons, the Proposed Project's contribution to transportation and traffic impacts will not be cumulatively considerable.

3.18.5 Conclusion

While the Proposed Project will contribute to certain cumulative impacts with the level of development activity in its vicinity, its contribution to these impacts is anticipated to be minimal. It is anticipated that the other projects within the vicinity of the Proposed Project will be required to implement avoidance and minimization measures similar to SDG&E's APMs, mitigation measures, and permit conditions. These measures will minimize potential environmental impacts, thereby minimizing the overall cumulative effects. As a result, cumulative impacts are expected to be less than significant.

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CHAPTER 4 – DETAILED DISCUSSION OF SIGNIFICANT IMPACTS

4.0 INTRODUCTION

Chapter 5 of the original Proponent’s Environmental Assessment (PEA) discusses potentially significant impacts that will result from the proposed Vine 69/12 Kilovolt (kV) Substation Project (Proposed Project), evaluates alternatives, and assesses the Proposed Project’s potential to induce growth in the area. Since filing the PEA, San Diego Gas & Electric Company (SDG&E) has continued the engineering process, which has identified the need for refinements to the original distribution design for the Proposed Project. As a result, this Chapter documents the refinements to the 12 kV distribution design and evaluates their potential environmental impacts.

4.1 APPLICANT-PROPOSED MEASURES TO MINIMIZE SIGNIFICANT IMPACTS

The original PEA identified three applicant-proposed measures (APMs) that SDG&E will implement during construction and/or operation of the Proposed Project to reduce or avoid impacts. As part of this PEA Supplement, SDG&E has modified one existing APM—APM-CUL-01—to protect and preserve any undocumented historical resources that could potentially be encountered during construction of the revised 12 kV distribution routes. Based on the findings in Chapter 3 – Environmental Impact Assessment, the Proposed Project is not likely to result in significant impacts to any resource areas after implementation of APMs and SDG&E’s ordinary construction and operating restrictions.

4.2 DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS

Chapter 5 of the original PEA evaluated a reasonable range of alternatives that meet most of the Proposed Project objectives, in accordance with California Public Utility Commission requirements. The environmental alternatives analysis evaluated the No Project Alternative, five system or facility alternatives to the Proposed Project as a whole, and four alternative locations for the proposed Vine Substation. Route alternatives were not developed and analyzed as part of this process. The revised 12 kV distribution routes will not increase capacity in the downtown and surrounding service area, as a result no new system alternatives are presented.

4.3 GROWTH-INDUCING IMPACTS

As described in Chapter 5 of the original PEA, the California Environmental Quality Act (CEQA) requires a lead agency to review and discuss ways in which a project could induce growth. The growth-inducing potential of the Proposed Project could be considered significant if it were to stimulate human population growth or a population concentration in the City of San Diego or other surrounding communities, above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if the Proposed Project were to provide infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies. Because the revised 12 kV distribution routes will not increase housing, bring in new services, or improve the existing infrastructure system, with the exception of making the existing electric service more reliable and adding room to accommodate future potential growth. The revised 12

kV distribution routes will not stimulate population growth or result in a new concentration of residents, businesses, or industries either.

The construction and operation of the revised 12 kV distribution routes will not affect employment patterns in the area. SDG&E will employ an average of approximately 46 workers throughout the 19-month-long construction period. During the peak construction period, up to 83 workers may be employed. The workers will consist of existing SDG&E employees and contract workers. All construction workers are anticipated to come from San Diego County and will not require lodging.

Operation and maintenance of the revised 12 kV distribution routes will be performed by current SDG&E employees and will not create new jobs. Because the Proposed Project will not result in an increase in employment during the operation and maintenance phase, the Proposed Project will not increase the demand for new housing.

As described in the original PEA, the objectives of the Proposed Project are to maintain existing reliability standards for the distribution and substation systems, provide substation and circuit tie capacity that will provide additional reliability for existing and future system needs, meet long-term electric distribution capacity needs by constructing a substation near planned load growth, , and to meet project need while minimizing environmental impacts. The revised 12 kV distribution routes will not create a new service or source of power that will indirectly allow for an increase in population or housing as a result, as it will not extend infrastructure into previously unserved areas.

The Proposed Project will accommodate existing and planned power demands in SDG&E's service territory, as well as those based on state and locally adopted plans and projections. SDG&E responds to projected development and forecasts, rather than inducing growth by extending infrastructure for future unplanned development. The Proposed Project will not induce population growth in the area. As a result, the discussion in the original PEA of the Proposed Project's growth-inducing potential covers the revised 12 kV distribution routes.

4.4 REFERENCES

California Resources Agency. 2014. Title 14 California Code of Regulations, Chapter 3 Guidelines for Implementation of the California Environmental Quality Act. CEQA Guidelines.

SANDAG. Regional Comprehensive Plan. Online. [http://www.sandag.org/programs/land use and regional growth/comprehensive land use and regional growth projects/RCP/rcp final complete.pdf](http://www.sandag.org/programs/land_use_and_regional_growth/comprehensive_land_use_and_regional_growth_projects/RCP/rcp_final_complete.pdf). Site visited March 7, 2014.

SANDAG. Regional Growth Forecast 2050. Online. <http://www.sandag.org/2050forecast>. Site visited March 7, 2014.