CALIFORNIA PUBLIC UTILITIES COMMISSION



Estrella Substation and Paso Robles Area Reinforcement Project

Final Environmental Impact Report

Volume 2 - Appendices

Prepared by:

Horizon
WATER and ENVIRONMENT

March 2023

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California Public Utilities Commission

Estrella Substation and Paso Robles Area Reinforcement Project

Final Environmental Impact Report

Volume 2 – Appendices

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APPENDIX A

Local Laws, Regulations, Policies, and Plans

This appendix includes complex tables that are not accessible using an assistive device such as a screen reader. For additional assistance please contact CPUC.

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Appendix A
LOCAL LAWS, REGULATIONS, POLICIES, AND PLANS

A.1 AESTHETICS

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Conservation and Open Space Element* of the County of San Luis Obispo General Plan (2010) contains goals, policies, and implementation strategies related to visual resources that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and/or alternatives, including the following:

Goal VR 1: The natural and agricultural landscape will continue to be the dominant view in rural parts of the county.

Goal VR 2: The natural and historic character and identity of rural areas will be preserved.

Policy VR 2.1, Develop in a Manner Compatible with Historical and Visual Resources. Through the review of proposed development, encourage designs that are compatible with the natural landscape and with recognized historical character, and discourage designs that are clearly out of place within rural areas.

Policy VR 2.2, Site Development and Landscaping Sensitively. Through the review of proposed development, encourage designs that emphasize native vegetation and conform grading to existing natural forms. Encourage abundant native and/or drought-tolerant landscaping that screens buildings and parking lots and blends development with the natural landscape. Consider fire safety in the selection and placement of plant material, consistent with Biological Resources Policy BR 2.7 regarding fire suppression and sensitive plants and habitats.

Goal VR 3: The visual identities of communities will be preserved by maintaining rural separation between them.

Goal VR 4: Protect visual resources within visual sensitive resource areas (SRAs) for scenic corridors.

Policy VR 4.2, Balanced Protection. Balance the protection of scenic resources within the protection of biological and agricultural resources that may co-exist within the scenic corridor.

Goal VR 5: Views from scenic vistas and vista points will be protected.

Goal VR 6: A cohesive visual character will be maintained in urban areas.

Goal VR 7: Views of the night sky and its constellations of stars will be maintained.

Policy VR 7.1, Nighttime Light Pollution. Protect the clarity and visibility of the night sky within communities and rural areas, by ensuring that exterior lighting, including streetlight projects, is designed to minimize nighttime light pollution.

Goal VR 8: Visual intrusion of signs will be minimized within public view corridors.

Goal VR 9: The visual effects of utility lines will be minimized.

Policy VR 9.2, Utility Service Lines. Utility companies should prepare long-range corridor plans for service lines in consultation with local organizations and government agencies. New transmission lines that would be visually damaging should be designed to minimize visual effects. In addition, access roads and right-of-way clearing should be kept to the minimum necessary where new installation or repair of existing installations occurs.

CITY OF PASO ROBLES GENERAL PLAN

The *Conservation Element* of the City of Paso Robles General Plan (2003a) contains the following goals and policies pertinent to protection of visual resources and potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal C-5: Visual Resources. Enhance/upgrade the City's appearance.

Policy C-5A: Visual Gateways and Landmarks. Identify important visual resources: gateways, corridors, major arterials, natural/open space areas, as shown in [General Plan] Table C-1 and [General Plan] Figure C-3.

Policy C-5B: Hillsides. Protect hillsides as a visual amenity, by implementing design standards that call for:

- Decreasing density as slope increases;
- Limiting the amount of grading;
- Providing substantial amounts of landscaping;
- Incorporating architectural treatment that enhances the form of the hillside rather than conflicting with it;
- Limiting the number of building sites that may be placed on prominent ridgelines;
- Ensuring sensitive design of development on steep slopes, and on the crest of major ridgelines, shown on [General Plan] Figure C-4.

[General Plan] Table C-1. Important Visual Resources

Gateways to the City ▪ *May be marked with entrance monument signs.* ▪ *Limit range of land uses to preclude those commercial and industrial uses with outside processes and storage.* ▪ *Development shall be designed to make a positive visual impression (in terms of design/architecture and landscaping) and incorporate/preserve natural features.* ▪ *Billboards shall be limited in number, shall be located to preserve views of natural features.*
Highway 46 East* (between Jardine and Airport Roads)
Highway 101 at North End* (between Mustard Creek and Spring Street)
Highway 101 at South End* (between Highway 46 West and Spring Street)
Highway 46 West* (between Arbor Road and Highway 101)
Creston Road (beginning east of Beachwood Drive to Charolais Road)
Spring Street (north of 36th Street and south of 1st Street)
Airport Road
Union Road
Airport
Multi-Modal Transportation Center
Visual Corridors ▪ *Development shall be designed to make a positive visual impression and incorporate/preserve natural features.* ▪ *Billboards shall be limited in number, shall be located to preserve views of natural features.* ▪ *Architectural design of new development on Spring Street shall be compatible with, and incorporate features identified in adopted design guidelines.*
Highway 46 East* (between Jardine and Airport Roads)
Highway 101* (full length of City)
Highway 46 West* (between Arbor Road and Highway 101)
Creston Road
Spring Street (full length of City)
Airport Road
Union Road
Railroad corridor (full length of City)
Natural Landmarks and Open Space Viewsheds
Salinas River
Huerhuero Creek
Field at north end of Ramada Drive (between the railroad and Salinas River)
Oak-covered hillsides
East Side creeks/riparian corridors (unnamed creeks #1-5 plus Turtle/Oak Creek)
View from Barney Schwartz Park southwest toward and into the Chandler Ranch area

*Indicates major gateway or visual corridor.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space & Conservation Element* (2002a) includes the following policies related to aesthetics that are potentially relevant to Alternative BS-2[1]:

> *Policy 1.3.* Enhance the rural character and appearance of the City, including commercial corridors, gateways and public facilities.
>
> Programs:
>
> 2. Require landscaping and/or screening to buffer non-residential uses from residential areas.
>
> *Policy 1.4.* Ensure that "darkness" remains a rural characteristic by requiring that all exterior lighting does not result in significant off-site spillage or glare.
>
> *Policy 2.1*. Ensure that new development is compatible with existing and surrounding neighborhoods.
>
> *Policy 6*.1. Ensure that development does not degrade scenic and sensitive areas, including historic sites, creeks, riparian corridors, wetlands, woodlands, hillsides and other valuable habitats.

A.2 AGRICULTURAL AND FORESTRY RESOURCES

COUNTY OF SAN LUIS OBISPO RULES OF PROCEDURE TO IMPLEMENT THE CALIFORNIA LAND CONSERVATION ACT OF 1965

The objective of the County of San Luis Obispo Agricultural Preserve Program, as provided by the California Land Conservation Act of 1965 or Williamson Act, is to protect agricultural lands for continued production of food and fiber and limited types of land devoted to open-space and recreational uses (County of San Luis Obispo 2019a). The County's *Rules of Procedure to Implement the California Land Conservation Act of 1965* provide the standards for property eligibility and land use restrictions under the program, as well as the procedures for terminating contracts and monitoring the agricultural preserve program (County of San Luis Obispo 2019a). The minimum ownership sizes for qualification for the program based on land/soil class are shown below in [Rules of Procedure] Table 1.

[1] Only example front-of-the-meter (FTM) Site 7 under Alternative BS-2 is located within the City of Atascadero. No portion of the Proposed Project, reasonably foreseeable distribution components, or the remainder of the alternatives are located in Atascadero.

[Rules of Procedure] Table 1. Minimum Ownership Sizes for Qualification and Minimum Parcel Sizes for Conveyance of Land & New Land Divisions

Natural Resources Conservation Service Land Capability Classification	Minimum Acreage	
	To Qualify[1]	**To Convey Existing Parcels or Create New Parcels[2]**
20- or 40-Acre Minimum Preserve Size		
Class 1	10	20
Class 2	10	40
Irrigated Classes, 3, 4, 6, 7 with Orchards or Vineyards	20	40
All Other Irrigated Classes 3 & 4	40	40
Mixed Irrigated & Non-irrigated Use	10/20/40	80/160
160- or 320-Acre Minimum Preserve Size		
Non-Irrigated Classes 3 & 4	160	160
Classes 6 & 7	320	320
Class 8	N/A	320

Source: County of San Luis Obispo 2019a

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan (2010) includes the following goals and policies related to agriculture and forestry resources that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal AG 2: Conserve Agricultural Resources.

a. Maintain the agricultural base of the county by clearly defining and identifying productive agricultural lands for long term protection.

b. Conserve the soil and water that are the vital components necessary for a successful agricultural industry in this county.

Goal AG 3: Protect Agricultural Lands.

a. Establish criteria in this element for agricultural land divisions that will promote the long-term viability of agriculture.

c. Maintain and protect agricultural lands from inappropriate conversion to non-agricultural uses. Establish criteria in this element and corresponding changes in the Land Use Element and Land Use Ordinance for when it is appropriate to convert land from agricultural to non-agricultural designations.

d. Maintain and strengthen the county's agricultural preserve program (Williamson Act) as an effective means for long term agricultural land preservation.

b. Provide incentives for landowners to maintain land in productive agricultural uses.

Policy AGP 18, Location of Improvements.

a. Locate new buildings, access roads, and structures so as to protect agricultural land.

b. Policy AGP 24, Conversion of Agricultural Land.

c. Discourage the conversion of agricultural lands to non-agricultural uses through the following actions:

1. Work in cooperation with the incorporated cities, service districts, school districts, the County Department of Agriculture, the Agricultural Liaison Board, Farm Bureau, and affected community advisory groups to establish urban service and urban reserve lines and village reserve lines that will protect agricultural land and will stabilize agriculture at the urban fringe.

2. Establish clear criteria in this plan and the Land Use Element for changing the designation of land from Agriculture to non-agricultural designations.

3. Avoid land redesignation (rezoning) that would create new rural residential development outside the urban and village reserve lines.

4. Avoid locating new public facilities outside the urban and village reserve lines unless they serve a rural function or there is no feasible alternative location within the urban and village reserve lines.

Goal SL 1: Soils will be protected from wind and water erosion, particularly that caused by poor soil management practices.

Policy SL 1.1, Prevent Loss of Topsoil in All Land Uses. Minimize the loss of topsoil by encouraging broad based cooperation between property owners, agricultural operators, agencies, and organizations that will lead to effective soil conservation practices on all lands, including County controlled properties.

Goal SL 3: Important agricultural soils will be conserved.

Policy SL 3.1, Conserve Important Agricultural Soils. Conserve the Important Agricultural Soils mapped in [General Plan] Figure SL 1 and listed in [General Plan] Table SL 2. Proposed conversion of agricultural lands to non-agricultural uses shall be evaluated against the applicable policies in the COSE and in the Agriculture Element, including policies such as Policies AGP 18 and AGP 24.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan's *Land Use Element* and *Open Space Element* (2003b and 2003c) include the following goals and policies related to agriculture and forestry resources, which are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal LU-2: Image/Identity. Maintain/enhance the City's image/identity.

Policy LU-2E: "Purple Belt" (Open Space/Conservation Areas Around the City). Create a distinct "Purple Belt" surrounding the City by taking actions to retain the rural, open space, and agricultural areas.

Goal OS-1: Preserve/expand the amount and quality of open space in and around Paso Robles.

Policy OS-1A. Open Space/Purple Belt. Develop an open space plan/program for establishing an open space/purple belt (agricultural preserve area) surrounding the City.

CITY OF ATASCADERO GENERAL PLAN

No goals or policies in the City of Atascadero General Plan relate directly to agriculture and forestry resources and Alternative BS-2.

A.3 AIR QUALITY

SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT RULES, REGULATIONS, AND PLANS

The Proposed Project, reasonably foreseeable distribution components, and alternatives are located in San Luis Obispo County, which is in the South Central Coast Air Basin. The San Luis Obispo County Air Pollution Control District (SLOCAPCD) manages air quality within the county for attainment and permitting purposes. In general, at the local level, responsibilities of air districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality monitoring stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents under CEQA. The air districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws, as well as for ensuring that the NAAQS and CAAQS are met. Local governments are essential partners in the effort to reduce air pollutant emissions. The local governments have influence through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations.

Air districts establish rules and regulations governing emissions, consistent with federal and state laws, including those pertaining to portable equipment registration, odor, fugitive dust, solvents (i.e., volatile organic compounds [VOCs]), and visible emissions. Air district rules and regulations generally require that individuals limit emissions (e.g., fugitive dust, VOCs, TACs, etc.) during construction activities. The following SLOCAPCD rules and regulations are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

- Rule 202, Permits – Stipulates that an Authority to Construct permit shall be obtained prior to initiating any construction activities, including altering, building, or replacing any equipment that may emit air contaminants. In addition, a Permit to Operate shall be obtained prior to operating or using any equipment that may cause, increase, eliminate, reduce or control the issuance of air contaminants.

- Rule 401, Visible Emissions – Limits the discharge of visible emissions.
- Rule 402, Nuisance – Limits release of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.
- Rule 403, Particulate Matter Emissions Standards – Limits particulate matter emissions.
- Rule 404, Sulfur Compounds Emission Standards, Limitations and Prohibitions – Limits emissions of sulfur compounds.
- Rule 405, Nitrogen Oxides Emission Standards, Limitations and Prohibitions **–** Limits emissions of nitrogen oxides.
- Rule 412, Airborne Toxic Control Measures **–** Requires compliance with the State ATCMs.
- Rule 420, Cutback Asphalt Paving Materials – Limits the amount of VOCs allowed in asphalt material used for paving and construction.

The SLOCAPCD's 2001 *Clean Air Plan* details the County's plan to address ozone precursor emissions and achieve the state's ozone standard, while the 2012-2017 *Strategic Action Plan* contains strategic air quality-related goals and strategies (SLOCAPCD 2012). SLOCAPCD's 2005 *Particulate Matter Report* describes the SLOCAPCD's plan for addressing PM and implementing SB 656 requirements. Finally, the *San Luis Obispo County Ozone Emergency Episode Plan* provides the basis for taking actions when ambient ozone concentrations reach a level that could endanger public health in San Luis Obispo County. It identifies criteria for the four levels of emergency episodes and related components for public announcements whenever an episode has been identified.

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan's *Conservation and Open Space Element* (2010) contains the following air quality goals, policies, and implementation strategies that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal AQ 3: State and federal ambient air quality standards will, at a minimum, be attained and maintained.

Policy AQ 3.2, Attain Air Quality Standards. Attain or exceed federal or state ambient air quality standards (the more stringent if not the same) for measured criteria pollutants.

Implementation Strategy AQ 3.2.1. Use of APCD's CEQA Guidelines. The County's CEQA process will use the APCD's CEQA Guidelines to determine significance of impacts and to identify minimum project design and mitigation requirements.

Policy AQ 3.4, Toxic Exposure. Minimize public exposure to toxic air contaminants, ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, and lead.

Policy AQ 3.7, Reduce Vehicle Idling. Encourage the reduction of heavy-vehicle idling throughout the county, particularly near schools, hospitals, senior care facilities, and areas prone to concentrations of people, including residential areas

Policy AQ 3.8, Reduce Dust Emissions. Reduce PM10 and PM2.5 emissions from unpaved and paved County roads to the maximum extent feasible.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan contains the following policies and action items related to air quality, which are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Policy C-2C, Emissions Reduction. Take steps to reduce creation of air contaminant emissions.

Action Item 3: Require builders to use appropriate techniques to minimize pollution from construction activities.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space and Conservation Element* (2002a) contains the following policy related to air quality, which are potentially relevant to Alternative BS-2:

Policy 10.3. Support regional efforts to maintain clean air.

Programs:

1. Require dust control and emissions limitations during project construction.
2. Adopt circulation policies that encourage vehicle trip reductions.
3. Concentrate new intensive development at identified nodes to help reduce vehicle trips.
4. Support regional programs to maintain clean air by adopting transportation and land use policies which encourage vehicular trip reductions.
5. Support the development of park and ride locations in appropriate locations.

A.4 BIOLOGICAL RESOURCES

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan *Conservation and Open Space Element* addresses the protection and management of natural resources, and includes goals, policies, and strategies to conserve, protect, and restore biodiversity and open space (County of San Luis Obispo 2010). Goals and policies in the *Conservation and Open Space Element* pertaining to biological

resources that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives include:

Goal BR 1: Native habitat and biodiversity will be protected, restored, and enhanced.

Policy BR 1.11, Protect Wildlife Nursery Areas and Movement Corridors. Identify, protect, and enable the management of connected habitat areas for wildlife movement. Features of particular importance to wildlife for movement may include, but are not limited to, riparian corridors, shorelines of the coast and bay, and ridgelines. Identification and designation of wildlife corridors will not interfere with agricultural uses on private lands.

Policy BR 1.12, Development Impacts to Corridors. Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits. Provide linkages and corridors as needed to connect sensitive habitat areas such as woodlands, forests, and wetlands.

*Policy BR 1.15**, Restrict Disturbance in Sensitive Habitat during Nesting Season.* Avoid impacts to sensitive riparian corridors, wetlands, and coastal areas to protect bird-nesting activities.

Goal BR 2: Threatened, rare, endangered, and sensitive species will be protected.

Goal BR 3: Maintain the acreage of native woodlands, forests, and trees at 2008 levels.

Policy BR 3.1, Native Tree Protection. Protect native and biologically valuable trees, oak woodlands, trees with historical significance, and forest habitats to the maximum extent feasible.

Policy BR 3.3, Oak Woodland Preservation. Maintain and improve oak woodland habitat to provide for slope stabilization, soil protection, species diversity, and wildlife habitat.

Goal BR 4: The natural structure and function of streams and riparian habitat will be protected and restored.

Goal BR 5: Wetlands will be preserved, enhanced, and restored.

Policy BR 5.1, Protect Wetlands. Require development to avoid wetlands and provide upland buffers.

Goal BR 6: The County's fisheries and aquatic habitats will be preserved and improved.

COUNTY OF SAN LUIS OBISPO OAK WOODLANDS MANAGEMENT PLAN

The Native Tree Committee of the County of San Luis Obispo has established an Oak Woodland Management Plan to encourage the long-term conservation of oak woodlands. The plan is voluntary and for informational purposes only and is not bound by the law. The plan discusses the status, economic values, natural resource values, and aesthetic and open space values of oak woodlands. In addition, the plan offers the following conservation efforts: (1) design around existing oaks; (2) encourage clustered, denser developments; (3) encourage landscaping with oak trees/natives; (4) improve oak regeneration on grazed lands; and (5) purchase conservation easements (County of San Luis Obispo 2003).

COUNTY OF SAN LUIS OBISPO SAN JOAQUIN KIT FOX MITIGATION REQUIREMENTS

California Department of Fish and Wildlife (CDFW) and the County of San Luis Obispo have developed standard mitigation measures to reduce impacts to San Joaquin kit fox habitat to an insignificant level. The standard mitigation measures include the following (County of San Luis Obispo 2006a):

a. Mitigate for the loss of kit fox habitat either by:
    1. Establishing a conservation easement on-site or off-site in a suitable San Luis Obispo County location and provide a non-wasting endowment for management and monitoring of the property in perpetuity;
    2. Depositing funds into an approved in-lieu fee program;
    3. Purchasing credits in an approved conservation bank in San Luis Obispo County.
b. Retain qualified biologist to conduct pre-construction survey of the project site and conduct a pre-construction kit fox briefing for construction workers to minimize kit fox impacts.
c. Include kit fox protection measures on project plans.
d. Require a maximum 25 mph speed limit at the project site during construction.
e. Stop all construction activities at dusk.
f. Cover excavations deeper than 2 feet at the end of each working day or provide escape ramps for kit fox.
g. Inspect pipes, culverts or similar structures for kit fox before burying, capping, or moving.
h. Remove food-related trash from project site.
i. If pesticides or herbicides are used, the must be used according to local, state, and federal regulations to prevent secondary poisoning of kit foxes.
j. If a kit fox is discovered at any time in the project area, all construction must stop and the CDFW and USFWS contacted immediately. The appropriate federal and state permits must be obtained before the project can proceed.
k. Permanent fencing installed as part of the project must allow passage of dispersing kit foxes.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Conservation Element* includes goals and policies related to biological resources protection that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives (City of Paso Robles 2003a, amended in 2014):

Goal C-3: Biological Resources. As feasible, preserve native vegetation and protected wildlife, habitat areas, and vegetation, through avoidance, impact mitigation, and habitat enhancement.

Policy C-3A, Oak Trees. Preserve existing oak trees and oak woodlands. Promote the planting of new oak trees.

Policy C-3B, Sensitive Habitat. Incorporate habitats into project design, as feasible, including: oak woodlands, native grasslands, wetlands, and riparian areas.

CITY OF PASO ROBLES OAK TREE ORDINANCE

The City of Paso Robles Oak Tree Ordinance (Ordinance No. 835 N.S.), as amended in 2001 (Municipal Code Amendment 2001-001-Oak Trees) ensures the "preservation of oak trees in order to maintain the heritage and character of the City of El Paso de Robles ("The Pass of the Oaks") as well as preserve the beauty and identity of the community" (City of Paso Robles 2002). The Oak Tree Ordinance requires permits to prune and permits to remove oak trees (Section 10.01.030) and encourages preservation and maintenance of existing oak trees (Section 10.01.070).

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Conservation and Open Space Element* (2002a) includes the following policies related to biological resources that are potentially relevant to Alternative BS-2:

Policy 6.1. Ensure that development does not degrade scenic and sensitive areas, including historic sites, creeks, riparian corridors, wetlands, woodlands, hillsides and other valuable habitats.

Policy 7.1. Ensure that the native trees of Atascadero are protected from new development in order to retain the natural character of the community.

A.5 CULTURAL RESOURCES

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Conservation and Open Space Element* (2010) of the County of San Luis Obispo General Plan includes the following goals and policies related to cultural resources that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal CR 3: The County's historical resources will be preserved and protected.

Policy CR 3.1, Historic Preservation. The County will provide for the identification, protection, enhancement, perpetuation, and use of features that reflect the County's historical, architectural, Native American, archaeological, cultural, and aesthetic heritage.

Goal CR 4: The County's known and potential Native American, archaeological, and paleontological resources will be preserved and protected.

Policy CR 4.2, Protection of Native American Cultural Sites. Ensure protection of archaeological sites that are culturally significant to Native Americans, even if they have lost their scientific or archaeological integrity through previous disturbance. Protect sites that have religious or spiritual value, even if no artifacts are present. Protect sites that contain artifacts, which may have intrinsic value, even though their archaeological context has been disturbed.

Policy CR 4.4, Development Activities and Archaeological Sites. Protect archaeological and culturally sensitive sites from the effects of development by avoiding disturbance where feasible. Avoid archaeological resources as the primary method of protection.

Policy CR 4.6, Resources-Based Sensitivity. Protect archaeological resources near streams, springs and water sources, rock outcrops, and significant ridgetops, as these are often indicators of the presence of cultural resources.

The protection of cultural and historical resources is further addressed in the *Parks and Recreation Element* (2006b), though there are no specific goals related to these resources. The *Land Use Element* (2015) also promotes the preservation and restoration of historic buildings; encourages new development in historic areas to be compatible with historic preservation goals, and encourages creating and maintaining open spaces to conserve and protect cultural resources and natural resources, including geologic features (e.g., paleontological resources).

CITY OF PASO ROBLES GENERAL PLAN

The *Conservation Element* (2003a) of the City of Paso Robles General Plan contains the following goals and policies related to cultural resources that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal C-6: Strive to preserve/protect important historic and archaeological resources.

Policy C-6A, Historic Resources. Encourage the preservation and restoration of historic buildings in the downtown and the Vine Street neighborhood.

Policy C-6B, Archaeological Resources. Strive to preserve/protect "unique archaeological resources" as defined by the California Environmental Quality Act (CEQA).

Historic buildings and neighborhoods are also addressed in the *Land Use Element* of the General Plan.

CITY OF PASO ROBLES HISTORIC PRESERVATION ORDINANCE

The City of Paso Robles Historic Preservation Ordinance outlines the procedures and regulations for the recognition, preservation, protection, and use of the City's historic resources. Although the ordinance focuses mainly on the preservation of buildings or structures, it does mention the inclusion of archaeological sites within the criteria for designating a resource as a City Historic Landmark. Section 21.50.080.B of the ordinance uses the National Register of Historic Places (NRHP) criteria for determining inclusion as a City landmark. Thus, a resource is eligible as a City

landmark if it "reflects special elements of the City's… archaeological… development," or "has yielded or has the potential to yield information important to the history or prehistory of Paso Robles, California, or the nation."

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space and Conservation and Element* (2002a) includes the following policies related to cultural resources that are potentially relevant to Alternative BS-2:

> *Policy 6.2.* Protect prehistoric cultural resources from disturbance associated with development.
>
> Programs:
>
> 5. If determined appropriate by a qualified archaeologist, actively involve Native Americans with any work located within known archaeological sites.
> 6. If archaeological resources are unearthed during construction, suspend all earth-disturbing work until appropriate mitigation is established.
>
> *Policy 6.4.* Encourage conservation and preservation of structures and houses that have historical and architectural significance.

A.6 ENERGY

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Conservation and Open Space Element* of the County of San Luis Obispo's General Plan contains the following goals and policy that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

> **Goal E 1:** The County will have an environmentally sustainable supply of energy for all county residents.
>
> **Goal E 6:** The use of renewable energy resources will be increased.
>
> **Goal E 7:** Design, siting, and operation of non-renewable energy facilities will be environmentally appropriate.
>
> *Policy E 7.1, Non-Renewable Energy Facility Siting.* Energy, fossil fuel, and related facilities will be sited, constructed, and operated in a manner to protect the public from potential hazards and significant environmental impacts.

COUNTY OF SAN LUIS OBISPO ENERGYWISE PLAN 2016 UPDATE

The County of San Luis Obispo's *EnergyWise Plan 2016 Update* contains the following community-wide goals that may relate to the Proposed Project, reasonably foreseeable distribution components, and alternatives (San Luis Obispo County 2016a):

Goal C1: Address future energy needs through increased conservation and efficiency in all sectors.

Goal C2: Increase the production of renewable energy from small-scale and commercial-scale renewable energy installations to account for 10% of total local energy use by 2020.

Goal C5: Reduce transportation emissions through improvements in vehicle fuel efficiency, expansion of non-auto modes of travel, and implementation of smart growth land use policies.

CITY OF PASO ROBLES CLIMATE ACTION PLAN

The City of Paso Robles *Climate Action Plan* (2013) contains the following energy measures and actions that may relate to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

- Installation of Solar Energy;
- Construction and Demolition Debris Diversion, and
- Green Waste Diversion.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space, and Conservation Element* (2002a) includes the following policy related to energy that are potentially relevant to Alternative BS-2:

Policy 10.6. Utilize new technologies to improve convenience for City residents, reduce dependency on nonrenewable resources, increase ecological and financial efficiencies, and better inform the citizenry.

A.7 GEOLOGY, SOILS, SEISMICITY, AND PALEONTOLOGICAL RESOURCES

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Safety Element* (1999) and *Conservation and Open Space Element* (2010) of the County of San Luis Obispo General Plan include the following goals and policies related to geology, soils, seismicity, and paleontological resources that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Goal S-5: Minimize the potential for loss of life and property resulting from geologic and seismic hazards.

Policy S-18, Fault Rupture Hazards. Locate new development away from active and potentially active faults to reduce damage from fault rupture. Fault studies may need to include mapping and exploration beyond project limits to provide a relatively accurate assessment of a fault's activity. The County will enforce applicable regulations of the

Alquist-Priolo Earthquake Fault Zoning Act pertaining to fault zones to avoid development on active faults.

Policy S-19, Reduce Seismic Hazards. The County will enforce applicable building codes relating to the seismic design of structures to reduce the potential for loss of life and reduce the amount of property damage.

Policy S-20, Liquefaction and Seismic Settlement. The County will require design professionals to evaluate the potential for liquefaction or seismic settlement to impact structures in accordance with the currently adopted Uniform Building Code.

Policy S-21, Slope Instability. The County acknowledges that areas of known landslide activity are generally not suitable for residential development. The County will avoid development in areas of known slope instability or high landslide risk when possible and continue to encourage that developments on sloping ground use design and construction techniques appropriate for those areas.

Goal SL-1: Soils will be protected from wind and water erosion, particularly that caused by poor soil management practices.

Policy SL-1.2, Promote Soil Conservation Practices in All Land Uses. Require erosion and sediment control practices during development or other soil- disturbing activities on steep slopes and ridgelines. These practices should disperse stormwater so that it infiltrates the soil rather than running off and protects downslope areas from erosion.

Policy SL-1.3, Minimize Erosion associated with New Development. Avoid development, including roads and driveways, on the steeper portions of a site except when necessary to avoid flood hazards, protect prime soils, and protect sensitive biological and other resources. Avoid grading and site disturbance activities on slopes over 30 percent. Minimize site disturbance and protect existing vegetation as much as possible.

CITY OF PASO ROBLES GENERAL PLAN

The *Safety Element* (City of Paso Robles 2003d) of the City of Paso Robles General Plan contains the following goal, policy, and action items related to geology, soils, seismicity, and paleontological resources that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal S-1: Minimize exposure to natural and manmade hazards.

Policy S-1D, Structural Safety. Rely on the City's planning and building permit review process to ensure that existing and proposed structures are adequately designed, and to reduce susceptibility to damage from fire, flooding, and geologic hazards.

Action Item 3. Require structures identified as being located in hazardous areas to be brought into conformance with acceptable levels of risk.

Action Item 4. Discourage the locating of critical facilities within identified hazard areas.

Action Item 6. Prohibit construction within seismic and geologic hazards areas, including: areas directly astride known active or potentially active faults or fault

zones; areas in high landslide risk areas without site-specific slope stability investigations; and areas of potential liquefaction without site-specific analysis of liquefaction potential.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space and Conservation Element* (2002a) and *Safety and Noise Element* (2002b) include the following goals and policies related to geology, soils, seismicity, and paleontological resources that are potentially relevant to Alternative BS-2:

Policy 5.3. Prevent unnecessarily intensive grading of development sites.

Policy 10.5. Encourage soil conservation by minimizing grading and preventing erosion.

Goal SFN 4. Minimize the potential for loss of life and property resulting from geologic and seismic hazards.

Policy 4.1. Ensure that developments, structures, and public facilities adequately address geologic and seismic hazards.

*Policy 4.*2. Ensure that structures are designed and located to withstand strong groundshaking, liquefaction, and seismic settlement.

A.8 GREENHOUSE GAS EMISSIONS

SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT

SLOCAPCD has established thresholds of significance for a project's amortized construction plus operational-related greenhouse gas (GHG) emissions. For land use development projects, the threshold is compliance with a GHG Reduction Strategy, or annual emissions less than 1,150 million metric tons of carbon dioxide equivalents per year (MT CO2e/yr), or 4.9 million metric ton of carbon dioxide equivalents per service population per year (MT CO2e/service population/yr). For industrial and stationary-source projects, the threshold is 10,000 MT CO2e/yr.

COUNTY OF SAN LUIS OBISPO ENERGYWISE PLAN 2016 UPDATE

The County's *EnergyWise Plan 2016 Update* contains the following goals for GHG emissions reduction that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal C1: Address future energy needs through increased conservation and efficiency in all sectors.

Goal C2: Increase the production of renewable energy from small-scale and commercial-scale renewable energy installations to account for 10% of total local energy use by 2020.

Goal C5: Reduce transportation emissions through improvements in vehicle fuel efficiency, expansion of non-auto modes of travel, and implementation of smart growth land use policies.

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Conservation and Open Space Element* of the County of San Luis Obispo General Plan contains the following goals, policies, and implementation strategies that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal AQ 1: Per capita vehicle-miles-traveled countywide will be substantially reduced consistent with statewide targets.

Goal AQ 4: Greenhouse gas emissions from County operations and communitywide sources will be reduced from baseline levels by a minimum of 15% by 2020.

Policy AQ 4.4, Development Projects and Land Use Activities. Reduce greenhouse gas emissions from development projects and other land use activities.

Policy AQ 4.6, Regional Organizations. Collaborate and coordinate with regional organizations and local jurisdictions to reduce greenhouse gas emissions.

Implementation Strategy AQ 4.6.1: Partnerships with Utilities. Work with utilities to reduce greenhouse gas emissions and energy use.

CITY OF PASO ROBLES CLIMATE ACTION PLAN

The City of Paso Robles Climate Action Plan contains measures and implementation actions to take to reduce GHG emissions, including the following that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, or alternatives:

- Installation of Solar Energy;
- Construction and Demolition Debris Diversion, and
- Green Waste Diversion.

CITY OF ATASCADERO GENERAL PLAN

No goals or policies in the City of Atascadero General Plan relates directly to GHG emissions and Alternative BS-2.

A.9 HAZARDS AND HAZARDOUS MATERIALS

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Safety Element* (1999) of the County of San Luis Obispo General Plan includes the following policies pertaining to hazards and hazardous materials that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

> *Policy S-24, Aircraft Hazards.* Reduce the potential for disaster from airport and land use conflicts in conjunction with the Airport Land Use plans.
>
> *Policy S-26, Hazardous Materials.* Reduce the potential for exposure to humans and the environment by hazardous substances.
>
> > Standard S-69: Hazardous Materials Transport. Work with CalTrans to require all transport of hazardous materials to follow CalTrans approved routes.

COUNTY OF SAN LUIS OBISPO MULTI-JURISDICTIONAL LOCAL HAZARD MITIGATION PLAN

The County of San Luis Obispo is currently revising its 2014 Local Hazard Mitigation Plan (LHMP). The County's LHMP addresses earthquakes and liquefaction, floods, landslides, tsunami and seiche, wildfire, extreme weather, coastal storms and erosion, biological agents, and pest infestation and disease. The plan assesses community vulnerability and mitigation capabilities, and provides mitigation strategies, a mitigation action plan, and an implementation program.

COUNTY OF SAN LUIS OBISPO HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN

The County of San Luis Obispo's Hazardous Materials Emergency Response Plan (County of San Luis Obispo 2013) establishes the County's response organization, command authority, responsibilities, functions and interactions required to mitigate hazardous material incidents so life, property, and the environment may be saved from the effects of such incidents. The objectives of the Hazardous Materials Emergency Response Plan are as follows:

1. To provide a basic overview of the threats from hazardous material emergencies in San Luis Obispo County;
2. Provide an overall concept which enhances the protection of the public in the event of an emergency;
3. Provide an overview of emergency public alert and notification systems and messages which can be provided to the public in the affected area;
4. Delineate the respective authorities and responsibilities of federal, state, and local agencies; and

5. Outline the concept of operations, emergency organization, management, and supporting systems required to implement this plan.

AIRPORT LAND USE PLAN FOR THE PASO ROBLES MUNICIPAL AIRPORT

The Airport Land Use Plan (ALUP) for the Paso Robles Municipal Airport was adopted by the San Luis Obispo Airport Land Use Commission (ALUC) in 1977. The ALUP sets forth policies to promote compatibility between the Paso Robles Municipal Airport and future land uses in the surrounding area by establishing a set of compatibility criteria that is applicable to new development. The plan provides the basis by which the ALUC can carry out its land use development review responsibilities in accordance with Section 21670 et seq. of the California Public Utilities Code.

The ALUC has adopted Federal Aviation Regulations Part 77, "Objects Affecting Navigable Airspace," using imaginary surfaces to determine height restrictions for natural and artificial objects. Penetration of these imaginary surfaces by permanent structures will endanger pilots and passengers of aircraft operating at the airport and will pose a hazard to persons occupying those structures. The ALUP includes specific land use policies within six defined safety zones to minimize risks to the safety and property of persons on the ground associated with potential aircraft accidents and to enhance the changes for survival of the occupants involved in an accident. Although the ALUP Land Use Compatibility Matrix contains a blanket prohibition of electric power plants and overhead transmission lines in all zones (ALUC 1977; Table 6 Paso Robles Municipal Airport Land Use Compatibility Matrix), applicable federal regulations allow utility line facilities within prescribed height limits.

CITY OF PASO ROBLES GENERAL PLAN

The *Safety Element* (City of Paso Robles 2003d) of the City of Paso Robles General Plan contains one goal and two policies related to hazards and hazardous materials that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal S-1: Minimize exposure to natural and manmade hazards.

Policy S-1D, Structural Safety. Rely on the City's planning and building permit review process to ensure that existing and proposed structures are adequately designed, and to reduce susceptibility to damage from fire, flooding, and geologic hazards.

Policy S-1E, Hazardous Materials. The City shall comply with Government code requirements regarding the use, storage, and transportation of hazardous materials.

CITY OF PASO ROBLES LOCAL HAZARD MITIGATION PLAN

The City of Paso Robles LHMP assesses the risks posed by natural and human-caused hazards and develops a mitigation strategy for reducing the City's risks (City of Paso Robles 2016). The LHMP identifies and profiles hazards, the people and facilities at risk, and mitigation actions to reduce or eliminate hazard risk. The plan addresses dam failure inundation, drought, earthquakes, expansive soil, extreme heat, flood, extreme cold, land subsidence, landslides, and hazardous materials.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Safety and Noise Element* (2002b) includes the following goal and policy related to hazards and hazardous materials that are potentially relevant to Alternative BS-2:

Goal SFN 5. Reduce the potential for harm to individuals and damage to the environment from hazardous materials, radiation, electromagnetic fields, radon, and unsafe trees and structures.

Policy 5.1. Reduce the potential for exposure to humans and the environment from hazardous substances.

Programs:

1. Require businesses that use, store, or transport hazardous materials to ensure that adequate measures are taken to protect public health and safety.

A.10 HYDROLOGY AND WATER QUALITY

COUNTY OF SAN LUIS OBISPO STORMWATER MANAGEMENT PROGRAM

The County of San Luis Obispo's Stormwater Management Program (SWMP) defines the method for selecting and prioritizing stormwater best management practices (BMPs) for projects within the County's jurisdiction and provides a description, timetable, and set of measurable goals for each. The SWMP assigns responsibilities for implementation and describes the method for updating the SWMP and submitting annual reports. The SWMP also provides an integrated approach for prevention of pollution from stormwater runoff in San Luis Obispo County. The program relies heavily on public education and outreach and public participation and involvement to prevent pollution problems at the source. The program seeks to employ the most cost-effective means to achieve the objectives of the National Pollutant Discharge Elimination System (NPDES) Phase II Final Rule and the Municipal Separate Storm Sewer System (MS4) General Permit, and to coordinate stormwater runoff pollution prevention efforts throughout the county (NEET West and PG&E 2017).

COUNTY OF SAN LUIS OBISPO PUBLIC IMPROVEMENT STANDARDS

The County of San Luis Obispo's Public Improvement Standards consist of three major components: design standards, construction specifications, and standard construction drawings. The standards cover improvement plans, site preparation and earthwork, roadways, road edges, storm drainage, water supply, wastewater disposal, utilities, traffic control, and project completion. The standards establish the minimum requirements for the design and construction of any public improvement within County jurisdiction in San Luis Obispo County, including any subdivision or land use permit where the improvement is determined to be of sufficient public benefit that compliance with the standards is required by the conditions of County approval (NEET West and PG&E 2017; County of San Luis Obispo 2019b).

COUNTY OF SAN LUIS OBISPO STORMWATER POLLUTION PREVENTION AND DISCHARGE CONTROL ORDINANCE (TITLE 8.68)

The stated purpose of this County ordinance is to ensure the health, safety, and general welfare of the citizens of San Luis Obispo County by protecting and enhancing the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Clean Water Act (CWA) by:

1. Controlling non-stormwater discharges to the municipal separate storm drain system;
2. Reducing pollutants in the stormwater discharges to the maximum extent practicable, and
3. Protecting urban watercourses from pollution.

COUNTY OF SAN LUIS OBISPO GRADING AND DRAINAGE REGULATIONS

Chapter 22.52 of the County of San Luis Obispo Code outlines grading and drainage regulations to minimize erosion and sedimentation; reduce the harmful effects of stormwater runoff; encourage groundwater recharge; reduce drainage problems from new development, and enhance slope stability, among others. The chapter addresses compliance with the NPDES Phase II stormwater regulations and sets forth local stormwater requirements, to avoid pollution of watercourses with sediments or other pollutants generated on or caused by surface runoff on or across construction sites.

PASO ROBLES STORMWATER MANAGEMENT PROGRAM

The City of Paso Robles is enrolled in the Phase II Municipal Storm Water Program as required by the State Water Resources Control Board (SWRCB) (City of Paso Robles 2020). The program requires the City to develop and implement an SWMP in order to reduce or eliminate pollutants in stormwater runoff and non-stormwater discharges for projects within City jurisdiction. The SWMP describes the BMPs, measurable goals, and timetables for implementation of the following minimum control measures (City of Paso Robles 2020):

- Construction site stormwater runoff control;
- Illicit discharge detection and elimination
- Pollution prevention/good housekeeping for municipal operations;
- Post-construction stormwater runoff management, and
- Public education and public participation.

PASO ROBLES GROUNDWATER BASIN MANAGEMENT PLAN

The Paso Robles Groundwater Basin Management Plan (City of Paso Robles 2011) is a collaborative effort between the County Flood Control and Water Conservation District and the City. The plan was developed in light of a recent monitoring report indicating that some areas of

the basin were experiencing significant declines in groundwater elevation despite the fact that outflows were calculated to be at or below annual yield. The purpose of this plan is to develop a common understanding of the groundwater issues and management opportunities in the basin and identify and support projects such as conjunctive use, recycled wastewater, and demand management, which will improve groundwater management (NEET West and PG&E 2017; City of Paso Robles 2011).

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan, in the *Conservation and Open Space Element* (County of San Luis Obispo 2010) and *Safety Element* (County of San Luis Obispo 1999), includes the following goals and policies related to hydrology and water quality that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal 3. Excellent water quality will be maintained for the health of people and natural communities.

Goal 6. Damage to life, structures, and natural resources from floods will be avoided.

Policy WR 6.4. Assure that proposed development integrates ecosystem enhancement, drainage control, and natural recharge as applicable.

Goal S-2. Reduce damage to structures and the danger to life caused by flooding, dam inundation, and tsunamis.

Policy S-8. Strictly enforce flood hazard regulations both current and revised. Federal Emergency Management Agency (FEMA) regulations and other requirements for the placement of structures in flood plains shall be followed. Maintain standards for development in flood-prone and poorly drained areas.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Conservation Element* (City of Paso Robles 2003a) and *Safety Element* (City of Paso Robles 2003d) contain the following goals and policies related to hydrology and water quality that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal C-1: Utilities and Infrastructure. Ensure that public utilities, facilities, and services are designed to meet existing and planned land uses, and ensure that provisions are made for continued operation maintenance, and updates as necessary.

Policy C-1A: Water Source, Supply, and Distribution. Develop and implement various innovative water provision and conservation programs that help to ensure an adequate supply of water for the City.

Policy C-1C: Storm Drainage. Provide storm drain systems that efficiently and safely mitigate flood risk, while effectively managing storm water through implementation of LID features, so that downstream run-off is limited to pre-development volumes and

velocity before it is conveyed to the Salinas River, Huerhuero Creek, and their tributaries.

Goal S-1: Minimize exposure to natural and manmade hazards.

Policy S-1G. Maintain the structural and operational integrity of essential public facilities during flooding by taking safe guards such as locating new facilities outside of flood zones or areas subject to localized flooding, and audit existing facilities in these areas to determine if building upgrades should be considered to reduce the potential for future flooding.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space, and Conservation Element* (2002a) and *Safety and Noise Element* (2002b) include the following goals and policies related to hydrology and water quality that are potentially relevant to Alternative BS-2:

Goal LOC 8. Watershed areas of Atascadero shall be protected.

Policy 8.1. Ensure that development along Atascadero Creek, Graves Creeks, the Salinas River, blue line creeks, and natural springs, lakes, or other riparian areas does not interrupt natural flows or adversely impact riparian ecosystems and water quality.

Policy 8.5. The City shall implement a storm water control program consistent with the requirements of the National Pollution Discharge Elimination System (NPDES) Permit Program (Phase II).

Goal SFN 2. Reduce damage to structures and danger to life caused by flooding and dam inundation.

A.11 LAND USE AND PLANNING

PASO ROBLES MUNICIPAL AIRPORT LAND USE PLAN

As described above in Section A.9, "Hazards and Hazardous Materials," the Paso Robles Municipal ALUP sets forth policies to promote compatibility between the Paso Robles Municipal Airport and future land uses in the surrounding area. The plan provides the basis by which the ALUC can carry out its land use development review responsibilities in accordance with Section 21670 et seq. of the California Public Utilities Code. Land use planning areas within the ALUP area consist of six safety zones and a single noise overlay zone (ALUC 2007). Safety policies established for each safety zone were designed to minimize the risks to the safety and property of persons on the ground associated with potential aircraft accidents and to enhance the chances for survival of the occupants involved in an accident, which takes place beyond the immediate runway environment (ALUC 2007).

Section 5 of the ALUP contains the land use matrix, which indicates which land uses are compatible or prohibited in each of the six safety zones established for the airport. The portion of the matrix containing land uses that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives is reproduced below.

[ALUP] Table 6. Paso Robles Municipal Airport Land Use Compatibility Matrix[1]

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Institutional, Public & Quasi-Public						
Public Utility Facilities (except Electric Plants)	O[2]	O	O	O	O	O
Electric Power Plants and Overhead Transmission Lines	X	X	X	X	X	X

NOTES:

1. Land use groups are identified as being "compatible" or "prohibited" using the following interpretations:

   Compatible – Compatible land uses are designated in the Land Use Matrix by the symbol "O". The associated land use groups are at a level of intensity or density, or location, which is not considered to present a significant risk to the safety of persons on the ground or to persons in aircraft overflying the proposed use, nor are the land use groups sensitive to anticipated aircraft noise or frequent aircraft overflights.

   Prohibited – Prohibited land uses are designated in the Land Use Matrix by the symbol "X". The associated land use groups are at a level of intensity or density, or location, which presents a significant risk to the safety of persons on the ground or to persons in aircraft overflying the proposed use, or the land use groups are sensitive to anticipated aircraft noise or frequent aircraft overflights.
2. Allowed when the use is secondary to other uses.

Source: ALUC 2007

As shown in the above table, overhead transmission lines are prohibited uses in all safety zones. The ALUP further defines above-ground electric transmission lines as "hazardous materials" that could substantially contribute to the severity of an aircraft accident if they were to be involved in one.

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo's General Plan guides development within unincorporated areas of the county. The Land Use and Circulation Elements (LUCE) of the County's General Plan are divided into four major sections:

- Framework for Planning – Inland Area (Part I);
- The Area Plans (Part II);
- The Community/Village Plans (Part III), and
- The Official Maps (Part IV).

The first two sections are discussed below. The Proposed Project, reasonably foreseeable distribution components, and alternatives are not located in any areas that are covered under the Community/Village Plans (Part III). The Official Maps (Part IV) are the maps that show how the land use categories and combining designations are applied to each parcel of land in the county.

The Framework for Planning – Inland Area (LUCE Part I)

The Framework for Planning – Inland Area describes the official County policies on the location of land uses and their orderly growth and development, and represents the County's values and goals regarding land use in each unincorporated community and the rural areas of the county (County of San Luis Obispo 2015). Below are principles and policies from the Framework for Planning – Inland Area that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Principle 1: Preserve open space, scenic natural beauty and natural resources. Conserve energy resources. Protect agricultural land and resources.

Policy 3. Preserve and sustain important water resources, watersheds and riparian habitats.

Policy 5. Conserve energy resources by:

a. Decreasing reliance on environmentally costly energy sources, increasing conservation efforts, and encouraging use of alternative energy sources.

Policy 7. Give highest priority to avoiding significant environmental impacts from development through site and project design. Where such impacts cannot be avoided, minimize them to the maximum extent feasible.

The Area Plans (LUCE Part II)

The LUCE Part II is comprised of four inland planning areas and their area plans: Carrizo, North County, San Luis Obispo, and South County (County of San Luis Obispo 1980). The Proposed Project area, reasonably foreseeable distribution components, and alternatives are located within the North County Planning Area, and therefore are covered under the North County Area Plan (County of San Luis Obispo 2014a).

North County Area Plan

Within the North County Planning Area, the Proposed Project, reasonably foreseeable distribution components, and alternatives are located within both the El Pomar-Estrella and Salinas River sub-areas. Goals and policies within the North County Area Plan are identified by sub-area, as discussed further below. The North County Area Plan also discusses categories called combining designations, which are special overlay categories applied in areas of the county with hazardous conditions or special resources (County of San Luis Obispo 2014a). More detailed project review is needed in these areas to avoid adverse environmental impacts or effects of hazardous conditions.

El Pomar-Estrella Sub-Area

The following goals and policies from the El Pomar-Estrella Sub-Area are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives (County of San Luis Obispo 2014a):

Goal 1: Land use consistent with the area's heritage and historic rural character.

Goal 5: Natural resources that are protected and reserved.

Policy 1. Preserve agricultural operations by directing new development toward existing communities and subdivisions and away from agricultural uses, requiring new development to mitigate its impacts on existing agricultural operations, and supporting and maintaining the County Right-to-Farm Ordinance.

Policy 3. Protect the area near Paso Robles and the airport for agricultural use, and avoid any land use category changes that would diminish its agricultural potential and introduce non-agricultural uses in the area.

Salinas River Sub-Area

Goals for the Salinas River Sub-Area that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives include the following (County of San Luis Obispo 2014a):

Goal 12. Preserve or minimize impacts to important native habitats, such as significant stands of oak woodlands, riparian vegetation and important wildlife corridors.

Goal 13. Recognize the importance of the Salinas River as a natural and multi-use resource, and permit development that will minimize or avoid impacts to this resource.

COUNTY OF SAN LUIS OBISPO LAND USE ORDINANCE (TITLE 22 OF THE SAN LUIS OBISPO COUNTY CODE)

The County's Land Use Ordinance is the primary tool it uses to carry out the goals, objectives, and policies of the General Plan (County of San Luis Obispo 2017). Table 2-2, "Allowable Land Uses and Permit Requirements" in the Land Use Ordinance states that transmission lines are an allowable use on all types of designated land uses except for open space where they are a permitted use. Table 2-2 also states that public utility facilities are an allowable use, subject to the land use permit required by Section 22.08.030, Table 2-3, on lands designated as Commercial/Service and Industrial. Similar to transmission lines, public utility facilities are a permitted use in open space. Public utility facilities are subject to a conditional use permit if they will be constructed on any other land use types.

When not preempted by state law, the County land use ordinance includes standards that project proponents must adhere to in order for their project to be approved. These standards include environmental quality assurance (schedule and plan for monitoring, demonstration of compliance with Conditional Use Permit), clearing and revegetation (minimizing how much vegetation is removed, topsoil salvage, replanting), and fencing and screening (creating a visual barrier).

CITY OF PASO ROBLES GENERAL PLAN

The *Land Use Element* (City of Paso Robles 2003b) of the City of Paso Robles General Plan establishes a planned land use pattern and long-range policies to guide growth within the City limits and Sphere of Influence. Goals and policies in the *Land Use Element* that are potentially

relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives include the following:

Goal LU-2: Image/Identity. Maintain/enhance the City's image/identity.

Policy LU-2B, Visual Identity. Promote architectural and design excellence by imposing stringent design and construction standards for commercial, industrial, mixed-use, and multi-family projects.

Policy LU-2E: "Purple Belt" (Open Space/Conservation Areas Around the City). Create a distinct "Purple Belt" surrounding the City by taking actions to retain the rural, open space, and agricultural areas.

Policy LU-2K: Support Environmental Responsibility. Manage the natural landscape to preserve the natural beauty and rural identity of the community, which enhances ecological functions and maintains environmental and public health.

CITY OF PASO ROBLES ZONING ORDINANCE

The City of Paso Robles Zoning Ordinance identifies permitted activities/developments within City zoning districts. The following shows the City of Paso Robles regulations for transmission lines and electric substations in zoning districts that occur along or within the Proposed Project, reasonably foreseeable distribution components, and alternatives.

P (permitted use) denotes a land use which is permitted.

C (conditional use) denotes a land use which requires approval of a conditional use permit (CUP).

	Zoning District									
Land Use	**AG**	**RA**	**R1**	**R2**	**C1**	**C3**	**RC**	**PM**	**AP**	**POS**
Power transmission lines	C	C	C	C	P	P	P	P	P	P
Substations	C	C	C	C	C	C	C	C	C	P

Zoning Districts: agriculture (AG); residential agriculture (RA); single-family residential (R1); duplex/triplex (R2); general retail commercial (C1); commercial/light industry (C3); regional commercial (RC); planned industrial (PM); airport planned (AP), and; parks and open space (POS).

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space and Conservation Element* (2002a) includes the following policy related to land use that is potentially relevant to Alternative BS-2:

Policy 1.3. Enhance the rural character and appearance of the City, including commercial corridors, gateways and public facilities.

Programs:

1. Require landscaping and/or screening to buffer non-residential uses from residential areas.

Policy 2.1. Ensure that new development is compatible with existing and surrounding neighborhoods.

A.12 MINERAL RESOURCES

COUNTY OF SAN LUIS OBISPO LAND USE ORDINANCE (TITLE 22 OF THE SAN LUIS OBISPO COUNTY CODE)

The County's Land Use Ordinance provides regulations for development in delineated Energy and Extractive Resource Areas (EX) and Extractive Resource Areas (EX1). The EX combining designation is used to identify areas of the county where:

- Mineral or petroleum extraction occurs or is proposed to occur;
- The state geologist has designated a mineral resource area of statewide or regional significance pursuant to PRC Sections 2710 et seq. (SMARA), and
- Major public utility electric generation facilities exist or are proposed.

The EX1 combining designation, by contrast, is used to identify areas of the county that the California Geological Survey (CGS) has classified as containing or being highly likely to contain significant mineral deposits. This designation is used to protect existing resource extraction operations from encroachment by incompatible land uses that could hinder resource extraction.

For projects within County jurisdiction, discretionary approval of any use other than energy production or mineral resource extraction may be granted by the County only when the finding is made that the proposed use would not adversely affect the continuing operation or expansion of the energy or extraction use (LUO 22.14.040 and 22.14.050).

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Conservation and Open Space Element* (County of San Luis Obispo 2010) of the County of San Luis Obispo General Plan establishes goals, policies, and implementation measures for the protection and preservation of natural resources, including mineral resources. The following goals and policies are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal MN 2: Significant mineral resources will be protected from land uses that threaten their availability for future mining.

Policy MN 2.1, Protect Mineral Resources. Protect mineral and aggregate resources from incompatible uses in designated areas likely to contain significant mineral deposits in order that such deposits may be available for future use. Extract in-stream aggregate materials in a sustainable manner that balances the rate of extraction with the rate of natural replenishment.

> *Policy MN 2.2, Incompatible Development.* Protect existing resource extraction operations from encroachment by incompatible land uses, land use category changes, and land divisions that could hinder resource extraction.

CITY OF PASO ROBLES GENERAL PLAN

No goals or policies in the City of Paso Robles General Plan related to mineral resources are relevant to the Proposed Project, reasonably foreseeable distribution components, or alternatives.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space and Conservation Element* (2002a) includes the following policy related to mineral resources that are potentially relevant to Alternative BS-2:

> *Policy 10.4.* Ensure that development in mineral resource areas is appropriate and compatible with existing uses.

A.13 NOISE

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan *Noise Element* (County of San Luis Obispo 1992) contains the following goals and policies that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal 1: To protect the residents of San Luis Obispo County from the harmful and annoying effects of exposure to excessive noise.

Goal 2: To protect the economic base of San Luis Obispo County by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

Goal 3: To preserve the tranquility of residential areas by preventing the encroachment of noise-producing uses.

Goal 5: To avoid or reduce noise impacts through site planning and project design, giving second preference to the use of noise barriers and/or structural modifications to buildings containing noise-sensitive land uses.

> *Policy 3.3.5:* Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated as follows and shall be the responsibility of the developer of the stationary noise source:
>
> …
>
> c. Noise levels shall be reduced to or below the noise level standards in Table 3-2 where the stationary noise source will expose an <u>existing</u> noise-sensitive land use

(which is listed in the Land Use element as an allowable use within its existing land use category) to noise levels which exceed the standards in Table 3-2. When the affected noise-sensitive land use is Outdoor Sports and Recreation, the noise level standards in Table 3-2 shall be increased by 10 Db.

Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be fifty dB between 10 p.m. and 7 a.m. and fifty-five dB between 7 a.m. and 10 p.m., determined at the property line of the receiving land use: the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, Highway 1 between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations.

d. Noise levels shall be reduced to or below the noise level standards in Table 3-2 where the stationary noise source will expose vacant land in the Agriculture, Rural Lands, Residential rural, Residential Suburban, Residential Single-Family, Residential Multi-Family, Recreation, Office and Professional, and Commercial Retail land use categories to noise levels which exceed the standards in Table 3-2.

   Where the noise source is one of the following electrical substations which is not modified so as to increase noise levels, the noise standards shall instead be fifty dB between 10 p.m. and 7 a.m. and fifty-five dB between 7 a.m. and 10 p.m., determined at the property line of the receiving land use: the Cholame, San Miguel, Templeton, Cambria, Perry, Cayucos, Baywood, Highway 1 between Morro Bay and the California Men's Colony, Goldtree, Foothill, San Luis Obispo, Oceano, Mesa, Union Oil, Callender, and Mustang electrical substations.

   This policy may be waived when the Director of Planning and Building determines that such vacant land is not likely to be developed with a noise sensitive land use.

…

[General Plan] Table 3-2. Maximum Allowable Noise Exposure-Stationary Noise Sources[1]

	Daytime (7 a.m. to 10 p.m.)	**Nighttime[2] (10 p.m. to 7 a.m.)**
Hourly L_{eq9}, dB	50	45
Maximum level, dB	70	65
Maximum level, dB-Impulsive Noise	65	60

[1] As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

[2] Applies only where the receiving land use operates or is occupied during nighttime hours.

COUNTY OF SAN LUIS OBISPO NOISE ORDINANCE

The County of San Luis Obispo Noise Ordinance is largely consistent with the policies and standards outlined in the General Plan Noise Element (see above). However, the Noise Ordinance specifically exempts construction activities from the exterior noise level standards provided that they do not occur before 7 a.m. or after 9 p.m. any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday (Section 23.06.042 [d]). The County Noise Ordinance includes the same exterior noise level standards as shown in Table 3-2 of the Noise Element, and includes the same provisions for electrical substations described in the Noise Element.

CITY OF PASO ROBLES MUNICIPAL CODE

The City of Paso Robles Municipal Code contains the following regulations that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

> Chapter 9.07 – PROHIBITED CONDUCT
>
> 9.07.030 – Description of representative offensive conduct.
>
> The following acts, among others, are declared to be loud, disturbing and unnecessary noises in violation of this section, but said enumeration shall not be deemed to be exclusive namely:
>
> …
>
> j) Construction or repairing of buildings. The erection (including excavating), demolition, alteration or repair of any building or general land grading and contour activity using equipment in such a manner as to be plainly audible at a distance of fifty feet from the building other than between the hours of seven a.m. and seven p.m. except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the zoning administrator, which permit may be granted for a period not to exceed three days or less while the emergency continues and which permit may be renewed for periods of three days or less while the emergency continues. If the building inspector should determine that the public health and safety will not be impaired by the erection, demolition, alteration or repair of any building or the excavation of streets and highways within the hours of seven p.m. and seven a.m., and if he shall further determine that loss or inconvenience would result to any party in interest, he may grant permission for such work to be done within the hours of seven p.m. and seven a.m. upon application being made at the time the permit for the work is awarded or during the progress of the work.
>
> …
>
> l) Pile drivers, hammers, etc. The operation between the hours of seven p.m. and seven a.m. of any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other appliance, the use of which is attended by loud or unusual noise except in case of urgent necessity in the interest of public health and safety, and then only with a permit from the building inspector or the director of public services authorizing such

devices to be operated during the otherwise prohibited hours while the emergency continues.

Chapter 21.60 – NOISE

21.60.060 – Exterior and interior noise standards.

A. The noise standards contained in Table 1 below, unless otherwise specifically indicated in this chapter, shall apply to all noise-sensitive exterior and interior areas within the city.

B. It is unlawful for any person at any location within the city to create any noise which causes the noise levels on an affected property, when measured in the designated sensitive exterior or interior location, to exceed the noise standards specified below in Table 1.

Table 1. Exterior Noise Standards for Locally Regulated (non-transportation) Noise Sources Paso Robles Noise Control Ordinance

Receiving Land Use	Period[3]	Exterior Areas[1]		Interior Spaces[2]	
		Lmax[4]	Leq[5]	Lmax[4]	Leq[5]
Residential	Day	75	55	60	45
	Evening	70	50	55	40
	Night	65	45	45	35
Mixed Use Residential	Day	-	-	60	45
	Evening	-	-	55	40
	Night	-	-	45	35
Hotels, Hospitals[6] & Nursing Homes	Day	75	60	60	45
	Evening	75	55	55	40
	Night	70	50	45	35
Uptown Town Center S.P. Are (UTCSP) Residential	Day	80	60	60	45
	Evening	75	55	55	40
	Night	70	50	45	35
Theaters & Auditoriums	Day	75	55	40	35
	Evening	70	50	40	35
	Night	-	-	40	35
Churches, Meeting Halls, Libraries	Day	75	55	55	45
	Evening	70	50	55	40
Schools[7]	Day	-	-	55	40
	Evening	-	-	55	40

Receiving Land Use	Period[3]	Exterior Areas[1]		Interior Spaces[2]	
		Lmax[4]	Leq[5]	Lmax[4]	Leq[5]
Office/Professional	Day	80	60	60	45
	Evening	75	55	60	45
Commercial/Retail Buildings	Day	80	60	60	50
	Evening	75	55	60	50
Playgrounds, Parks, etc.	Day	75	55	-	-
	Evening	75	55	-	-
Industrial	Day	80	60	60	50
	Evening	75	55	60	50

Specific Notes:

1. Noise sensitive areas are defined in the acoustic terminology section.
2. Interior noise level standards are applied within noise-sensitive areas of the various land uses, as defined in the acoustic terminology section, with windows and doors closed.
3. Daytime hours = 7 a.m. to 7 p.m. Evening hours = 7 p.m. to 10 p.m. Nighttime hours = 10 p.m. to 7 a.m.
4. Lmax = Highest measured sound level occurring during a given interval of time (typically 1 hours).
5. Leq = Average or "Equivalent" noise level during the worst-case hour in which the building is in use.
6. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
7. Exterior areas of school uses are not typically noise-sensitive. As a result, the standards for schools are focused on the interior office and classroom spaces.

a. Where the noise source in question consists of speech or music, or is impulsive in nature, or contains a pure tone, the noise standards of this table are reduced by 5 dB.
b. Where ambient noise levels exceed the noise level standards shown above, the noise standards shall be increased in 5 dBA increments to encompass the ambient.
c. Reductions in the noise standards for noise sources identified in general note "A" above shall be applied after any increases warranted by elevated ambient conditions prescribed in general note "B," subject to verification through a noise study.

21.60.090 – Prohibited noise disturbances.

Notwithstanding any of the provisions of this chapter, include full compliance with Table 1 (Section 21.60.060.B.) the following acts are prohibited within the city, subject to the exceptions cited in this chapter:

…

6. Vibration. Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at any

sensitive location if the source is on private property or at one hundred fifty feet from the source if on a public space or public right-of-way.

21.60.100 – Exemptions.

The following sources of noise shall be exempt from the provisions of this chapter:

1. Emergency warning devices and equipment operated in conjunction with emergency situations, such as sirens and emergency generators which are activated during power outages. The routine testing of such warning devices and equipment, including generators, is also exempt provided such testing occurs during daytime hours.

…

5. Construction and demolition activities located within one thousand feet of noise-sensitive land uses provided they occur during normal daytime hours, excluding Sundays and federal holidays, subject to the conditions imposed by city permit. For construction activities, daytime hours are defined as seven a.m. to seven p.m. Construction activities occurring between the hours of seven p.m. and seven a.m. must comply with the interior noise level standards identified in Table 1 unless an exception has been granted by the city planning department. An exception for concrete pours or other construction activities requiring an early morning start time may be authorized by the community development director.
6. Construction and demolition activities located beyond one thousand feet of noise-sensitive land uses, subject to the conditions imposed by city permit. For construction activities, daytime hours are defined as seven a.m. to seven p.m.
7. When an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work outside of the hours delineated above and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

CITY OF ATASCADERO GENERAL PLAN

The following goals in the City of Atascadero General Plan *Safety and Noise Element* (2002b) are potentially relevant to Alternative BS-2:

Goal SFN 6. Protect the citizens of Atascadero from the harmful and annoying effects of exposure to excessive noise.

Goal SFN 7. Protect the economic base of Atascadero by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

Goal SFN 8. Preserve the tranquility of residential areas by preventing the encroachment of noise-producing uses.

Goal SFN 10. Avoid or reduce noise impacts through site planning and project design, giving second preference to the use of noise barriers and/or structural modifications to buildings containing noise-sensitive land uses.

A.14 POPULATION AND HOUSING

SAN LUIS OBISPO COUNCIL OF GOVERNMENTS

The San Luis Obispo Council of Governments (SLOCOG) is a Joint Powers Agency comprising the County of San Luis Obispo and the incorporated cities of Arroyo Grande, Atascadero, Paso Robles, Grover Beach, Morro Bay, Pismo Beach, and San Luis Obispo. SLOCOG prepares the Regional Housing Needs Allocation (RHNA) and the Sustainable Communities Strategy as part of the Regional Transportation Plan. SLOCOG adopted the 2019 RHNA Plan that covers 2020 through 2028 (SLOCOG 2020). This plan does not provide regulation but discloses information on the anticipated growth within the region over the given period, thereby allowing the county and cities to anticipate and plan for this growth.

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan *Housing Element* (County of San Luis Obispo 2014b) provides the framework by which the County identifies long term housing needs, assesses the adequacy of existing housing, and identifies sites for future housing development in sufficient quantity and variety based on projected population growth. The *Housing Element* includes the following goals and policies related to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Overall Goal: Achieve an adequate supply of safe and decent housing that is affordable to all residents of San Luis Obispo County.

Policy HE 1.12: Reduce infrastructure constraints for development of housing to the extent possible. Infrastructure such as sewage disposal systems, water systems, and roads are necessary to support new housing.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Housing Element* (City of Paso Robles 2014) generally seeks to maintain the rural, agricultural atmosphere of the City of Paso Robles area. The following goals in the *Housing Element* potentially relate to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal H-1: Develop a range of housing types, densities, and affordability levels to meet the diverse needs of the community, maintaining a balanced supply of ownership and rental units.

Goal H-3: Preserve the City's neighborhoods in a safe and decent condition and eliminate the causes and spread of blight.

Goal H-4: Mitigate or remove existing and potential governmental constraints to housing production and affordability.

Goal H-6: Design neighborhoods, subdivisions, sites, and housing units to effectively manage natural resources.

CITY OF ATASCADERO GENERAL PLAN

No goals or policies in the City of Atascadero General Plan related to population and housing are potentially relevant to Alternative BS-2.

A.15 PUBLIC SERVICES

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

No goals or policies in the County of San Luis Obispo General Plan are directly related to public services and the Proposed Project, reasonably foreseeable distribution components, and alternatives.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Land Use Element* (City of Paso Robles 2003b) contains the following policy and action item related to public services and the Proposed Project, reasonably foreseeable distribution components, and alternatives:

> *Policy LU-4A: Service Levels.* Strive to ensure that City services and facilities are maintained at current levels and/or adopted standards and are funded as revenues become available. These standards are summarized as follows:
>
> - Police: Maintain a ratio of 0.5 non-sworn personnel per 1,000 population.
> - Emergency Services: Strive to achieve a 4-minute response to 90% of the calls for service. Maintain a ratio of 0.8 to 1.3 firefighters per 1,000 population.
> - Library: Maintain 0.5 square feet per capita of library facilities.
>
> Action Item 1. Direct City revenues toward continuing to fund the public services and on-going maintenance/operation of public facilities and utilities provided by the City (water, sewer, storm drains, police, emergency services, library, recreational services, and solid waste).

CITY OF ATASCADERO GENERAL PLAN

No goals or policies in the City of Atascadero General Plan related to public services are potentially relevant to Alternative BS-2.

A.16 RECREATION

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan *Parks and Recreation Element* (County of San Luis Obispo 2006b) includes the following goals and policies related to recreation and the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal 1: An equitable and quality public park system within San Luis Obispo County.

Policy 2.4: Preserve County parkland for active and passive recreation. Community facilities, which have little to no recreational component, shall be placed outside of an existing or proposed park.

Goal 7: High quality park maintenance that is cost effective and environmentally sensitive.

Policy 2.4: Require new development adjacent to parks, recreation and natural areas to be designed to function with and enhance park resources. Adjacent, new private development should not detract from or use adjacent park or natural area resources for their own private use.

SAN LUIS OBISPO COUNTY BIKEWAYS PLAN

The 2015/2016 *County Bikeways Plan* (County of San Luis Obispo 2016b) identifies and prioritizes bikeway facilities throughout the unincorporated area of the county, including bike lanes, routes, parking, connections with public transportation, educational programs, and funding. The plan outlines bikeway classifications, rules of operation, and standards including design manuals and local planning documents. The plan also summarizes the County's bicycle circulation network including existing and future bicycle facilities, education, demand, safety, and future funding priorities. The Plan identifies River Road as a Class III bikeway, proposed to be improved as a Class II bikeway, located near the Proposed Project and Alternatives SE-PLR-1, SE-1A, and BS-2. There are no other designated County bikeways near the Proposed Project, reasonably foreseeable distribution components, or alternatives.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Parks and Recreation Element* (City of Paso Robles 2003e) includes the following goals, policies, and action items related to recreation and the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal PR-1: Optimize the use and development of parks and recreation facilities to serve the existing and projected population.

Policy PR-1A. Parks and Recreation Facilities. Strive to Achieve a 7-acres per 1,000 population parkland standard.

Action Item 3. Allow activities and land uses near park areas that are compatible with the setting of a park.

CITY OF PASO ROBLES BICYCLE & PEDESTRIAN MASTER PLAN

The City of Paso Robles *Bicycle & Pedestrian Master Plan* (City of Paso Robles 2018) was established to meet the City's goal of becoming a bike and walk-friendly city. The plan sets out to establish better bicycle and pedestrian connections, provide bike and pedestrian safety education, and increase bicycle- and walking-related tourism. The plan implements City of Paso Robles General Plan policies to provide connected neighborhoods and districts so that alternative modes of transportation, such as bicycling and walking, are viable alternatives for transportation.

SALINAS RIVER TRAIL CONCEPTUAL MASTER PLAN

The *Salinas River Trail Conceptual Master Plan* (San Luis Obispo Council of Governments 2014) addresses the development of the Salinas River Trail along a 35-mile section between the communities of San Miguel and Santa Margarita, and defines specific trail alignments within the Salinas River corridor. The *Bicycle and Pedestrian Master Plan* (see above) identifies the proposed Salinas River Trail routes in and around the City of Paso Robles.

CITY OF ATASCADERO GENERAL PLAN

No goals or policies in the City of Atascadero General Plan are directly related to recreation and Alternative BS-2.

A.17 TRANSPORTATION

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan *Land Use and Circulation Elements*, *Framework for Inland Areas* (County of San Luis Obispo 2015) describes the official County policy on the location and orderly development of land uses; correlates land use with transportation, and sets forth programs to implement countywide goals and policies for land use and circulation in the unincorporated areas of the County. The following goals in the *Circulation Element* are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

> **Goal 2:** Plan transportation system improvements to provide for, but not exceed, the capacities that are needed to serve the travel demand generated by the year 2010 population, consistent with the land use patterns allowed by the Land Use Element and the cities' general plans, so that growth is not facilitated or induced in inappropriate amounts or locations.
>
> **Goal 4:** Coordinate the transportation system between different modes of travel, sensitive to the needs and desires of citizens in a manner that will provide an optimum benefit for the investment of public funds.
>
> **Goal 7:** Design a transportation system that provides for safe travel within attainable, feasible economic and technical means.

COUNTY OF SAN LUIS OBISPO ENCROACHMENT PERMITS

The County of San Luis Obispo Department of Public Works issues encroachment permits for construction and other activities proposed in the County right-of-way. The standard conditions of this permit include requirements to minimize inconvenience to the traveling public and ensure that all warning signs, lights, devices, and procedures conform to the latest California Manual of Uniform Traffic Control Devices (CMUTCD) (San Luis Obispo County 2019c).

CITY OF PASO ROBLES GENERAL PLAN

The *Circulation Element* (2019) of the City of Paso Robles General Plan addresses infrastructure needs for the mobility of people, and to support the development of an efficient system allowing travel by multiple modes. The following goal and policies in the *Circulation Element* are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

> **Goal CE-1:** Establish a safe, balanced, efficient, and multimodal circulation system, focusing on the mobility of people, and preserving the City's small town character and quality of life.
>
> > *Policy CE-1B: Reduce Vehicle Miles Traveled (VMT).* The City shall strive to reduce VMT generated per household per weekday by making efficient use of existing transportation facilities and by providing direct routes for pedestrians and bicyclists through the implementation of sustainable planning principles.
> >
> > *Policy CE-1F: Pedestrian and Bicycle Access.* Provide safe and convenient pedestrian and bicycle access to all areas of the city.

CITY OF PASO ROBLES ENCROACHMENT PERMITS

The City of Paso Robles Department of Public Works issues encroachment permits for construction and other activities proposed in the City right of way. The standard conditions of this permit include requirements to minimize inconvenience to the traveling public; ensure that all warning signs, lights, devices, and procedures conform to the latest CMUTCD; and provide traffic control for lane closures in compliance with Caltrans Standard Plans for Traffic Control Systems (City of Paso Robles 2019).

CITY OF ATASCADERO GENERAL PLAN

No goals or policies in the City of Atascadero General Plan directly relate to transportation and Alternative BS-2.

A.18 TRIBAL CULTURAL RESOURCES

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The *Conservation and Open Space Element* (2010) of the County of San Luis Obispo General Plan states that "Cultural resources include sites of important events, traditional cultural places and sacred sites, and places associated with an important person. Sites of important events,

traditional cultural places, and sacred sites, or places associated with an important person may lack obvious physical characteristics."

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Conservation Element* (2003a) includes the following policy and action item related to tribal cultural resources (TCRs) that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

> *Policy C-6B, Archaeological Resources.* Strive to preserve/protect "unique archaeological resources" as defined by the California Environmental Quality Act (CEQA).
>
> Action Item 1. Require the preparation of archaeological studies and/or preliminary evaluation reports for new developments that are subject to CEQA and the site could potentially contain a "unique archaeological resource." Incorporate mitigation measures identified by such studies into the development.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Land Use, Open Space and Conservation Element* (2002a) includes the following policy related to TCRs and Alternative BS-2:

> *Policy 6.2.* Protect prehistoric cultural resources from disturbance associated with development.
>
> Programs:
>
> 5. If determined appropriate by a qualified archaeologist, actively involve Native Americans with any work located within known archaeological sites.
> 6. If archaeological resources are unearthed during construction, suspend all earth-disturbing work until appropriate mitigation is established.

A.19 UTILITIES AND SERVICE SYSTEMS

COUNTY OF SAN LUIS OBISPO INTEGRATED WASTE MANAGEMENT AUTHORITY ORDINANCE NO. 2008-3

The purpose of the County of San Luis Obispo's Integrated Waste Management Authority Ordinance No. 2008-3 is to establish requirements for the recycling of recyclable materials generated from residential facilities (both single family and multi-family), commercial facilities (including institutional, governmental and other public buildings), and special events. These requirements are intended to increase the diversion of recyclable materials from landfill disposal, reduce greenhouse gas emissions by recycling more materials, and avoid the potential financial and other consequences of failing to meet and maintain AB 939 (California Integrated Waste Management Act of 1989) requirements (County of San Luis Obispo 2009).

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan *Conservation and Open Space Element* (2010) includes the following goals related to utilities and service systems that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal E 5: Recycling, waste diversion, and reuse programs will achieve as close to zero waste as possible.

Goal WR 1: The County will have a reliable and secure regional water supply (IRWM).

Goal WR 4: Per capita potable water use in the county will decline by 20 percent by 2020.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Conservation Element* (2003a) includes the following goals and policies related to utilities and service systems that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal C-1: Utilities and Infrastructure. Ensure that public utilities, facilities, and services are designed to meet existing and planned land uses, and ensure that provisions are made for continued operation maintenance, and updates as necessary.

Policy C-1A, Water Source, Supply, and Distribution. Develop and implement various innovative water provision and conservation programs that help to ensure an adequate supply of water for the City.

Policy C-1B, Sewer Service. Provide adequate wastewater conveyance and treatment facilities as part of the Capital Improvement Plan/Budget.

Policy C-1C, Storm Drainage. Provide storm drain systems that efficiently and safely mitigate flood risk, while effectively managing storm water through implementation of LID features, so that downstream run-off is limited to pre-development volumes and velocity before it is conveyed to the Salinas River, Huerhuero Creek, and their tributaries.

Policy C-1D, Solid Waste. Ensure that the City's landfill maintains sufficient capacity to serve the needs of the City through the year 2025.

CITY OF ATASCADERO GENERAL PLAN

No goals or policies in the City of Atascadero General Plan relate directly to utilities and service systems and Alternative BS-2.

A.20 WILDFIRE

COUNTY OF SAN LUIS OBISPO EMERGENCY OPERATIONS PLAN

The County of San Luis Obispo (2016) has adopted an Emergency Operations Plan (EOP) that addresses several overall policy and coordination issues and functions related to emergency management. The functions focus on actions such as public alert and notification, and protective actions that local government may need to take during the initial phase of response operations and that fall outside of the day-to-day field and related response missions. The EOP is the overall master planning document for emergency preparedness, response, and recovery activities for the County of San Luis Obispo.

COUNTY OF SAN LUIS OBISPO GENERAL PLAN

The County of San Luis Obispo General Plan *Safety Element* (1999) contains the following goal and policies related to wildfire prevention that potentially apply to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal S-4: Reduce the threat to life, structures and the environment caused by fire.

Policy S-13 Pre-Fire Management: New development should be carefully located, with special attention given to fuel management in higher fire risk areas. Large, undeveloped areas should be preserved so they can be fuel-managed. New development in fire hazard areas should be configured to minimize the potential for added danger.

Policy S-14 Facilities, Equipment and Personnel: Ensure that adequate facilities, equipment and personnel are available to meet the demands of fire fighting in San Luis Obispo County based on the level of service set forth in the fire agency's master plan.

Policy S-16 Loss Prevention: Improve structures and other values at risk to reduce the impact of fire. Regulations should be developed to improve the defensible area surrounding habitation.

CITY OF PASO ROBLES GENERAL PLAN

The City of Paso Robles General Plan *Safety Element* (2003d) contains the following goal and policies related to natural and manmade hazards, including wildfire, that are potentially relevant to the Proposed Project, reasonably foreseeable distribution components, and alternatives:

Goal S-1: Minimize exposure to natural and manmade hazards.

Policy S-1A: Hazard Education. Continue to inform the public about hazards, hazard avoidance, and disaster response.

Policy S-1B: Disaster Response. Review/Update the community-wide Multi-Hazard Emergency Response Plan on a periodic basis.

Policy S-1D: Structural Safety. Rely on the City's planning and building permit review process to ensure that existing and proposed structures are adequately designed, and to reduce susceptibility to damage from fire, flooding, and geologic hazards.

CITY OF ATASCADERO GENERAL PLAN

The City of Atascadero General Plan *Safety and Noise Element* (2002b) includes the following goals and policies related to wildfire and Alternative BS-2:

Goal SFN 3. Reduce the threat to life, structures, and the environment caused by fire.

Policy 3.2. Plan for adequate facilities, equipment, and personnel to meet firefighting demands.

Policy 3.3. Sustain the ability of the Fire Department to respond to emergencies.

REFERENCES

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APPENDIX B.

Final Alternatives Screening Report

This appendix includes complex tables that are not accessible using an assistive device such as a screen reader. For additional assistance please contact CPUC.

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CALIFORNIA PUBLIC UTILITIES COMMISSION

Estrella Substation and Paso Robles Area Reinforcement Project

Final Alternatives Screening Report

Proceeding A.17-01-023

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March 2020

Horizon Water and Environment. 2020. California Public Utilities Commission, Estrella Substation and Paso Robles Area Reinforcement Project. Final Alternatives Screening Report. March. (HWE 17.010) Oakland, CA.

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
APMs	Applicant Proposed Measures
APN	Assessor's Parcel Number
ASR	Alternatives Screening Report
BAAH	breaker-and-a-half
BESS	battery energy storage system
BES	Bulk Electric System
BS	Battery Storage
BTM	behind-the-meter
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CDOC	California Department of Conservation
CEQA	California Environmental Quality Act
City	City of Paso Robles
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
DDOR	Distribution Deferral Opportunity Report
DEIR	draft environmental impact report
DER	Distributed Energy Resources
DPA	Distribution Planning Area
EBCE	East Bay Community Energy
EIR	environmental impact report
FTM	front-of-the-meter
GHG	greenhouse gas
HOA	Homeowner's Association
HWT	Horizon West Transmission
Kevala	Kevala Analytics, Inc.
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hours
MW	megawatt
MWh	megawatt-hour
NEET West	NextEra Energy Transmission West, LLC
NEER	NextEra Energy Resources
NERC	National Electric Reliability Commission
NOP	Notice of Preparation

PEA	Proponent's Environmental Assessment
PG&E	Pacific Gas & Electric Company
PLR	Power Line Route
Proposed Project	Estrella Substation and Paso Robles Area Reinforcement Project
PTC	Permit to Construct
RA	Resource Adequacy
SR	State Route
SCE	Southern California Edison Company
SDG&E	San Diego Gas & Electric Company
SE	Substation Expansion
SS	Substation Siting
UL	Underwriters Laboratories mark of approval
USFWS	U.S. Fish and Wildlife Service
WECC	Western Electricity Coordinating Council

Chapter 1
INTRODUCTION AND PROJECT BACKGROUND

1.1 PURPOSE AND BACKGROUND

The purpose of the Alternatives Screening Report (ASR) is to document the California Public Utilities Commission's (CPUC's) efforts and process for developing a range of potentially feasible alternatives for the ~~proposed~~ Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project), proposed by Horizon West Transmission, LLC (HWT) (formerly NextEra Energy Transmission West, LLC [NEET West]) and Pacific Gas & Electric Company (PG&E) (together referred to as the "Applicants"). The ASR will support and inform the analysis of project alternatives in the draft environmental impact report (DEIR) that is being prepared for the Proposed Project. This ASR is intended to identify a reasonable range of potentially feasible alternatives that will be carried forward as part of the DEIR's detailed environmental analysis.

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15126.6(a), an environmental impact report (EIR) must describe a reasonable range of potentially feasible alternatives to a project, or to the location of a project, which could feasibly attain most of the basic project objectives and could also avoid or reduce any of the significant effects of the project. CEQA also requires consideration of a No Project Alternative (CEQA Guidelines Section 15126.6[e]). Due to the complex nature of the Proposed Project and number of potential alternatives identified during the scoping period, it was determined that an alternatives screening process would benefit the development of alternatives in the EIR. Therefore, the ASR will help the CPUC understand the range and potential feasibility of alternatives to the Proposed Project prior to conducting a detailed analysis of alternatives in the EIR.

Public Outreach Conducted by CPUC

CPUC circulated a Notice of Preparation (NOP) of an EIR for the Proposed Project on July 30, 2018, and a revised NOP on August 1, 2018. Circulation of the NOP initiated the scoping period for the Proposed Project, which lasted until August 31, 2018. CPUC held a public scoping meeting on Tuesday, August 7, 2018 from 6 p.m. to 8 p.m. at the Winifred Pifer Elementary School located at 1350 Creston Road in Paso Robles. Presentation slides from the public scoping meeting, as well as a Scoping Summary Report, which summarizes the comments received during the scoping period, are available on the Project website here: www.cpuc.ca.gov/environment/info/horizonh2o/estrella/index.html

Refer to Section 2.1.2 of this ASR for further details on the Proposed Project's scoping process. For information on the CPUC Proceeding for the Proposed Project (Application 17-01-023), refer to the following website and search for the application number: apps.cpuc.ca.gov/apex/f?p=401:1:0::NO:RP::

Public Outreach Conducted by the Applicants

Prior to CPUC's involvement, the Proposed Project Applicants coordinated with agencies and conducted outreach to tribes and the general public. The Applicants held meetings with the City

of Paso Robles, County of San Luis Obispo, the Chamber of Commerce, and numerous other stakeholder groups. The Applicants also held public meetings on the following dates and at the following locations:

- December 7, 2015 at the Paso Robles Elks Lodge;
- December 8, 2015 at the Paso Robles Event Center;
- January 11, 2016 at the Paso Robles Park Ballroom;
- January 12, 2016 at the Paso Robles Event Center;
- June 22, 2016 at the Paso Robles Elks Lodge; and
- June 23, 2016 at the Park Ballroom.

As described in the Proponent's Environmental Assessment (PEA) submitted by the Applicants, feedback from the community assisted the Applicants with analyzing the potential substation sites and potential route options and determining the final Proposed Project. Please refer to the PEA for additional information.

1.2 DRAFT ALTERNATIVES SCREENING REPORT REVIEW PERIOD

To provide an opportunity for the public to review and comment on CPUC's preliminary alternatives screening process and results, a Draft ASR was circulated for public review from March 28, 2019, to May 10, 2019. CPUC received a large number of comments during this period. Comments on the Draft ASR varied widely in terms of support and opposition for various alternatives. Concerns regarding potential impacts associated with different alternatives were expressed, and, in some cases, commenters argued that certain alternatives would have lesser or greater impacts than the Proposed Project. A summary of the comments received on the Draft ASR is provided in Appendix A.

1.3 FINAL ALTERNATIVES SCREENING REPORT PREPARATION

CPUC considered the comments received on the Draft ASR in preparing the Final ASR. Where appropriate, the Draft ASR text was revised based on comments received from the public. Revisions/additions to the Draft ASR text are shown in underline/strikeout in this Final ASR.

1.4 SUMMARY OF PROPOSED PROJECT

1.4.1 PROPOSED PROJECT OVERVIEW

HWT ~~NextEra Energy Transmission West, LLC (NEET West)~~ and ~~Pacific Gas & Electric Company (~~PG&E~~), together referred to as the "Applicants," ~~submitted Application 17-01-023 to the CPUC requesting a Permit to Construct (PTC) for the Proposed Project, pursuant to the requirements in CPUC General Order 131-D. CPUC is the state agency responsible for regulating public utilities in California, and must conduct an independent environmental review of the Proposed Project, including evaluation of potential project alternatives, prior to issuing a PTC. The Proposed Project was identified as a needed project to address deficiencies in the Los Padres 70 kilovolt (kV) system (see Section 1.4.2~~1.2.2~~ for further discussion regarding the background and need for

the Proposed Project) by the California Independent System Operator (CAISO) in its 2013-2014 Transmission Plan.

In essence, the Proposed Project would provide system redundancy and increased capacity in the Paso Robles area by adding an area substation and providing an additional source of power to the existing Paso Robles Substation. The Proposed Project would include the following primary components:

- Estrella Substation
  - Constructing a new 230 kV substation to be operated by ~~NEET West~~ HWT
  - Constructing a new 70 kV substation to be operated by PG&E, including with a location for future 70/21 kV distribution facilities:
    - Installing a new 30-MVA, 70/21 kV three-phase power transformer in the 70 kV substation
  - Constructing a 230 kV transmission line interconnection to be operated by PG&E
- 70 kV Power Line
  - Constructing a new 70 kV double-circuit power line between the new 70 kV substation and the existing San Miguel-Paso Robles 70 kV Power Line (new 70 kV power line segment), to be operated by PG&E
  - Replacement (reconductoring and pole replacement) of a portion of the existing 70 kV power line between the interconnection point of the new 70 kV power line segment and Paso Robles Substation, to be operated by PG&E
- Distribution System Components
  - Establishing three new 21 kV distribution feeders connecting from Estrella Substation to the existing distribution system, including:
    - Constructing 1.7 mile of new distribution line to fill in gaps in future Estrella Feeder #2
    - Reconductoring approximately 8 miles of existing distribution circuits to facilitate integration of the new Estrella feeders

The new Estrella Substation would be constructed on an approximately 15-acre site within an existing vineyard off of Union Road in San Luis Obispo County east of the City of Paso Robles. This substation would be looped into the existing Gates-Morro Bay 230 kV line and would connect to the existing Paso Robles Substation via the new and reconductored 70 kV power line.

The new power line segment would extend approximately 7 miles from the Estrella Substation through primarily agricultural, commercial, and rural residential areas before joining the existing San Miguel-Paso Robles 70 kV line. An approximately 3-mile-long segment of this existing line would then be replaced/reconductored from the interconnection with the new 70 kV line originating from Estrella Substation south to the existing Paso Robles Substation. This reconductored line segment would pass through open space and residential areas.

Figure 1-1 shows the Proposed Project location and components~~.~~ (note that PG&E slightly modified the proposed new 70 kV line alignment through the Golden Hill Industrial Park since publication of the Draft ASR; Figure 1-1 has been updated to reflect this change). **Figure 1-2** and **Figure 1-3** show the existing electric transmission system and the proposed electric transmission system with the addition of the Proposed Project. **Figure 1-4** shows a visual simulation of the proposed Estrella Substation.



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

N

0 0.25 0.5 Miles

Horizon WATER and ENVIRONMENT

Paso Robles city limits

Proposed Project

- New 70kV Power Line Segment
- Proposed Estrella Substation
- Reconductoring Segment
- Distribution Underbuild
- Power Line Staging Areas

Helicopter Landing Zones

Existing Infastructure

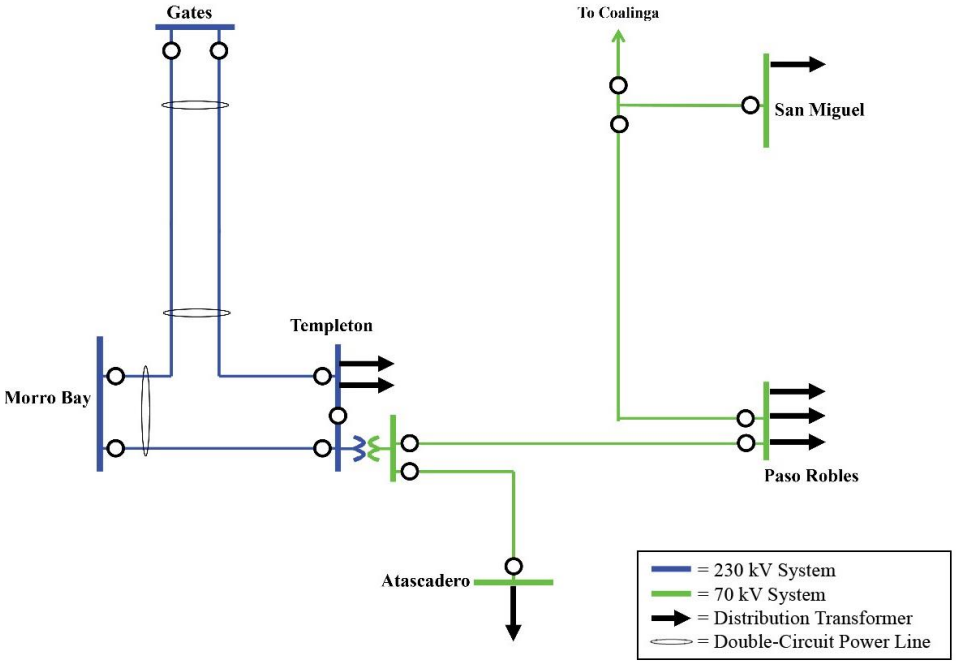
- Existing 500 kV Transmission Line
- Existing 230 kV Transmission Line
- Existing 70 kV Power Line
- Paso Robles Substation

Source: Source: NEET West and PG&E 2017

Figure 1-1
Proposed Project Location and Overview

Estrella Substation and Paso Robles Area Reinforcement Project

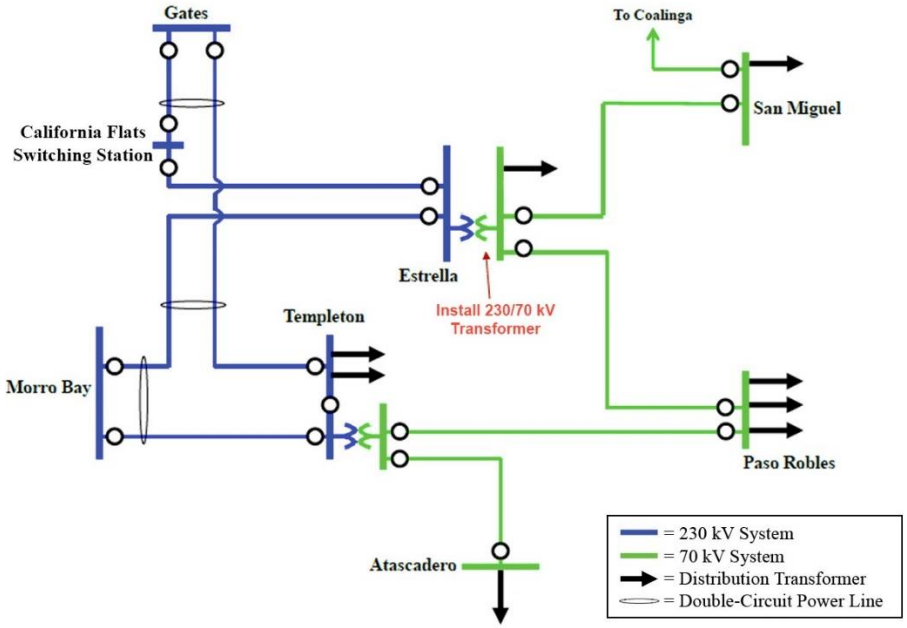
\\h2o-server\GIS_Server_PROJECTS\17010_CPUC_Estrella\mxd\EIR\UpdatedEIR\Fig_1-1_ProposedProjectOverview.mxd 6/26/2019 PG



Note: kV = kilovolt

Source: NEET West and PG&E 2017

Figure 1-2. Existing Electric Transmission System



Note: kV = kilovolt

Source: NEET West and PG&E 2017

Figure 1-3. Proposed Electric Transmission System



Source: NEET West and PG&E 2017

Figure 1-4. Visual Simulation of the Proposed Estrella Substation From Union Road Looking Northeast

Prepared by:
Horizon
WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

1.4.2 PURPOSE AND NEED FOR THE PROPOSED PROJECT

Transmission System

The Proposed Project was identified in the CAISO's 2013-2014 Transmission Plan as a project needed to mitigate thermal overloads and voltage concerns in the Los Padres 70 kV system (specifically in the San Miguel, Paso Robles, Templeton, Atascadero, Cayucos and San Luis Obispo areas) (CAISO 2014a). CAISO modeling determined that thermal overloads and very low voltage conditions could occur in this system following either one of two Category B[1] contingencies: loss of the Templeton 230 kV/70 kV #1 Transformer Bank or loss of the Paso Robles-Templeton 70 kV Transmission Line.

Essentially, if either the #1 Transformer Bank at the Templeton Substation or the 70 kV transmission line connecting the Paso Robles and Templeton Substations were to fail for any reason (e.g., vehicular impact to existing infrastructure, such as a pole; vegetation and/or storm damage to the existing transmission line, wildlife damage to existing electrical connections, and/or mechanical failure), it would result in dangerous overloading and low voltage conditions in the regional system. This is both due to high load (i.e., electrical service demand) in the Paso Robles area relative to substation capacity as well as lack of redundancy in the system. Currently, the only sources of power to the Paso Robles Substation are the San Miguel-Paso Robles 70 kV Transmission Line from the north and the Paso Robles-Templeton 70 kV Transmission Line from the south, with the latter providing the bulk of the power and the nearest connection to a 230 kV power source. The San Miguel-Paso Robles 70 kV Transmission Line does not have the capacity to accommodate the load served through the Paso Robles Substation should the power source from Templeton Substation fail; therefore, thermal

[1] The CAISO uses the National Electric Reliability Commission (NERC) reliability standards to analyze the need for transmission system upgrades. The NERC standards provide criteria for system performance requirements that must be met under a varied but specific set of operating conditions, and prior to 2012, included the following categories:

- Category A – System Performance Under Normal Conditions
- Category B – System Performance Following Loss of a Single Bulk Electric System (BES) Element
- Category C – System Performance Following Loss of Two or More BES Elements
- Category D – System Performance Following Extreme BES Events

The latest adopted NERC TPL-001-4 transmission reliability standard applies new terminology to seven different categories, P0 through P7. P0 through P7 define different scenarios based on the initial system condition and nature of the event (e.g., loss of generator, transmission circuit, bus section fault, etc.). The Category B contingencies identified for the Proposed Project would equate to a P1 (single contingency), while the Category C3 contingency would equate to a P6 (multiple contingency; two overlapping singles) (NERC No Date). The NERC standards allow for load to be dropped for a P6 contingency, but not for a P1 contingency.

NERC also refers to single contingencies (i.e., loss of a single BES element) as N-1 events. A multiple contingency where both BES elements fail at the same time (e.g., two circuits on the same pole line fail when a pole is hit by a vehicle) is known as a N-2 event. A multiple contingency involving the consecutive loss of two single BES elements that are not physically or electrically connected is known as a N-1-1 event. The Category B/P1 contingencies identified for the Proposed Project would be N-1 events, whereas the Category C3/P6 contingency would be a N-1-1 event.

overloads and low voltage could occur on this line during one of the Category B contingencies identified by CAISO (NEET West and PG&E 2018a).

Because PG&E has an Under-Voltage Load Shedding scheme that serves to protect the transmission system infrastructure in the event of such overload scenarios; rather than allow the transmission line to melt or completely fail, load would be systematically dropped to bring voltages to acceptable levels. Practically, without the Proposed Project, this could result in 60-70 megawatt (MW) of load in Paso Robles being dropped during one of the Category B contingencies described above (CAISO 2014a).

In addition to the above issues, CAISO also identified a Category C3 contingency condition involving loss of the Morro Bay-Templeton and Templeton-Gates 230 kV lines that would result in thermal overloads and low voltages in the underlying 70 kV system. The 2013-2014 Transmission Plan states that with the additional source from the Gates 230 kV system, the Proposed Project would provide robust system reinforcement to the Paso Robles and Templeton 70 kV system operations (CAISO 2014a). Because load can be dropped for a Category C3 (i.e., P6) contingency, this contingency is not the primary driver of the Proposed Project. Rather, the two Category B (i.e., P1) contingencies are considered the primary drivers for the Proposed Project.

Distribution System

In addition to the transmission-level issues described above, the Proposed Project also would address existing undesirable conditions and projected load growth in the distribution system in the Paso Robles area. As described in detail in Appendix G of the Proponent's Environmental Assessment (PEA) provided by the Applicants, the Paso Robles system is characterized by very long distribution feeders[2], particularly those extending from Templeton Substation. This is undesirable because long feeders are more susceptible to potential outages caused by vehicle pole strikes, downed vegetation from storms, or other incidents (PG&E and NEET West 2018a). Additionally, outages that occur on long feeders may affect larger numbers of people than similar events that occur on feeders of moderate length. In general, PG&E states that, "Reliable distribution systems consist of substations located at regular intervals and sized correctly in terms of capacity and number of feeders to cover the area between substations without overextending some substations and underutilizing others. The Paso Robles Distribution Planning Area (DPA) is not currently in line with these system goals (PG&E and NEET West 2018a)."

Locating the new substation at its proposed location would allow for the long feeders to be split in half and for some of the load currently being served by the Templeton Substation to be served by the new Estrella Substation. Reducing the length of these feeders would reduce potential outages for customers and improve the reliability of the distribution system in this area. **Table 1-1** shows historical outages on the Templeton feeders.

[2] Distribution *circuits* (i.e., electrical lines or conductors) are commonly referred to as *feeders*. They operate at voltage under 50 kV.

Table 1-1. Five-Year Outage History of Templeton 21 kilovolt Feeders (February 2012 to February 2017)

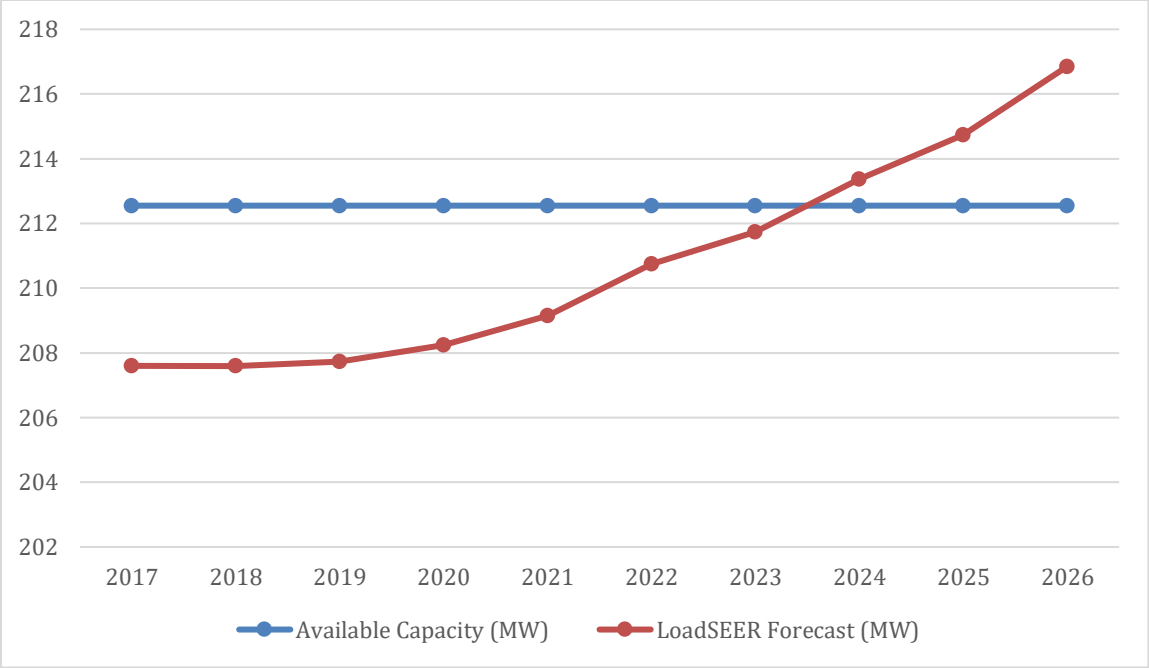
Feeder Name	Area Served Where Outages Occurred	No. of Sustained Outages	No. of Momentary Outages	Average No. of Customer Connections Affected Per Event	Highest No. of Customer Connections Affected by an Event
Templeton 2108	Northern Atascadero	7	10	2,955	3,189
Templeton 2109	Northeast Paso Robles	5	9	2,957	4,325
Templeton 2110	Rural West Paso Robles	4	20	1,802	2,926
Templeton 2111	Western Atascadero	6	10	1,847	2,433
Templeton 2112	Southern Paso Robles	3	10	475	1,068
Templeton 2113	Santa Margarita	7	25	1,911	5,446

Source: NEET West and PG&E 2018a

In addition to the issue of long feeders, the projected growth within the Paso Robles DPA is anticipated to exceed the capacity of the system in the ~~near~~ future. The City of Paso Robles (City) expects strong industrial growth to occur north of State Route (SR) 46 in the Paso Robles city limits (in particular within the Golden Hill Industrial Park and directly south of Paso Robles Airport along Dry Creek Road) within the next 10 years, and a resurgence of residential growth south of SR 46 (NEET West and PG&E 2018a). Overall, City planners are estimating a 50 percent increase in the population of Paso Robles by 2045.

Increases in electrical demand (i.e., load) will place increased demands on the distribution and transmission systems. Using the LoadSEER[3] forecasting tool, PG&E predicts that anticipated normal growth in the area, coupled with the addition of large "block loads" (e.g., large new businesses or developments that require large amounts of electricity), will exceed the available capacity of the Paso Robles system by roughly 2024 (see **Figure 1-5**).

[3] LoadSEER is a spatial load forecasting tool which is used by electric distribution system planners to predict load and power changes, where on the grid the loads will occur, how distributed generation changes the load shape, and when it must be supplied (Integral Analytics No Date). PG&E utilizes the LoadSEER forecasting tool to predict growth in area electrical demand within a DPA for a 10-year period into the future, incorporating the most recent 13 years of substation historical peak-load data.



Source: NEET West and PG&E 2018a

Figure 1-5. LoadSEER Forecast, Paso Robles DPA

As shown in Figure 1-5, the available capacity in the Paso Robles DPA is currently static at just over 212 MW. This capacity is equal to the cumulative capacities of the four substations (Atascadero, Paso Robles, Templeton, and San Miguel) in the DPA, whereas the "LoadSEER Forecast" represents the cumulative load that must be served by the distribution system for this area. As shown in Figure 1-5, the forecasted load will exceed available capacity in the year 2024. In a practical sense, without addition of a new or expanded substation or other facilities to serve ~~the projected~~ increased load, this situation could result in thermal overloads, low voltage, and electrical service outages, as the infrastructure is unable to meet demands.

The intent of the Proposed Project is to add capacity to the system with the addition of the new Estrella Substation, which will be able to absorb load currently served by other substations within the DPA. Additionally, since the new industrial growth is anticipated to occur in the Golden Hill Industrial Park area, the new substation will be able to accommodate this new growth by adding new feeder lines when the need materializes. Please refer to Appendix G of the Applicants' PEA for detailed discussion of the Proposed Project purpose and need, and the modeling conducted for the existing distribution system.

1.4.3 Proposed Project Objectives

Applicants' Stated Objectives

In their PEA, the Applicants identified the following objectives for the Proposed Project:

- **Reinforce Electrical Reliability by Implementing the CAISO-Approved Electrical Plan of Service.** Increase reliability and mitigate thermal overloads and voltage concerns in the

area by having an additional 230 kV source of power that will increase service reliability in northern San Luis Obispo County, and maintain compliance with NERC reliability standards, as described in the *Estrella Substation Project Functional Specifications* issued by CAISO in June 2014. The Estrella Project is also intended to allow NEET West and PG&E to meet their obligation to add the CAISO-approved project to the CAISO-controlled grid, as defined in the *Functional Specifications* and the Approved Project Sponsor Agreement.

- **Meet Expected Future Electric Distribution Demand.** Provide a location for future 21 kV distribution facilities with a 230/70 kV source near the anticipated growth areas in northern Paso Robles to efficiently add distribution capacity and improve service reliability when required in the Paso Robles DPA.
- **Balance Safety, Cost, and Environmental Impacts.** Locate, design, and build the project in a safe, cost-effective manner that will also minimize environmental impacts.

CPUC's Project Objectives

As part of its authority as the lead agency under CEQA for preparation of the EIR for the Proposed Project, CPUC is responsible for identifying appropriate project objectives to inform the CEQA process/evaluation, including the development and screening of project alternatives. These objectives may differ from the Applicants' stated objectives in their PEA. Based on its understanding of the fundamental underlying purpose of the Proposed Project, CPUC and its consultants have identified the following CEQA objectives for the Proposed Project:

- **Transmission Objective:** Mitigate thermal overload and low voltage concerns in the Los Padres 70 kV system during Category B contingency scenarios, as identified by the CAISO in its 2013-2014 Transmission Plan.
- **Distribution Objective:** Accommodate expected future increased electric distribution demand in the Paso Robles DPA, particularly in the anticipated growth areas in northeast Paso Robles.

The issue of long feeders and poor service reliability was not identified as a fundamental project objective by the Applicants or CPUC; however, it is considered a beneficial effect of the Proposed Project, and will be considered during development and screening of project alternatives.

1.5 PRELIMINARY PROJECT IMPACTS ANALYSIS

The EIR analysis has not yet been completed for the Proposed Project; therefore, final project impact determinations have not been made. Nevertheless, development and screening of alternatives requires an understanding of the potential significant impacts of the Proposed Project. As described further in Chapter 2, *Methodology for Identifying and Screening Alternatives,* CEQA alternatives should avoid or reduce at least one of the Proposed Project's potentially significant effects. Therefore, a preliminary discussion of the Proposed Project's impacts is provided here for the purpose of informing the alternatives screening process.

1.5.1 IMPACTS IDENTIFIED IN THE PEA

The PEA submitted by the Applicants identified no potentially significant impacts that would occur as a result of the Proposed Project. However, the PEA included a number of Applicant Proposed Measures (APMs) ~~that CPUC would likely consider mitigation measures~~ (e.g., preconstruction surveys for special-status species and implementation of avoidance measures, if necessary; implementation of measures in the event of discovery of human remains or fossils; noise minimization measures, etc.). Without assuming implementation of these APMs, a number of the impacts identified in the PEA would be potentially significant ~~(but could be reduced to less than significant through implementation of mitigation measures)~~. The impact conclusions in the PEA do not necessarily reflect those of CPUC in its DEIR.

1.5.2 IMPACTS IDENTIFIED IN THE PRELIMINARY EIR ANALYSIS

Preliminary analysis of potential Proposed Project impacts by the EIR consultant team, including solicitation of scoping comments and coordination with local stakeholders, has identified several potentially significant impacts, including the following:

- Aesthetic impacts from the placement of the approximately 15-acre Estrella Substation along Union Road, which traverses an area typified by rolling hills and vineyards;
- Aesthetic impacts from the new overhead 70 kV power line, particularly in the area of Golden Hill Road, where the line would pass through industrial, commercial, and residential areas that do not currently have overhead power lines; and
- Agricultural resources impacts from permanent conversion of at least 15 acres of Important Farmland as a result of construction of the proposed Estrella Substation and power line.

Additionally, review of the Proposed Project materials and scoping comments indicates that the Proposed Project could impact biological resources and cultural resources, and potentially increase wildfire risk due to the new overhead power lines; however, it is anticipated that mitigation measures could be implemented that would be sufficient to avoid or reduce these potential impacts to a level that is less than significant.

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Chapter 2
METHODOLOGY FOR IDENTIFYING AND SCREENING ALTERNATIVES

2.1 IDENTIFICATION OF ALTERNATIVES

As discussed above, the purpose of the ASR is to identify a reasonable range of potentially feasible alternatives to the Proposed Project for consideration and evaluation in the EIR. The range of alternatives considered in the ASR was identified through (1) review of the Applicants' PEA, including review of the PEA's proposed alternatives and selection criteria, (2) collection of input from members of the public and stakeholders during the CEQA scoping process, and (3) independent evaluation of the Proposed Project by CPUC staff and consultants and consideration of CPUC initiatives. As explained further in Section 2.2, the purpose of alternatives under CEQA is to reduce or avoid one or more significant impacts of the Proposed Project (while also meeting all or most of the basic project objectives and feasibility criteria). Therefore, Project alternatives identified and evaluated in the ASR considered these underlying factors.

2.1.1 PEA ALTERNATIVES AND ALTERNATIVES SELECTION CRITERIA

Prior to submitting their application to the CPUC, the Applicants and their consultant teams developed and used selection criteria to identify project alternatives for the PEA analysis. Selection criteria developed as part of the PEA process are described in detail below.

Substation Siting Alternatives

As explained by HWT ~~NEET West~~ and PG&E in their PEA (NEET West and PG&E 2017), potential substation locations were physically and technically limited by the need to improve distribution reliability for the local DPA. As described in Section 1.4.2~~1.2.2~~, new industrial growth is anticipated to occur in the Paso Robles Airport area and the Golden Hill Industrial Park south of the airport~~; new distribution service for this area is anticipated to be needed in 5 to 15 years~~. Additionally, long feeders in the Paso Robles DPA are compromising distribution reliability; therefore, locating the substation in an area where these feeders could be split in half or shortened would be a benefit with respect to reliability.

During its process of selecting HWT ~~NEET West~~ and PG&E as the project sponsors, CAISO identified the location for the new substation to be within a 2.2-mile radius from the intersection of SR 46 and the Morro Bay-Gates/Templeton-Gates 230 kV transmission corridor. This location was a result of a recommendation to CAISO from PG&E's distribution planning engineers, based upon several considerations:

1. The anticipated growth areas are north and east of Paso Robles Substation, so the new distribution substation should be north and east of Paso Robles Substation in order to place the new distribution substation near the growth.

2. Since the new distribution substation would be fed from the 230 kV transmission source, the new substation should be located along the Morro Bay-Gates 230 kV transmission lines to minimize costs and potential project impacts.

3. The locality known as "Estrella" offers the operational advantage of being located where long distribution lines from four existing substations end (i.e., San Miguel, Paso Robles, Cholame, and Templeton). Thus, placing the substation in Estrella would make it possible to back feed and split in half long existing distribution lines from these four sources.

   Of the potential sites in Estrella, those north of Estrella Road would place the new substation off in a northeast corner of the DPA and too far from the growth areas near Paso Robles Airport and Golden Hill Industrial Park. Therefore, the northern-most site considered was a site where the 230 kV lines cross Estrella Road, approximately 2.2 miles northeast of SR 46 along the 230 kV right-of-way. The southern-most site that distribution planning engineers felt was acceptable (i.e., not too close to Templeton or Paso Robles substations and not too far from the growth areas) was a site where Union Road comes close to the Morro Bay-Gates 230 kV lines. This southern-most site is the Proposed Project site.

In addition to the factors described above, potential substation sites needed to be available for outright purchase, and of the size and topography necessary to support the substation design. Also, due to reliability issues in crossing existing 500 kV transmission line, the Applicants focused on potential sites that were located on the east side of the 230/500 kV transmission corridor to avoid crossing under or over the existing 500 kV transmission line.

Based on these criteria, the Applicants' parcel search identified 19 parcels that contained potential sites for the 15-acre substation. Ultimately, following outreach efforts to the landowners of the identified parcels, three substation sites (including the proposed site) were carried forward for further analysis.

Power Line Route Alternatives

Once the proposed substation site was identified, the Applicants developed routing options based on the CAISO Functional Specifications (CAISO 2014b) and that took into account the following goals:

- Construct a safe and reliable system;
- Minimize conflicts with established land uses, including agriculture;
- Minimize the length of the electric power line to reduce the costs and overall footprint;
- Minimize the potential impacts on special-status species and habitats;
- Minimize permitting requirements and potential schedule delays for an in-service date of 2019;
- Minimize constructability and operational constraints;
- Minimize costs to customers;

- Minimize the division of parcels by locating routes near the edge of parcels; and,
- Maximize the use of existing corridors by co-location when feasible.

The Applicants' routing process was separated into the following four distinct stages: study area development, corridor development, route segment development, and final route identification. These stages allowed the team to establish a large 54.8-square-mile study area that would then be narrowed into 42 corridors and 125 route segments that could be evaluated and connected together to build a complete route.

Segments were assigned compatibility ratings, and a spatial analysis was prepared to evaluate the potential for overhead power line structures to interfere with or obstruct navigable air space associated with the Paso Robles Municipal Airport. PG&E conducted desktop technical review and aerial field inspections using helicopters to determine constructability of the various route segments. Route corridors and segments were then further defined and narrowed during outreach activities that were initiated in July 2015, concurrently with the beginning of the routing process.

Ultimately, as a result of this review process, PG&E narrowed the previous 42 corridors and 125 route segments down to three alternatives routes (including the proposed route) (NEET West and PG&E 2017).

2.1.2 PUBLIC AND STAKEHOLDER SCOPING

In accordance with CEQA requirements, CPUC staff and consultants circulated a NOP to interested members of the public on July 30, 2018. A revised NOP was circulated on August 1, 2018 to correct a map depicting potential alternatives, which had inadvertently omitted several possible alternatives. Circulation of the NOP initiated the scoping period, which lasted until August 31, 2018, although several comment letters were accepted beyond this date.

CPUC staff and consultants conducted a public scoping meeting for the Proposed Project on Tuesday, August 7, 2018, from 6 p.m. to 8 p.m. at the Winifred Pifer Elementary School located at 1350 Creston Road in Paso Robles. The meeting was publicized in the local area newspaper and details of the meeting time and location were provided in the NOP, which was sent via direct mailings to numerous households, offices, and agencies. The scoping meeting format consisted of a presentation by CPUC staff and consultants followed by opportunities for attendees to ask questions and submit comments. Written comment cards were provided to all meeting attendees, as well as information on how to access project documents and participate in the public review process going forward. A total of 50 individuals signed in to the meeting in Paso Robles.

During the scoping period, CPUC received numerous comment letters from public agencies, the general public, and other entities, as summarized in **Table 2-1**.

Table 2-1. Comment Letters Received by Commenter Type

Commenter Type	No. of Comment Letters
Public Agencies	5
General Public	37
Community Organization / Group (e.g., neighborhood HOA)	2
Parties to the CPUC Formal Proceeding	1
Tribes	1

The public agencies that submitted scoping comment letters are as follows:

- City of El Paso de Robles
- County of San Luis Obispo
- California Department of Conservation
- California Native American Heritage Commission
- California Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The specific comments within the comment letters submitted on the Proposed Project covered a wide range of topics; refer to the Scoping Summary Report (available via the Project website) for a detailed discussion of the comments received during scoping. The most common generalized comments received are provided in **Table 2-2** below. Key concepts and phrases within the comments shown in Table 2-2 are shown in bold.

Table 2-2. Most Common Generalized Scoping Comments by Number of Commenters

Comment	No. of Commenters
The proposed overhead power lines would have **aesthetic impacts** and be out of scale with the community.	23
Overhead power lines **should be placed underground** to reduce aesthetic impacts and/or minimize fire risk.	16
Overhead power lines could present hazards associated with electromagnetic fields.	15
The addition of overhead power lines could **decrease property values** for nearby properties.	11
The overhead power lines could present a **fire hazard risk** (e.g., if they were downed in an earthquake or high winds).	9
General opposition to the Proposed Project power line route.	8
The overhead power lines would have **noise impacts** from the “buzzing” during operation.	7

Comment	No. of Commenters
Why is the project needed? The rationale for the Proposed Project is not well-founded.	6
The overhead power lines **could adversely affect the flight path** for California Department of Forestry and Fire Protection (CAL FIRE) helicopters accessing the pond by the Circle B properties.	6
The Project 70 kV route alignments could necessitate **removal of oak trees**.	5
The Proposed Project and alternatives could **impact bald and golden eagles** in the area.	5
Project construction ground-disturbing activities could **impact cultural resources**.	4
Project construction activities could result in **noise impacts**.	4
There would be **traffic impacts** during Project construction.	4
Support for the Proposed Project power line route.	4

As shown in Table 2-2, many of the comments received during the scoping period related to potential impacts (e.g., aesthetic impacts, fire hazard risk, noise impacts, etc.) of the overhead power lines associated with the Proposed Project and alternatives. One of the most common generalized comments received was that the proposed overhead power lines should be placed underground.

Other notable comments included the comments from the City of Paso Robles, which expressed concern regarding potential aesthetic impacts of the proposed overhead power lines (particularly with respect to their height) and compatibility of the power line crossing of SR 46 with a planned interchange project at that location. The City also expressed concern regarding a possible battery storage alternative that would expand, or place a large battery at or near, the existing Paso Robles Substation. The City stated that such an alternative could potentially result in a variety of adverse impacts, such as aesthetics, traffic, safety, and land use, particularly due to the fact that the substation is surrounded on all sides by multi-family residential and commercial uses. The City also noted that Niblick Road, which is located immediately south of the existing substation, may need to be expanded in the future, which would further constrain the potential expansion of Paso Robles Substation.

Another individual member of the public commented that expansion of the existing Templeton Substation (i.e., adding transformer capacity) and addition of a second circuit on the existing Templeton-Paso Robles 70 kV Transmission Line would solve the CAISO-identified issues. This individual also noted that this arrangement (a double-circuit line from Templeton Substation to Paso Robles Substation) was originally proposed, but the approach was abandoned due to cost and budgeting issues. The individual argued that this double-circuit approach still makes sense today and that use of steel poles would sufficiently minimize the N-2 exposure (i.e., two circuits on one pole being taken down due to vehicle impact, other manmade causes, or natural causes) associated with this alternative. This individual's comments align closely with Alternative SE-1:

Templeton Substation Expansion and Alternative SE-PLR-1: Existing 70 kV Power Line Route considered in this ASR (see Sections 3.4 and 3.5.1).

2.1.3 INDEPENDENT EVALUATION AND CONSIDERATION OF CPUC INITIATIVES

As part of the independent evaluation of the Proposed Project for the EIR, CPUC staff and consultants identified and considered possible alternatives to the Proposed Project. This process was guided by the alternatives screening criteria (see Section 2.2 for detailed description), comments received during scoping, as well as consideration of CPUC initiatives ~~and relevant sections of the Public Utilities Code~~.

Battery Storage Initiatives and Rulings

The CPUC adopted Decision 13-10-040 on October 17, 2013, which established an Energy Storage Procurement Framework and design program. In accordance with Assembly Bill (AB) 2514, the decision established the policies and mechanisms for procurement of electric energy storage, including:

1. Procurement targets for each of the investor-owned utilities and procurement requirements for other load serving entities;
2. Mechanisms to procure storage and means to adjust the targets, as necessary; and
3. Program evaluation criteria.

The decision specifically established a target of 1,325 MW of energy storage to be procured by PG&E, Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) by 2020, with installations required no later than the end of 2024, and sets a schedule for procurement of energy storage. Of the 1,325 MW total, 700 MW shall be transmission-connected, 425 MW shall be distribution-connected, and 200 MW shall be customer-side (CAISO 2018a). The CAISO considers these targets and connection domains when evaluating potential mitigation to transmission constraints in local areas as part of its transmission planning process. **Table 2-3** shows CAISO's operational attribute assumptions for these classes of energy storage and the targets mandated under Decision 13-10-040.

Table 2-3. CAISO Storage Operation Attributes

Values are megawatts in 2024	Transmission-Connected	Distribution-Connected	Customer-Side
Total Installed Capacity	700	425	279
Amount Providing Capacity in Power Flow Studies	560	170	135
Amount Providing Flexibility	700	212.5	135
Amount with 2 Hours of Storage	280	170	100
Amount with 4 Hours of Storage	256	170	135
Amount with 6 Hours of Storage	124	85	0

Source: CAISO 2018a

In addition to Decision 13-10-040, various requirements related to energy storage are included in the Public Utilities Code; in particular, Section 2837(g) states that each electrical corporation's renewable energy procurement plan should address the acquisition and use of energy storage systems to avoid or delay investments in transmission and distribution system upgrades.

In April 2015, the CPUC opened an Order Instituting Rulemaking in response to the enactment and ongoing implementation of Assembly Bill 2514 and to continue to refine policies and program details, such as the Energy Storage Procurement Framework (Proceeding R.15-03-011). The rulemaking considered recommendations included in the California Energy Storage Roadmap, an interagency guidance document jointly developed by CAISO, California Energy Commission, and CPUC.

Assembly Bill 2868 passed in 2016 to spur further Distributed Energy Resources (DER) implementation. It required the CPUC to direct PG&E, SCE, and SDG&E to develop programs to accelerate deployment of an additional 500 MW of distributed energy storage systems. CPUC Decision D.17-04-039 ordered each of the three utility companies to add up to 166.66 MW of distributed energy storage systems to their energy storage procurement and investment plans. This established a new target of 1,825 MW of energy storage procurement by 2020 (CPUC 2017). To date, PG&E has reported its procurement of extensive amounts of transmission-connected energy storage and limited amounts of distribution-connected and customer-connected (behind the meter)[4] energy storage (CPUC 2019a).

~~*Public Utilities Code Considerations for Alternatives and Certificate of Public Convenience and Necessity (CPCN) Applications*~~

~~With respect to identification and consideration of alternatives in an EIR, the CPUC takes the following into account:~~

> ~~Public Utilities Code Section 1002.3 requires CPUC to "...consider cost-effective alternatives to transmission facilities that meet the need for an efficient, reliable, and affordable supply of electricity...", and the CPUC's Information and Criteria List for project applications requires discussion of "...alternatives capable of substantially reducing or eliminating any significant environmental effects, even if these alternatives substantially impede the attainment of the project objectives, and are more costly."~~

~~Additionally, Public Utilities Code Section 1002 states the following with respect to issuance of CPCNs:~~

> ~~(a) The commission, as a basis for granting any certificate pursuant to Section 1001 shall give consideration to the following factors:~~

[4] The term, "behind the meter" (BTM), refers to connecting energy storage behind a customer's meter (i.e., connecting it to a specific customer's electrical system). The term, "front of the meter" (FTM), refers to connecting energy storage to a utility company's electrical grid. FTM connections can be to a utility's distribution system (under 50 kV) or transmission system (above 50 kV).

~~(1) Community values.~~

~~(2) Recreational and park areas.~~

~~(3) Historical and aesthetic values.~~

~~(4) Influence on environment, except that in the case of any line, plant, or system or extension thereof located in another state which will be subject to environmental impact review pursuant to the National Environmental Policy Act of 1969 (Chapter 55 (commencing with Section 4321) of Title 42 of the United States Code) or similar state laws in the other state, the commission shall not consider influence on the environment unless any emissions or discharges therefrom would have a significant influence on the environment of this state.~~

2.2 ALTERNATIVES SCREENING METHODOLOGY

The screening process for identified possible alternatives considered the following primary criteria:

- Does the alternative accomplish all or most of the basic project objectives?
- Is the alternative potentially feasible (e.g., from economic, environmental, legal, social, and technical standpoints)?
- Does the alternative avoid or substantially lessen any significant effects of the Proposed Project?

Each criteria is described further in the following subsections. The criteria are discussed throughout this document in the order shown above; however, the order is not important and all criteria carry equal weight.

2.2.1 CONSISTENCY WITH BASIC PROJECT OBJECTIVES

As described in Section 1.4.3~~1.2.3~~, CPUC identified the following basic project objectives for the Proposed Project:

- **Transmission Objective:** Mitigate thermal overload and low voltage concerns in the Los Padres 70 kV system during Category B contingency scenarios, as identified by the CAISO in its 2013-2014 Transmission Plan.
- **Distribution Objective:** Accommodate expected future increased electric distribution demand in the Paso Robles DPA, particularly in the anticipated growth areas in northeast Paso Robles.

The screening process considered whether a potential alternative addressed at least one of the two basic objectives. Because the two fundamental project objectives address two essentially separate (although interconnected in some ways) issues, alternatives addressing either one of

the two objectives could potentially be combined or constructed in tandem to meet all of the basic project needs. Additionally, because the Proposed Project involves two primary components (i.e., substation and a new/reconductored power line), certain alternatives (e.g., substation siting alternatives or power line routing alternatives) may not on their own meet the project objectives, but could be combined with other alternatives to meet the project needs.

2.2.2 FEASIBILITY

The alternatives screening process also considered whether the alternative is potentially feasible. CEQA Guidelines Section 15364 defines feasibility as "...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." According to CEQA Guidelines Section 15126.6(f)(1), the factors that may be considered when addressing the potential feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or other regulatory limitations, jurisdictional boundaries, and the project proponent's control over alternative sites.

For the screening analysis, the potential feasibility of alternatives was assessed by considering the following factors:

- **Economic Feasibility.** Is the alternative so costly that implementation would be prohibitive? CEQA Guidelines Section 15126.6(b) requires consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of the project objectives, or would be more costly". The Court of Appeals determined in Citizens of Goleta Valley v. Board of Supervisors (2nd Dist. 1988) 197 Cal.App.3d 1167, p. 1181 (see also Kings County Farm Bureau v. City of Hanford [5th Dist. 1990] 221 Cal.App.3d 692, 736): "[t]he fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project."
- **Environmental Feasibility.** Would implementation of the alternative cause substantially greater environmental damage than the Proposed Project, thereby making the alternative clearly inferior from an environmental standpoint? To the extent that the alternative could introduce a new significant effect, or increase the severity of a significant effect, this could render the alternative environmentally infeasible.
- **Legal Feasibility.** Does the alternative have the potential to encounter lands that have legal protection that may prohibit or substantially limit the feasibility of permitting a substation and power line, or energy storage facility? Lands that are afforded legal protections that would prohibit the construction of the project, or that would require an act of Congress for permitting, are generally considered infeasible locations for the project. These land use designations include wilderness areas, wilderness study areas, restricted military bases, airports, and Native American reservations.
- **Social Feasibility.** Is the alternative inconsistent with an adopted goal or policy of the CPUC or other applicable agency?

- **Technical Feasibility.** Is the alternative potentially feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome? Can the transmission, distribution, or energy storage facilities associated with the alternative be feasibly connected to existing transmission and/or distribution system infrastructure?

2.2.3 POTENTIAL TO ELIMINATE SIGNIFICANT ENVIRONMENTAL EFFECTS

Finally, the screening process determined, as far as available information allows, whether the alternative could avoid or substantially lessen any of the significant effects of the Proposed Project. At the screening stage, it is not possible to evaluate all the impacts of the alternatives in comparison to the Proposed Project with absolute certainty, nor is it possible to quantify impacts. However, it is possible to identify elements of an alternative that are likely to be the sources of impacts and to relate them, to the extent possible, to general conditions in the subject area, and to the preliminary identified impacts of the Proposed Project.

Chapter 3
ALTERNATIVES DESCRIPTIONS AND DETERMINATIONS

This chapter describes the alternatives considered in this ASR and the process by which alternatives were either retained for further analysis in the EIR or eliminated from further consideration. Each alternative was evaluated using the process described in Chapter 2. CEQA requires that the No Project Alternative be considered in an EIR; as such, it is not discussed here.

As noted in Chapter 2, due to the nature of the project, alternatives are considered separately for the different primary project components. Specifically, alternatives are considered separately for substation siting and routing of the 70 kV power line. Additionally, wholly different project approaches, such as battery storage, are considered in the analysis.

3.1 SUMMARY OF ALTERNATIVES SCREENING ANALYSIS RESULTS

In total, 7 out of the 12~~11~~ total alternatives considered were retained for detailed analysis in the EIR. ~~Two of these alternatives (BS-1 and BS-2) are not sufficiently defined at this time to definitively determine feasibility and evaluate environmental impacts; but for the purposes of this analysis, the alternatives are considered potentially feasible and likely to reduce significant environmental impacts, and, therefore, are retained for full analysis. Additionally, one alternative (BS-3) is not sufficiently defined at this time to render any conclusion, and, therefore, is discussed briefly and will be further defined and evaluated in the future.~~ One variation of Alternative PLR-1: Estrella Route (i.e., Alternative PLR-1B) was screened out from full analysis in the EIR because this alternative would only be used with Alternative SS-2: Mill Road West Substation Site, which was itself screened out. Another variation of Alternative PLR-1: Estrella Route (Alternative PLR-1D) was screened out due to potential feasibility constraints associated with obtaining access to the alignment. A variation of Alternative SE-1: Templeton Substation Expansion that would only add a 70 kV substation (Alternative SE-1B) was considered subsequent to the publication of the Draft ASR and was screened out from full analysis in the EIR. Additionally, Alternative BS-1: Battery Storage to Address the Transmission Objective was screened out based on comments received on the Draft ASR and additional analysis subsequent to the original Draft ASR publication. As described in detail in Section 3.6.3, CPUC and its consultants conducted a detailed study of behind-the-meter (BTM) solar plus storage adoption propensity pursuant to Alternative BS-3 subsequent to publication of the Draft ASR. The BTM study concluded that BTM resources, in combination with front-of-the-meter (FTM) storage, could potentially meet the Distribution Objective of the Proposed Project.

Table 3-1 provides a summary of the alternatives screening analysis results. Sections 3.2 through 3.6 provide detailed analysis to support determinations provided in this summary table. **Figure 3-1** shows a summary map depicting all of the alternatives considered in this analysis.

Table 3-1. Summary of Alternatives Screening Analysis Results

Name of Alternative	Project Objective	Potential Feasibility	Potential to Reduce Significant Environmental Effects, As Compared to Proposed Project
Alternatives Retained for Full Analysis in the EIR			
Alternative SS-1: Bonel ~~McDonald~~ Ranch Substation Site	Meets both objectives.	Potentially feasible based on its consideration in the PEA. Could increase some environmental effects due to longer 230 kV interconnection, but these effects would likely not be significant.	Would reduce aesthetics impacts due to its more rural location and would reduce agricultural resources impacts.
Alternative PLR-1: Estrella Route *(Variations: Alternative PLR-1A~~,~~ and PLR-1C~~, and PLR-1D~~)*	Meets both objectives.	Potentially feasible based on its consideration in the PEA. Would increase some environmental effects due to longer power line length, but these effects would likely not be significant.	Could reduce potential impacts to biological resources and would reduce aesthetic impacts.
Alternative PLR-3: Strategic Undergrounding (*Variations: Alternative PLR-3A and PLR-3B)*	Meets both objectives.	Potentially feasible. Could increase some environmental effects associated with trenching for installation of underground line, but these are unlikely to be significant.	Would reduce aesthetic impacts and could reduce potential impacts to special-status birds.
Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation	Would meet Transmission Objective. Could be paired with an alternative that meets Distribution Objective.	Potentially feasible.	Would reduce aesthetic and agricultural resources impacts.
Alternative SE-PLR-2: Templeton-Paso South River Route	Would meet Transmission Objective. Could be paired with an alternative that meets Distribution Objective.	Potentially feasible.	Would involve less overall ground disturbance and construction activity due to avoided need for a reconductoring segment/reduced overall 70 kV power line length.

Name of Alternative	Project Objective	Potential Feasibility	Potential to Reduce Significant Environmental Effects, As Compared to Proposed Project
~~Alternative BS-1: Battery Storage to Address Transmission Objective *(Variations: Alternative BS-1A, BS-1B, BS-1C, BS-1D, and BS-1E)*~~	~~Would meet the Transmission Objective. Could be paired with an alternative that meets Distribution Objective.~~	~~Potential feasibility constraints due to limited sites/built-out nature of Paso Robles Substation vicinity. Safety and fire risk considerations to be investigated in the EIR.~~	~~Could potentially reduce aesthetics and agricultural resources impacts.~~
Alternative BS-2: Battery Storage to Address Distribution Objective	Would meet Distribution Objective. Could be paired with alternative that meets Transmission Objective.	Feasibility to be evaluated in coordination with Applicants. Safety and fire risk considerations to be investigated in the EIR.	Would likely reduce aesthetic and agricultural resources impacts.
Alternative BS-3: Behind-the-Meter Solar and Battery Storage	~~TBD~~ Could meet the Distribution Objective when paired with FTM storage. Could be paired with alternative that meets Transmission Objective.	~~TBD~~ Potentially feasible.	~~TBD~~ Would reduce aesthetic and agricultural resources impacts, as well as other potential construction-related effects.
Alternatives Screened Out from Full Analysis in the EIR			
Alternative SS-2: Mill Road West Substation Site	Meets both objectives.	Potentially feasible based on its consideration in the PEA. Would require more ground disturbance and construction activity due to need to improve access road, but these environmental effects unlikely to be significant.	May reduce but not altogether eliminate aesthetics impacts. Would have similar agricultural resources impacts.
Alternative PLR-1: Estrella Route *(Variations: Alternative PLR-1B and PLR-1D)*	Meets both objectives.	Potentially feasible based on its consideration in the PEA. Would increase some environmental effects due to longer power line length, but these effects are unlikely to be significant.	Could reduce potential impacts to biological resources and would reduce aesthetic impacts.

Name of Alternative	Project Objective	Potential Feasibility	Potential to Reduce Significant Environmental Effects, As Compared to Proposed Project
Alternative PLR-2: Creston Route *(Variations: Alternative PLR-2A, PLR-2B, and PLR-2C)*	Meets both objectives.	Potential engineering feasibility constraints. Would have similar or possibly more significant aesthetics impacts.	Would not avoid or reduce any significant effects of the Proposed Project.
Alternative SE-1B: Templeton Substation Expansion – 70 kV Substation Only	Would not meet the Transmission Objective and would not fully meet the Distribution Objective.	Infeasible.	Would reduce aesthetic and agricultural resources impacts.
Alternative SE-PLR-1: Templeton-Paso 70 kV Route (Existing)	Would meet Transmission Objective, although would create potential for N-2 contingency (i.e., two lines on one pole being taken down due to vehicular impact, other causes). Could be paired with an alternative that meets Distribution Objective.	~~Potential feasibility constraints associated with need for expansion of Paso Robles Substation to ring bus configuration.~~ Technically and legally infeasible due to insufficient space at Paso Robles to convert the existing bus layout to a ring bus; inability to relocate underground water utilities owned by City of Paso Robles; and insufficient space/access to convert existing wood poles to taller steel poles for conversion of 70 kV line to double-circuit.	Could reduce aesthetics and agricultural resources impacts. Would involve less overall ground disturbance and construction activity due to avoided need for a reconductoring segment/reduced overall 70 kV power line length. Would reduce new permanent disturbance areas due to utilization of an existing transmission line.
Alternative SE-PLR-3: Templeton-Paso Creston Route	Would meet Transmission Objective. Could be paired with an alternative that meets Distribution Objective.	Potential engineering feasibility constraints. Would have similar or possibly more significant aesthetics impacts.	Would involve less overall ground disturbance and construction activity due to avoided need for a reconductoring segment/reduced overall 70 kV power line length.

Name of Alternative	Project Objective	Potential Feasibility	Potential to Reduce Significant Environmental Effects, As Compared to Proposed Project
Alternative BS-1: Battery Storage to Address Transmission Objective *(Variations: Alternative BS-1A, BS-1B, BS-1C, BS-1D, and BS-1E)*	Would meet the Transmission Objective. Could be paired with an alternative that meets Distribution Objective.	Infeasible due to the lack of a recharging window for extended outages (e.g., longer than 24 hours) during peak demand conditions. ~~Potential feasibility constraints due to limited sites/built-out nature of Paso Robles Substation vicinity. Safety and fire risk considerations to be investigated in the EIR.~~	Could potentially reduce aesthetics and agricultural resources impacts.

Notes:

SS = Substation Siting; PLR = Power Line Route; SE = Substation Expansion; BS = Battery Storage; kV = kilovolt;
PEA = Proponent's Environmental Assessment; EIR = Environmental Impact Report; TBD = to be determined

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Bonel Ranch*
Substation Site
(Alternative SS-1)

Estrella
Substation
(Proposed)

Paso Robles Substation

Templeton Substation Expansion
(Alternative SE-1)

Templeton
Substation

San Miguel
Inset Map
Main Map
Paso
Robles
Inset Map
Atascadero
San Luis
Obispo

N. River Road

San Miguel Substation

Morro Road

Atascadero
Lake

Atascadero Substation

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P,

Proposed Project

- Estrella Substation
- Proposed Project 70kV Route

Existing Infrastructure

- Existing Substations

Project Alternatives Carried Forward for Full Analysis

- Alternative SS-1: Bonel Ranch Substation Site
- Alternative SE-1A: Templeton Substation Expansion - 230/70 kV Substation
- Alternative PLR-1A: Estrella Route to Estrella Substation
- Alternative PLR-1C: Estrella Route to Bonel Ranch, Option 1
- Alternative PLR-1C: Minor Route Variation 1
- Alternative PLR-1C: Minor Route Variation 2
- Alternative PLR-3A: Strategic Undergrounding, Option 1
- Alternative PLR-3B: Strategic Undergrounding, Option 2
- Alternative SE-PLR-2: Templeton-Paso South River Road Route
- Potential Front-of-the-Meter Battery Storage Locations (Alternative BS-2)

Other Project Alternatives Considered

- Alternative SS-2: Mill Road West Substation Site
- Alternative PLR-1B: Estrella Route to Mill Road West
- Alternative PLR-2: Creston Route (Variations not shown; not carried forward)
- Alternative SE-PLR-1:Templeton-Paso 70kV Route (Existing)
- Alternative SE-PLR-3: Templeton-Paso Creston Route
- Alternative PLR-1D: Estrella Route to Bonel Ranch, Option #2

N

0 1
Miles

Figure 3-1
Alternatives
Summary Map

Note: The route variations shown are offset in order to display the alignments of the alternative routes that may overlap in places.

* formerly McDonald Ranch

Horizon
WATER and ENVIRONMENT

Source: NEET West and PG&E 2017.

Estrella Substation and
Paso Robles Area Reinforcement Project

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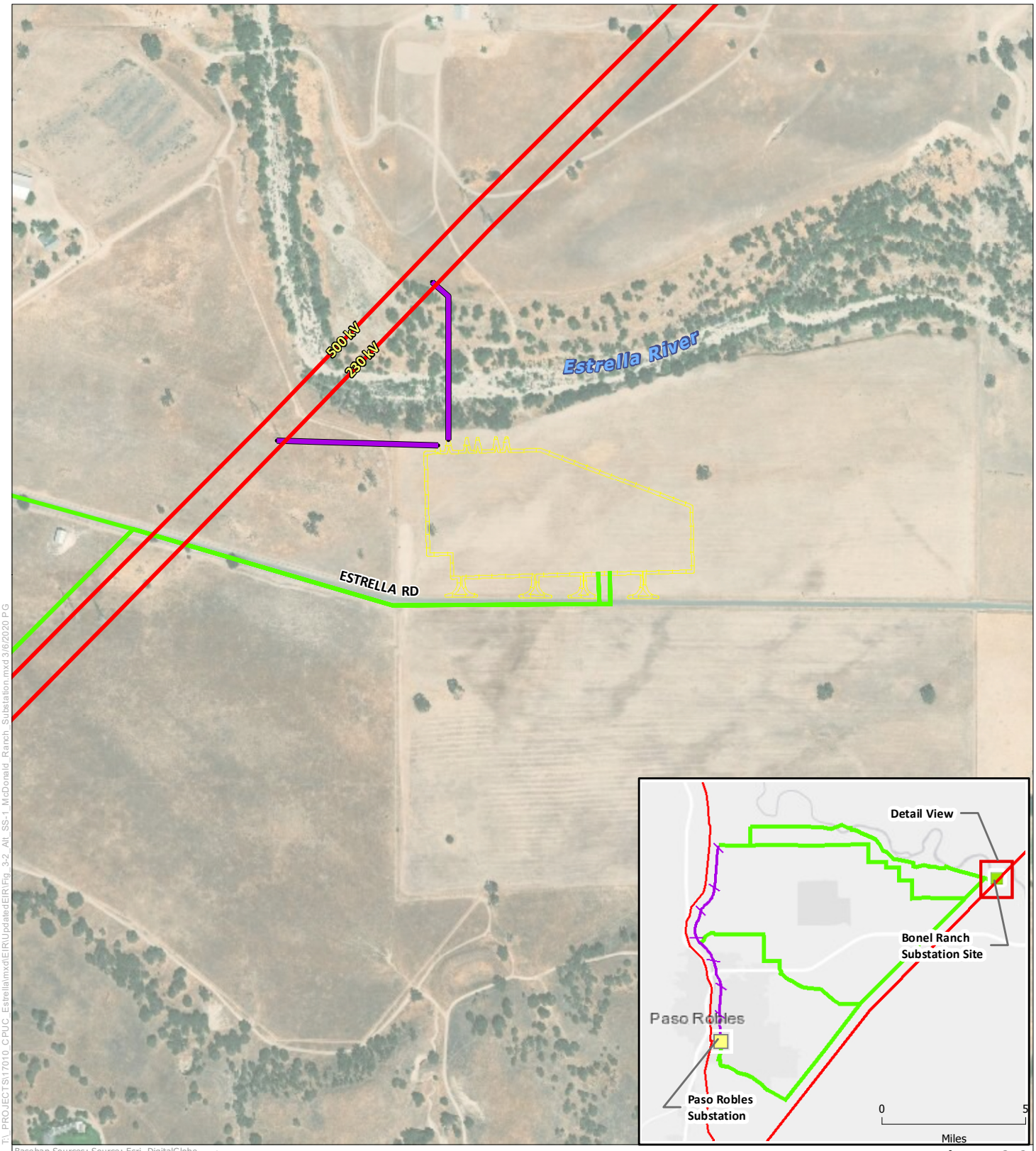
3.2 SUBSTATION SITING (SS) ALTERNATIVES

3.2.1 ALTERNATIVE SS-1: BONEL RANCH (FORMERLY MCDONALD RANCH) SUBSTATION SITE

Description

The Bonel Ranch (formerly McDonald Ranch) Substation Site is situated on an approximately 72-acre parcel, of which the substation would occupy approximately 15 acres. This site is bordered by the Estrella River to the north and Estrella Road to the south, and is generally surrounded by rural development. The Bonel Ranch ~~McDonald Ranch~~ site is located within the County of San Luis Obispo North County Planning Area, El Pomar-Estrella Sub Area, and is currently used to grow alfalfa. Adjacent land uses are also agricultural, including fallow land, livestock grazing, alfalfa, dry farming, and vineyards. Scattered residences are present in the area.

If the substation were constructed at the Bonel Ranch ~~McDonald Ranch~~ Substation Site, it could be connected to the existing Paso Robles Substation via a 70 kV power line following either the Estrella Route (Alternative PLR-1), the Proposed Project power line route, or the Creston Route (Alternative PLR-2). **Figure 3-2** shows Alternative SS-1: Bonel Ranch ~~McDonald Ranch~~ Substation Site and potential power line route alignments.



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Basebap Sources: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,

Alternative

- Substation Footprint
- 230 kV Interconnections
- 70-kV Power Line Routes that Could be Used for the Bonel Ranch Substation Site
- Reconductoring Segment
- Substation Site Alternatives

Existing Infrastructure

- Transmission Lines (offset)
- Substation

N

0 250 500

Feet

Horizon WATER and ENVIRONMENT

Source: Source: NEET West and PG&E 2017; California Energy Commision 2018

Figure 3-2
Alternative SS-1
Bonel Ranch
Substation Site

Estrella Substation and
Paso Robles Area Reinforcement Project

Consideration of CEQA Criteria

Project Objectives

Alternative SS-1: Bonel Ranch ~~McDonald Ranch~~ Substation Site, when combined with one of the power line route alternatives, would meet both of the project objectives. The substation and power line would provide the same functions as the Proposed Project, including addressing the CAISO-identified Category B contingencies and accommodating future additional load demand in the DPA. Due to its more remote location, however, the Bonel Ranch ~~McDonald Ranch~~ Substation Site may provide a less ideal location for extending future distribution service and splitting in half of existing long feeders in the DPA, as compared to the proposed Estrella Substation site.

Feasibility

The Bonel Ranch (formerly McDonald Ranch) Substation Site was originally identified by the Applicants as part of the PEA. The identification of alternatives as part of the PEA considered feasibility, as discussed above in Section 2.1.1, and in the PEA (page 4-3). As this alternative was analyzed with a substantial level of detail in the PEA, it is reasonable to assume that the alternative is potentially feasible from a legal and technical standpoint. The substation site is not on lands afforded legal protections and no regulatory or technical constraints were identified.

Compared to the proposed substation site, Alternative SS-1: Bonel Ranch ~~McDonald Ranch~~ Substation Site would require a longer 230 kV interconnection to the substation (approximately 1,100 feet), which would span the Estrella River. This would require more overall vegetation removal (both temporary and permanent) due to the presence of riparian habitat that extends along the river. Additionally, the site's close proximity to Estrella River would create the potential for impacting unknown cultural and tribal resources, which have a higher likelihood of occurring in areas near watercourses.

Due to the longer interconnection and associated ground disturbance/vegetation removal, construction of Alternative SS-1: Bonel Ranch ~~McDonald Ranch~~ Substation Site also would take longer (i.e., estimated 1 to 2 months longer construction duration). This could result in a potential for increased soil erosion and sedimentation, as well as increased fugitive dust. The site's close proximity to Estrella River also may necessitate additional import/export of fill material to accommodate soils near the river that are less conducive to compaction. The increased truck trips that would result from the additional soil import/export would increase construction-related air contaminant and greenhouse gas (GHG) emissions compared to the proposed substation site.

These environmental impacts could likely be minimized through mitigation measures, however, and are not anticipated to be significant following mitigation. Therefore, they would not render the alternative environmentally infeasible. Overall, the alternative is considered potentially feasible.

Potential to Reduce Significant Environmental Impacts

Alternative SS-1: Bonel Ranch ~~McDonald Ranch~~ Substation Site could reduce identified impacts of the Proposed Project related to aesthetics and agricultural resources. Due its location along the more rural Estrella Road, which is further removed to the east from the City of Paso Robles compared to the proposed substation site, the visual impacts of this alternative would likely affect a fewer number of receptors (e.g., motorists traveling on adjacent roadways). Additionally, the portion of Estrella Road on which the Bonel Ranch ~~McDonald Ranch~~ Substation Site is located is not visible from any vineyards or wineries, and Estrella Road is not included on the "Wine Line" wine touring route (whereas the proposed substation site is visible from several vineyards and wineries identified as "Wine Line" stops). SR 46 is an Eligible State Scenic Highway (California Department of Transportation [Caltrans] 2018); due to the Bonel Ranch ~~McDonald Ranch~~ Substation Site's distance (1.7 miles) from SR 46, it likely would not be visible by motorists using this highway, but this would need to be confirmed in the EIR.

Additionally, while the Bonel Ranch ~~McDonald Ranch~~ Substation Site is designated as Farmland of Local Importance, building the substation on this site would not affect Unique Farmland, Farmland of Statewide Importance, or Prime Farmland (California Department of Conservation [CDOC] 2016a). By contrast, construction of the proposed substation would result in the conversion of 11.73 acres of Unique Farmland and 2.66 acres of Farmland of Statewide Importance (NEET West and PG&E 2017). Unique Farmland and Farmland of Statewide Importance are generally considered superior agricultural lands to Farmland of Local Importance, as Farmland of Local Importance are lands that do not meet the criteria of the former two categories but are nevertheless determined to be important to the local economy (CDOC 2016b). In San Luis Obispo County, Farmland of Local Importance are those lands which meet all the characteristics for Prime Farmland or Farmland of Statewide Importance with the exception of irrigation (CDOC 2016b).

Conclusion

Alternative SS-1: Bonel Ranch (formerly McDonald Ranch) Substation Site would meet both of the project objectives and is potentially feasible. The alternative has the potential to reduce aesthetic and agricultural resources impacts, which are considered potentially significant impacts for the Proposed Project. Therefore, Alternative SS-1: Bonel Ranch ~~McDonald Ranch~~ Substation Site is **retained** for full analysis in the EIR.

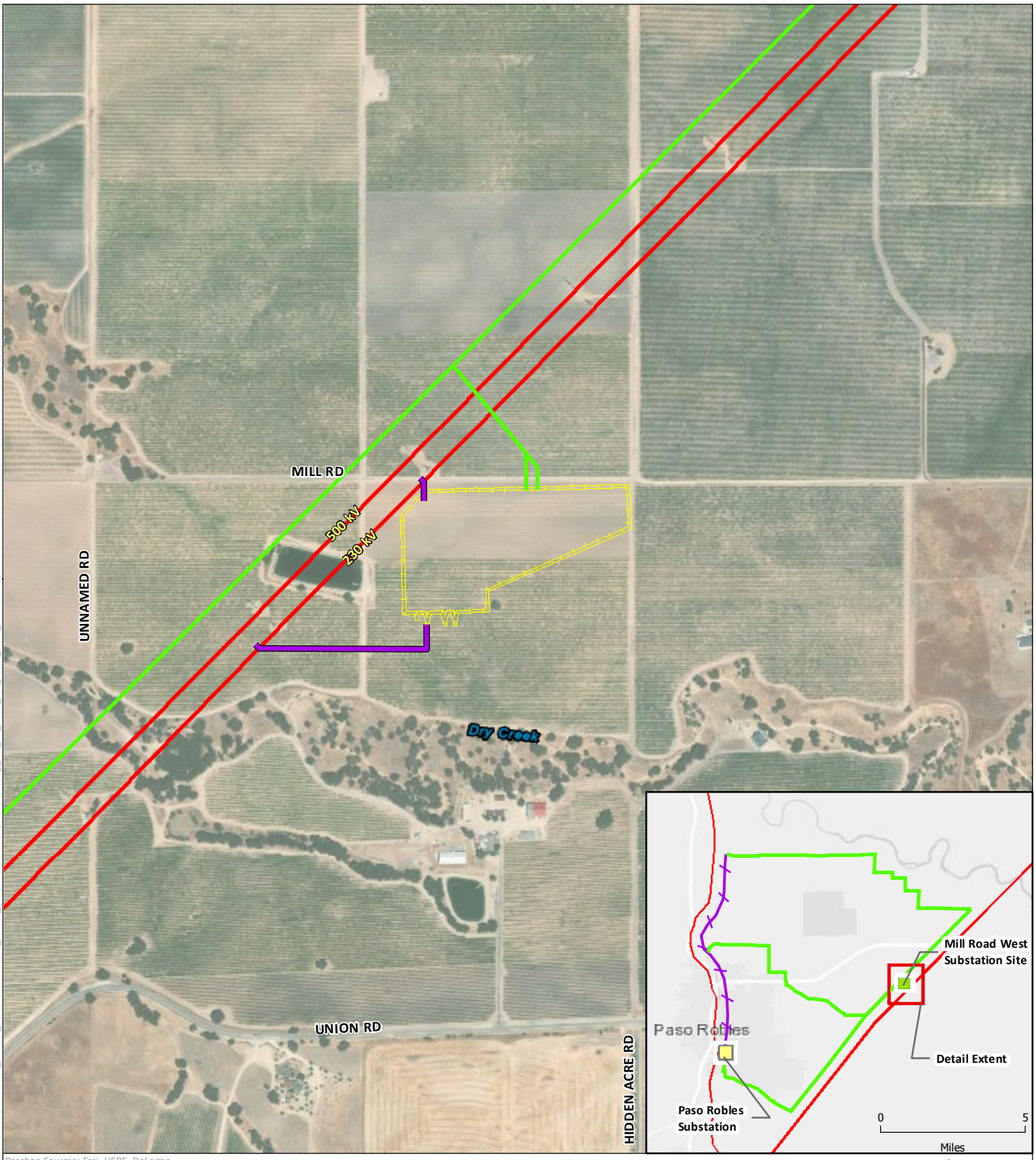
3.2.2 ALTERNATIVE SS-2: MILL ROAD WEST SUBSTATION SITE

Description

The Mill Road West Substation Site is situated on an approximately 42-acre parcel located approximately 0.5 mile east of the proposed Estrella Substation site and Union Road. Similar to the Proposed Project, the substation would occupy an approximately 15-acre portion of the parcel. The site is bounded on the north by Mill Road, the west by an unpaved private road and retention pond, and the south by an unpaved private road and moderate rolling hills, and is located within the County of San Luis Obispo North County Planning Area, El Pomar-Estrella Sub Area. The site is currently used to grow wine grapes. Adjacent land uses include primarily

vineyards and associated wine processing facilities and wine tasting venues. Scattered residences are also present in the area.

The Mill Road West Substation Site could be connected to the existing Paso Robles Substation via either the Proposed Project power line route, the Estrella Route (Alternative PLR-1), or the Creston Route (Alternative PLR-2). **Figure 3-3** shows the Mill Road West Substation Site and possible 70 kV power line alignments.



Basebap Sources: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap

Alternative

- Substation Footprint
- 230 kV Interconnections
- 70-kV Power Line Routes that Could be Used for the Mill Road West Substation Site
- Reconductoring Segment
- Substation Site Alternatives

Existing Infrastructure

- Transmission Line (offset)
- Substation

N

0 250 500
Feet

Source: Source: NEET West and PG&E 2017

Figure 3-3
Alternative SS-2: Mill Road West Substation Site

Estrella Substation and Paso Robles Area Reinforcement Project

Horizon WATER and ENVIRONMENT

\\H2O-SERVER\GIS_Server_PROJECTS\17010_CPUC_Estrella\mxd\EIR\UpdatedEIR\Fig_3-3_Alt_SS-2_Mill_Road_West_Substation.mxd 12/31/2018 PG

Consideration of CEQA Criteria

Project Objectives

Alternative SS-2: Mill Road West Substation Site, when combined with one of the power line route alternatives, would meet both of the project objectives. The substation and power line would provide the same functions as the Proposed Project, and would address the CAISO-identified Category B contingencies, as well as accommodate additional future load demand in the DPA.

Feasibility

The Mill Road West Substation Site was originally identified by the Applicants in the PEA. As this alternative was analyzed with a substantial level of detail in the PEA, it is reasonable to assume that the alternative is potentially feasible from a legal and technical standpoint. The substation site is not on lands afforded legal protections and no regulatory or technical constraints were identified.

The Mill Road West Substation Site would require additional road improvements in order to accommodate construction equipment and all-weather access during operations and maintenance (approximately 1 mile of an existing dirt road would require improvements such as widening, paving, and associated improvements). The alternative also would require a longer 230 kV interconnection compared to the Proposed Project. As a result, this alternative would require more temporary and permanent ground disturbance and create the potential for increased indirect hydrology and water quality impacts. Additionally, due to the presence of water features (e.g., an irrigation pond, Dry Creek) in the area of the site, there is potential for the alternative to affect wetlands.

These environmental effects could likely be minimized through mitigation measures, however, and are not anticipated to be significant following mitigation. Therefore, they would not render the alternative environmentally infeasible. Overall, Alternative SS-2 is considered potentially feasible.

Potential to Avoid or Reduce Significant Environmental Impacts

As the Mill Road West Substation Site is located approximately 0.5 mile northeast of Union Road, it would be somewhat less visually prominent to drivers traveling along Union Road compared to the Proposed Project site; however, the new substation may still be visible to motorists, as well as other sensitive receptors in the area (e.g., residences). The Mill Road West Substation Site, like the proposed substation site, is located in an area typified by rolling hills and vineyards, which features stops along the “Wine Line” bus tour. As a result, the alternative substation would not completely eliminate the potential for visual impacts.

The Mill Road West Substation Site would be located primarily on Farmland of Statewide Importance and Unique Farmland (CDOC 2016a); therefore, it would have similar agricultural resources impacts as the Proposed Project.

Conclusion

Alternative SS-2: Mill Road West Substation Site would meet both of the project objectives and would be potentially feasible; however, the alternative would not eliminate or substantially reduce any of the potentially significant impacts of the Proposed Project. Therefore, Alternative SS-2: Mill Road West Substation Site is **screened out** from full analysis in the EIR.

3.3 POWER LINE ROUTE (PLR) ALTERNATIVES

3.3.1 ALTERNATIVE PLR-1: ESTRELLA ROUTE

Description

The Estrella Route is an alternative route for the 70 kV power line that would connect the proposed Estrella Substation or one of the alternative substation sites (i.e., Alternative SS-1: Bonel ~~McDonald~~ Ranch Substation Site or Alternative SS-2: Mill Road West Substation Site) to the existing Paso Robles Substation. The Estrella Route would allow for the power line to pass north of the Paso Robles Municipal Airport in a low-density area (see **Figure 3-4**).

Depending on which potential substation site is utilized, four variations of the Estrella Route are possible:

- **Alternative PLR-1A: Estrella Route to Estrella Substation.** This route would be used to connect the proposed Estrella Substation to Paso Robles Substation. As shown on Figure 3-4, this route would follow the existing 230/500 kV transmission corridor northeast until veering north at roughly the intersection of the transmission corridor with Highway 46. The route would then zig zag in a northwest direction through agricultural lands until meeting Wellsona Road. At this point, the route would follow Wellsona Road due west until meeting the existing San Miguel-Paso Robles 70 kV Transmission Line. This existing line would then be reconductored south to the existing Paso Robles Substation.
- **Alternative PLR-1B: Estrella Route to Mill Road West.** This route would be used to connect a substation at the Mill Road West Substation Site (Alternative SS-2) to the Paso Robles Substation. The route would be very similar to Alternative PLR-1A, but would follow the existing 230/500 kV transmission corridor further northeast and veer over to the zig zag to Wellsona Road north of Highway 46.
- **Alternative PLR-1C: Estrella Route to Bonel ~~McDonald~~ Ranch, Option One.** This route is one of the options that could be used to connect a substation at the Bonel ~~McDonald~~ Ranch Substation Site (Alternative SS-1) to Paso Robles Substation. As shown in Figure 3-4, the route would be very similar to Alternatives PLR-1A and -1B, and would cut over to the zig zag to Wellsona Road at the same point as Alternative PLR-1B. Based on comments received following the Draft ASR review period, two Minor Route Variations (MRVs) were identified for Alternative PLR-1C:
    - ***Alternative PLR-1C, MRV 1.*** Starting at the Bonel Ranch Substation Site, this MRV would route the 70 kV line along Estrella Road west until turning south down Jardine Road and then joining the Alternative PLR-1C route that cuts west toward Wellsona Road.

- ***Alternative PLR-1C, MRV 2.*** This MRV would start at the zig zag northwest to Wellsona Road and would instead go to the north and follow a portion of the existing distribution line just south of Estrella Road before turning south down Jardine Road and then re-joining the Alternative PLR-1C route.

- **Alternative PLR-1D: Estrella Route to Bonel ~~McDonald~~ Ranch, Option Two.** This route is the second of two options that could be used to connect a substation at the Bonel ~~McDonald~~ Ranch Substation Site (Alternative SS-1) to Paso Robles Substation. As opposed to Alternatives PLR-1A, -1B, and -1C, this route would follow Estrella Road northwest until roughly the junction with Jardine Road, at which point it would veer to the west through agricultural lands before ultimately joining Wellsona Road and then intersecting with the existing 70 kV San Miguel-Paso Robles Power Line. Like the other Estrella Route variations, the existing 70 kV line would then be reconductored from this point south to the existing Paso Robles Substation.

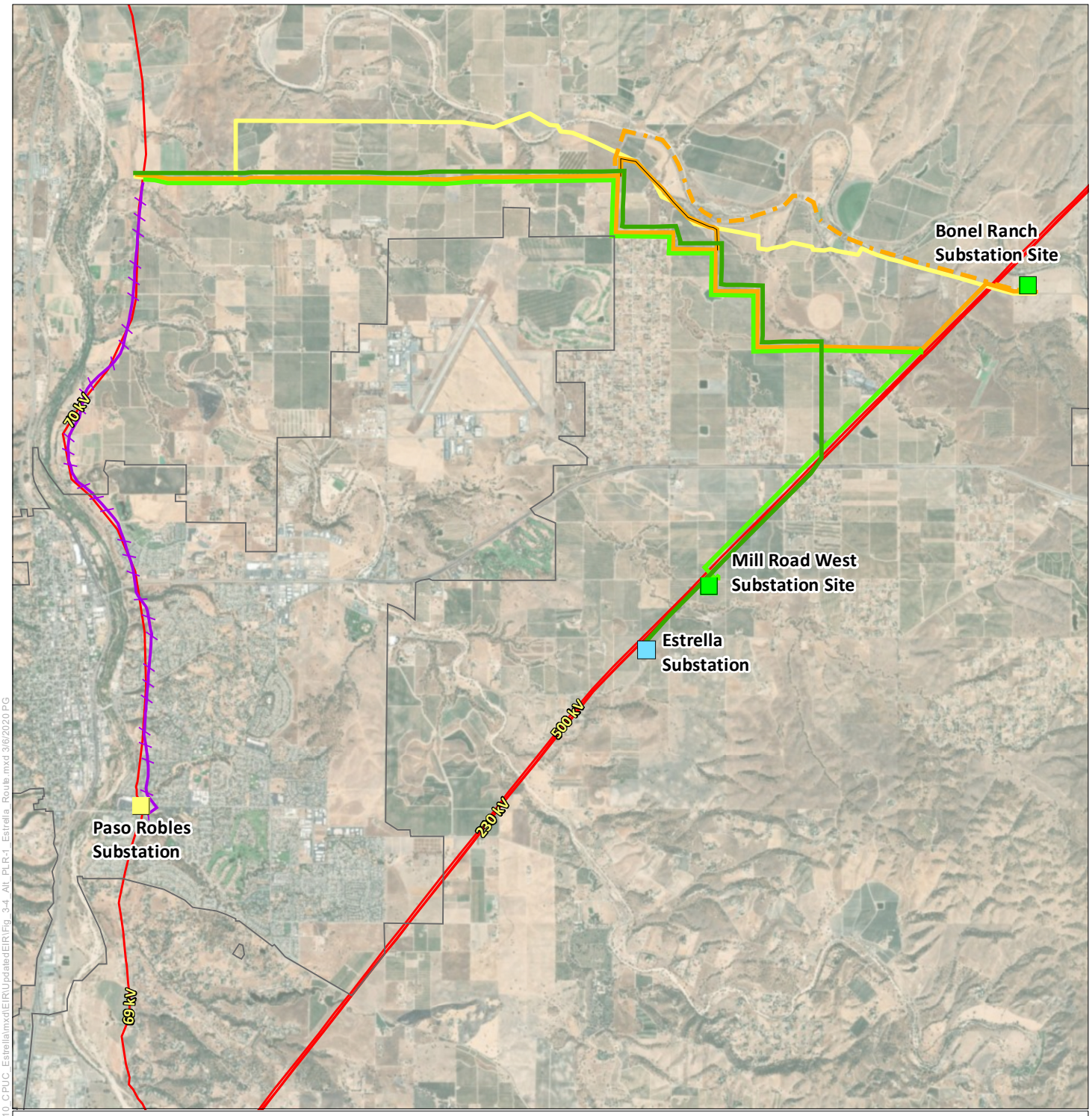
Land uses surrounding the Estrella Route primarily consist of urban and rural residential developments and agricultural areas dominated by vineyards. Alternative PLR-1D traverses more rural, agricultural areas compared to the other alignments. **Table 3-2** shows the length of the Estrella Route variations, as dictated by the potential substation site connection.

Table 3-2. Length of Estrella Route Power Line Components by Potential Substation Site Interconnection

Component	Length of Improvements / New Construction (miles)			
	Alternative PLR-1A: Estrella Route to Estrella Substation	**Alternative PLR-1B: Estrella Route to Mill Road West**	**Alternative PLR-1C: Estrella Route to Bonel ~~McDonald~~ Ranch, Option One**	**Alternative PLR-1D: Estrella Route to Bonel ~~McDonald~~ Ranch, Option Two**
New Double-Circuit 70 kV Power Line	10.5	11.25	10	9
Reconductoring of Existing 70 kV San Miguel-Paso Robles Power Line	6	6	6	6
Total	16.5	17.25	16	15

Note: kV = kilovolt

Conductors on the new 70 kV power line and the reconductoring segment for the Estrella Route would be supported by a combination of the same types of structures and conductor configuration as the Proposed Project route. Construction methods and operation and maintenance activities would be identical to the Proposed Project route.



Basebap Sources: Source: Esri, DigitalGlobe, GeoEye,

Alternative

- Alternative PLR-1A: Estrella Route to Estrella Substation
- Alternative PLR-1B: Estrella Route to Mill Road West
- Alternative PLR-1C: Estrella Route to Bonel Ranch, Option 1
- Alternative PLR-1C: Minor Route Variation 1
- Alternative PLR-1C: Minor Route Variation 2
- Alternative PLR-1D: Estrella Route to Bonel Ranch, Option 2
- Reconductoring Segment

- Estrella Substation
- Substation Site Alternatives
- Paso Robles City Limits

Existing Infrastructure

- Substation
- Transmission Line

N

0 1 Miles

Horizon WATER and ENVIRONMENT

Source: Source: NEET West and PG&E 2017

Note: The route variations shown are offset in order to display the alignments of the alternative routes.

Figure 3-4
Alternative PLR-1: Estrella Route

Estrella Substation and Paso Robles Area Reinforcement Project

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Consideration of CEQA Criteria

Project Objectives

Alternative PLR-1: Estrella Route, when combined with one of the substation siting alternatives, would meet both of the project objectives. The substation and power line would provide the same functions as the Proposed Project, including addressing the CAISO-identified Category B contingencies. Utilization of this power line route would not affect the substation's ability to accommodate existing load demand in the DPA and provide for future distribution service for anticipated growth.

Feasibility

The Estrella Route was originally identified by the Proposed Project Applicants as part of the PEA. ~~As described in Section 2.1.1, the Applicants considered legal, technical, and other potential constraints in developing the power line alignment alternatives. As this alternative was analyzed with a substantial level of detail in the PEA, it is reasonable to assume that the alternative is potentially feasible from a legal and technical standpoint.~~ In its comments on the Draft ASR, PG&E noted that there were potential feasibility issues with all of the Alternative PLR-1 variations (i.e., Alternative PLR-1A, -1B, -1C, and -1D) due to lack of all-weather access roads for maintenance. All-weather roads would need to be established adjacent to the pole line in the agricultural areas, which would likely be opposed by the farmers. If no permanent access can be established and the existing access roads are passable, PG&E would need to drop or remove a row of grapevines to drive over the area to conduct maintenance, likely resulting in 5 years of crop loss reimbursement, which would add to the project cost.

In particular, according to PG&E, the Alternative PLR-1D alignment has difficult access or no existing access roads along a majority of the route, as the route runs cross-country through residents' yards and pastures. During the walkdown process to evaluate this route, PG&E's team discovered that access was almost non-existent and new temporary roads would have to be built to construct a double-circuit 70 kV transmission line along much of this route. If a double-circuit 70 kV line was constructed along this route, maintenance would be difficult during the wet season. Many of the new poles would not be adjacent to roads, so trucks would have to cross fields to reach them. Those fields will not be accessible by trucks when they are heavily saturated and muddy. If repairs were needed during these times, access to the site would be limited to by foot or possibly by helicopter.

PG&E acknowledged that the feasibility issues described for Alternatives PLR-1A, -1B, and -1C were not fully vetted and did not object to carrying forward these alternatives for detailed consideration in the EIR. The potential feasibility issues associated with Alternative PLR-1D are more pronounced and PG&E recommended dismissal of the alternative based on these issues.

Due to its longer length (from 2 to 4.25 additional miles of new pole line and 3 additional miles of reconductored line, depending on the variation), Alternative PLR-1: Estrella Route would increase some environmental impacts associated with additional construction activity and a longer construction duration, such as those related to air quality, GHG emissions, cultural resources, noise, and traffic. Compared to the Proposed Project route, the Estrella Route would involve greater overall ground disturbance and operation of construction equipment, thereby

resulting in greater construction-related effects. The proximity of the Estrella Route to the Paso Robles Municipal Airport also would reduce the ability for the new power line to follow property lines, causing a number of properties to be severed by the new utility route; this would also have the effect of reducing maintenance access for PG&E.

None of these increased effects are anticipated to be significant following mitigation, however, and therefore would not render the alternative environmentally infeasible. Overall, Alternative PLR-1A, -1B, and -1C are ~~is~~ considered potentially feasible. Alternative PLR-1D is considered infeasible based on the construction and maintenance accessibility issues described above.

Potential to Avoid or Reduce Significant Environmental Impacts

Because the Estrella Route would pass through a more rural area of San Luis Obispo County and would avoid certain areas of high viewer sensitivity documented during the project scoping period, it could reduce aesthetic impacts compared to the Proposed Project. The Estrella Route would avoid the potentially significant effects on the existing visual quality and character of the areas along Golden Hill Road in the City of Paso Robles that would result from the Proposed Project route. While the Estrella Route could still result in aesthetics impacts in other locations (this would need to be further evaluated in the EIR), at this screening level of analysis, it is believed that the Estrella Route could reduce overall aesthetics impacts compared to the Proposed Project.

Additionally, the Estrella Route would reduce impacts to sensitive natural communities (i.e., blue oak woodlands, sandy wash, Central Coast cottonwood-sycamore riparian forest, and coastal and valley freshwater marsh), as this route would not pass through such sensitive areas. The Estrella Route also would pass substantially further (i.e., approximately 3 mile northeast) from the golden eagle nest documented near the Proposed Project route by Huerhuero Creek north of the Golden Hill Road Industrial Park (see NEET West and PG&E 2017, page 3.4-37); thereby, reducing the potential to impact this nesting golden eagle pair.

Conclusion

Alternative PLR-1: Estrella Route would meet both of the basic project objectives ~~and is potentially feasible~~. Variations PLR-1A, -1B, and -1C are considered potentially feasible. Variation PLR-1D is considered infeasible as it has more significant issues involving lack of maintenance access. ~~The A~~alternative PLR-1 could reduce potentially significant effects (i.e., aesthetics and biological resources) of the Proposed Project.

Because Alternative SS-2: Mill Road West Substation Site was screened out from full analysis in the EIR, Alternative PLR-1B, also, is screened out. Additionally, Alternative PLR-1D is screened out due to the feasibility issues described above. Alternatives PLR-1A~~,~~ and -1C ~~and 1D~~ are **retained** for full analysis in the EIR.

3.3.2 ALTERNATIVE PLR-2: CRESTON ROUTE

Description

The Creston Route is a 70 kV power line route that could be used for either the proposed Estrella Substation, Alternative SS-1: Bonel ~~McDonald~~ Ranch Substation Site, or Alternative SS-2: Mill Road West Substation Site. In each case, a new double-circuit 70 kV power line would be installed along the route to connect the substation to the Paso Robles Substation. **Figure 3-5** shows the Creston Route.

The Creston Route variations are identified as follows:

- **Alternative PLR-2A: Creston Route to Estrella.** This route would be used to connect the proposed Estrella Substation to Paso Robles Substation. From the new Estrella Substation, the route would follow the existing 230/500 kV transmission corridor south to roughly the intersection with Creston Road. At this point, the route would veer to the northwest and follow Creston Road, then Charolais Road, and then South River Road before meeting the Paso Robles Substation.

- **Alternative PLR-2B: Creston Route to Mill Road West.** This route would be used to connect a substation at the Mill Road West Substation Site (Alternative SS-2) to Paso Robles Substation. The route would be identical to Alternative PLR-2A except that it would extend further northwest along the existing 230/500 kV transmission corridor to connect with the more northwesterly Mill Road West Substation Site.

- **Alternative PLR-2C: Creston Route to Bonel ~~McDonald~~ Ranch.** This route would be used to connect a substation at the Bonel ~~McDonald~~ Ranch Substation Site (Alternative SS-1) to Paso Robles Substation. The route would be identical to Alternatives PLR-2A and -2B except that it would extend further northwest along the existing 230/500 kV transmission Corridor to connect with the more northwesterly Bonel ~~McDonald~~ Ranch Substation Site.

Land use within the portion of the Creston Route following the 230/500 kV transmission corridor is primarily agricultural and rural residential, while the land use along the portion of the route that follows Creston Road, Charolais Road, and then South River Road varies from rural residential to urban development. The alternative is located on a combination of privately-owned property and PG&E easements, with one parcel owned by the Land Conservancy of San Luis Obispo County. **Table 3-3** shows the length of the new line associated with each variation/potential substation site. The 3-mile-long reconductoring segment would not be required under Alternative PLR-2: Creston Route.

Table 3-3. Length of Creston Route Power Line Components by Potential Substation Site Interconnection

	Length of Improvements / New Construction (miles)		
	Alternative PLR-2A: Creston Route to Estrella Substation	**Alternative PLR-2B: Creston Route to Mill Road West**	**Alternative PLR-2C: Creston Route to Bonel ~~McDonald~~ Ranch**
New Double-Circuit 70 kV Power Line	11.5	8	7.5

Note: kV = kilovolt

Conductors along the Creston Route would be supported by a combination of the same types of structures and conductor configuration as for the Proposed Project route's new 70 kV power line segment. Construction methods and operation and maintenance activities would be nearly identical to the Proposed Project route for most of the new 70 kV power line segment. Temporary and permanent disturbance area assumptions are the same as identified for the Proposed Project route's new 70 kV power line segment along the transmission corridor and along the south side of Creston Road to the south side of Charolais Road.



T:_PROJECTS\17010_CPUC_Estrella\mxd\EIR\Updated\EIR\Fig_3-5_Alt_PLR-2_Creston_Route.mxd 9/6/2020 PG

Basebap Sources: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,

Paso Robles City Limits

Estrella Substation

Substation Site Alternatives

Alternative

Alternative PLR-2A: Creston Route to Estrella

Alternative PLR-2B: Creston Route to Mill Road West

Alternative PLR-2C: Creston Route to Bonel Ranch

Existing Infrastructure

Existing Substation

Existing Transmission Lines

N

0 1

Miles

Horizon WATER and ENVIRONMENT

Source: Source: NEET West and PG&E 2017

Figure 3-5

Alternative PLR-2: Creston Route

Note: The route variations shown are offset in order to display the alignments of the alternative routes that may overlap in places.

Estrella Substation and Paso Robles Area Reinforcement Project

Consideration of CEQA Criteria

Project Objective

This alternative, when combined with one of the substation siting alternatives, would meet both project objectives.

Feasibility

As discussed in the PEA, the Creston Route has potential engineering feasibility conflicts with existing utilities (NEET West and PG&E 2017; page 4-15).

With respect to environmental feasibility, compared to the Proposed Project power line alignment, the Creston Route would have similar, or possibly more significant, aesthetics impacts. The portion of the Creston Route that follows Creston Road passes through a relatively densely populated residential area that does not currently have a transmission line (although there is an existing distribution line). Therefore, addition of the new 70 kV power line along this alignment would subject these residents to adverse visual impacts and cause a decrease in the visual quality of the area. Impacts along the portion of the alignment along South River Road would be less severe considering that the baseline condition in this area includes transmission infrastructure (i.e., the San Miguel–Paso Robles 70 kV Transmission Line). In many respects, these aesthetic impacts would be similar to those for the Proposed Project power line, but could potentially be more severe considering that the Creston Road area is more densely populated than the areas through which the Proposed Project power line would traverse.

The Creston Route also would traverse sensitive habitats, and could potentially increase impacts on heritage oaks and could create potential for impacts to vernal pool fairy shrimp. A number of large heritage oaks are located along Charolais Road and South River Road, which would require removal for implementation of the Creston Route Alternative. These heritage oaks are part of the historic blue oak forest and are highly regarded by the community (NEET West and PG&E 2017). While the Proposed Project power line would require trimming of heritage oak trees, the Creston Route Alternative would require trimming and removal of such trees. The Creston Route could also result in direct or indirect impacts to vernal pool fairy shrimp and/or vernal pool fairy shrimp habitat, whereas the proposed route would avoid such habitat.

The potential for engineering feasibility conflicts and increased potentially significant impacts to aesthetics and biological resources suggest that Alternative PLR-2 may not be feasible.

Potential to Avoid or Reduce Significant Environmental Impacts

The Creston Route would have similar, if somewhat reduced, agricultural resources impacts compared to the Proposed Project. There appear to be fewer agricultural lands and lands designated as Important Farmland by the CDOC along the Creston Route as compared to the Proposed Project power line route; however, the primary impacts of the Proposed Project on agricultural lands are from the permanent loss of Important Farmland associated with the new substation. Like the Proposed Project route, the Creston Route would have relatively minimal permanent impacts on agricultural lands due to the small footprint of individual transmission pole structures.

As described above under "Feasibility," the Creston Route may increase potentially significant aesthetics impacts, as this route would pass through a more densely populated, residential area. Overall, the Creston Route would not substantially reduce or eliminate any potentially significant impacts of the Proposed Project.

Conclusion

The Creston Route would meet both project objectives; however, it is unclear if the alternative would be feasible and the alternative would not reduce or eliminate any potentially significant impacts of the Proposed Project. Therefore, Alternative PLR-2: Creston Route is **screened out** from full analysis in the EIR.

3.3.3 ALTERNATIVE PLR-3: STRATEGIC UNDERGROUNDING

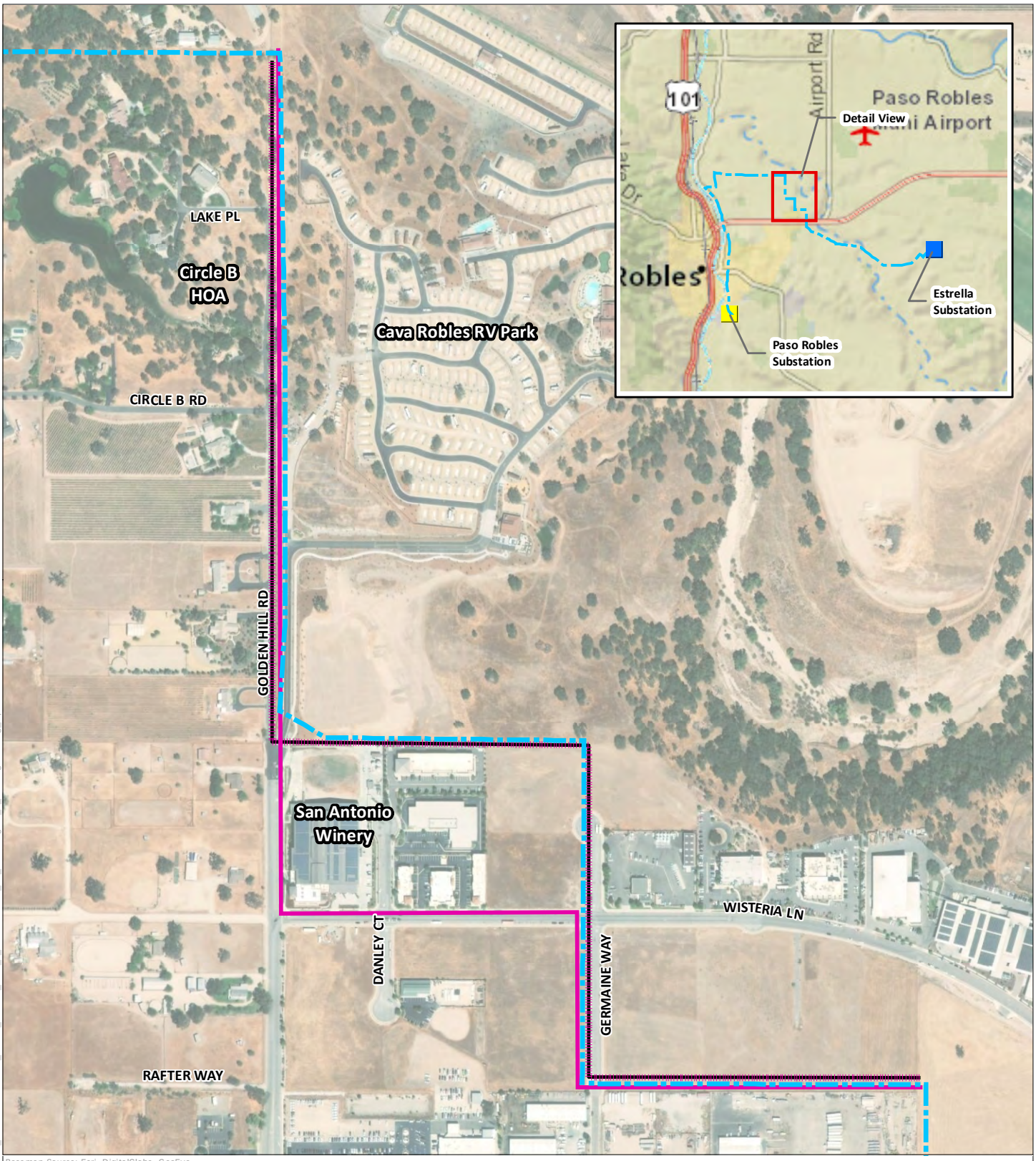
Description

Alternative PLR-3: Strategic Undergrounding would involve undergrounding the portion of the Proposed Project's new 70 kV power line which has the greatest potential for aesthetic and other environmental impacts. During scoping for the Proposed Project (see Section 2.1.2 for discussion), and based on CPUC staff and consultant's preliminary analysis of the Proposed Project's potential impacts, it was identified that the proposed new 70 kV power line has potential for significant impacts to aesthetics, as well as to other resource categories (e.g., biological resources, public services, etc.).

In particular, the portion of the line that passes through the Golden Hill Road area north of Highway 46 has the greatest potential for impacts because this area does not have existing above-ground transmission or distribution electrical infrastructure and is an up-and-coming area of new commercial and industrial development. This area also has existing single-family residential development and recreational uses, and is located near a known golden eagle nest and an area of relatively undeveloped blue oak woodland that could support other special-status and non-special status species. Land uses along other segments of the proposed new 70 kV power line could experience impacts, but these areas either already have transmission infrastructure (e.g., the existing San Miguel-Paso Robles 70 kV Power Line along the proposed reconductoring segment) or are more rural in nature and would not be subject to the same level of aesthetic impacts.

Subsequent to the release of the Draft ASR, the proposed undergrounding segment under Alternative PLR-3 was modified slightly and two separate routes were considered. **Figure 3-6** shows the portion of the new 70 kV power line that would be undergrounded for Alternative PLR-3 and the two variations considered by CPUC. As shown in Figure 3-6, the undergrounded section would begin at roughly the point where the proposed power line alignment turns west to parallel Wisteria Lane. From this point, the undergrounded line would extend west before turning north along Germaine Way. ~~following Wisteria Lane before turning north along Golden Hill Road.~~ From this point, Option 1 would follow Wisteria Lane and then turn north along Golden Hill Road. Under this option, the underground line would be installed within/underneath the roadway. Instead of turning west along Wisteria Lane, Option 2 would continue north along Germaine Way past the cul-de-sac and then west behind the existing businesses there (e.g., San Antonio Winery). Option 2 would follow the revised Proposed Project overhead 70 kV route.

From the junction of Golden Hill Road and the Proposed Project 70 kV route alignment, both Option 1 and 2 ~~The undergrounded section~~ would extend along Golden Hill Road until the point where the proposed 70 kV power line route turns abruptly west, approximately 0.1-mile north of the junction with Lake Place.



Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,

N

0 250 500
Feet

Proposed Project 70-kv Route

Undergrounding Option 1

Undergrounding Option 2

Source: NEET West and PG&E 2019

Figure 3-6
Alternative PLR-3:
Strategic Undergrounding

Note: The route variations shown are offset in order to display the alignments of the alternative routes.

Estrella Substation and
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T:_PROJECTS\17010_CPUC_Estrella_Task_3_EIR\mxd\Misc_for_Client\Figure_2_Undergrounding_Options.mxd 12/18/2019 PG

Construction methods for Alternative PLR-3: Strategic Undergrounding would include trenching for installation of the underground line. Vegetation clearing may be required for portions of the alignment along vegetated areas, and portions of the line within roads or sidewalks would require asphalt cutting to expose the underlying soil. Splice vaults also would likely need to be installed at appropriate intervals, which could require more substantial excavation to install. These activities would involve use of construction equipment such as excavators, dump trucks, asphalt cutting equipment, and related equipment.

Consideration of CEQA Criteria

Project Objectives

Alternative PLR-3: Strategic Undergrounding would meet both of the project objectives. The undergrounded line segment would perform the same functions as the proposed overhead line. When constructed in combination with the proposed Estrella Substation, the alternative would meet the Transmission Objective by providing an additional source of power to Paso Robles Substation. While the alternative would not itself meet the Distribution Objective, it would be constructed with the proposed Estrella Substation, which would meet the distribution needs of the Proposed Project.

Feasibility

While detailed engineering and design has not been performed for Alternative PLR-3: Strategic Undergrounding, at this screening level of analysis, there is no available information to suggest that the alternative is infeasible. Germaine Way, Wisteria Lane, and Golden Hill Road ~~is an~~ are existing roads which may have underground utilities (e.g., water, sewer, natural gas, communications, etc.) within the roadway or sidewalk, but these existing utilities should be able to be negotiated. It is likely that Alternative PLR-3 would be more expensive than the proposed overhead approach, but at this point in time, CPUC does not have evidence to suggest that any increased cost from undergrounding the line would render the project economically infeasible.

With respect to environmental feasibility, Alternative PLR-3: Strategic Undergrounding could increase some environmental impacts associated with the trenching required for installation of the underground conductors and splice vaults. This trenching/excavation would involve additional ground disturbance compared to the proposed overhead power line's installation, and could increase potential for impacts to buried cultural resources; air pollutant and GHG emissions from increased operation of construction equipment, and impacts to special-status plants and animals in the area. The trenching/construction activities also could increase traffic impacts and noise, although these impacts would be temporary, lasting only for the duration of construction activities along this one power line segment.

None of the impacts described above are anticipated to be significant following implementation of mitigation measures, however, and therefore would not render the alternative environmentally infeasible. Overall, the alternative is considered potentially feasible.

Potential to Avoid or Reduce Significant Environmental Impacts

Alternative PLR-3 would reduce aesthetic impacts caused by the proposed overhead power line. Undergrounding the power line would completely avoid the aesthetic impacts in the area of

Golden Hill Industrial Park and the area of Cava Robles RV Park and the Circle B HOA that could occur from the Proposed Project. Once installed, the underground conductors would not be visible by sensitive receptors in the area, and this area of Paso Robles and San Luis Obispo County would continue to have no above-ground transmission infrastructure.

Additionally, Alternative PLR-3: Strategic Undergrounding could reduce potential impacts on biological resources and public services. As noted above, the portion of the proposed overhead power line that follows Golden Hill Road is near (approximately 0.2 mile west) a known golden eagle nesting pair. Additionally, the northern portion of the Alternative PLR-3 undergrounding segment passes through relatively undeveloped oak woodland that could serve as habitat for special-status bird species. Such bird species could potentially be impacted by an overhead 70 kV power line, and U.S. Fish and Wildlife Service (USFWS) staff have requested that "bird diverters" be placed on any overhead lines as an avoidance and minimization measure. Alternative PLR-3 would avoid potential impacts to special-status bird species that could occur from overhead lines along the 1.2-mile segment of line that would be undergrounded.

During the scoping period, CPUC staff and consultants received a number of comments about the potential for overhead transmission lines in the area of the Circle B HOA to obstruct the flight path for CAL FIRE helicopters accessing the pond located within the Circle B HOA (see Figure 3-6). CPUC has not yet verified with CAL FIRE or the Federal Aviation Administration whether this would in fact pose a problem (this will be further evaluated in the EIR); however, to the extent that such an impact could occur, the effect would be avoided (at least for aircraft entering from or exiting to the east) through Alternative PLR-3.

Conclusion

Alternative PLR-3: Strategic Undergrounding would meet both of the project objectives and is potentially feasible. The alternative would reduce potentially significant aesthetics impacts, as well as potential impacts to biological resources and public services. Therefore, Alternative PLR-3 is **retained** for full analysis in the EIR.

3.4 EXISTING SUBSTATION EXPANSION (SE) ALTERNATIVES

3.4.1 ALTERNATIVE SE-1A: TEMPLETON SUBSTATION EXPANSION – 230/70 KV SUBSTATION

Description

Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation would involve expansion of the existing Templeton Substation to include a new 230/70 kV substation adjacent to the existing facilities at the Templeton Substation (see **Figure 3-7**). This new substation would include essentially the same equipment as the proposed Estrella Substation (with room for future expansion), and would interconnect with the Morro Bay-Cal Flats #2 230 kV line and the existing Templeton Substation via a new 70 kV tie line. PG&E would modify and expand Templeton Substation to operate in the same manner as the proposed Estrella 70 kV yard (breaker-and-a-half [BAAH] 70 kV expansion at Templeton Substation). Likewise, NEET West

would construct and operate the new 230 kV substation portion of Templeton Substation to be essentially identical to the proposed Estrella Substation.

To address the two Category B (i.e., P1) contingencies for thermal overloads and voltage concerns within the Paso Robles DPA that were identified by CAISO, the expanded Templeton Substation would need to be connected to the existing Paso Robles Substation via a new circuit. This is because an auxiliary source of power is needed at the Paso Robles Substation in the event that the existing Templeton-Paso Robles 70 kV Transmission Line fails. Possible routes for the new circuit are described and evaluated under Alternatives SE-PLR-1, SE-PLR-2, and SE-PLR-3. Figure 3-7 shows the footprint of the expanded/new substation adjacent to the existing Templeton Substation.



Source: NEET West and PG&E 2018c

Figure 3-7.
Alternative SE-1A: Templeton Substation Expansion - 230/70 kV Substation

Prepared by:
Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

Consideration of CEQA Criteria

Project Objectives

~~The Templeton Expansion~~ Alternative SE-1A, when paired with one of the routing alternatives described in Section 3.5, would meet the Transmission Objective by addressing the Category B Contingency scenarios involving loss of either the Templeton Transformer Bank or the Templeton-Paso 70 kV Power Line. ~~The Templeton Expansion~~ Alternative SE-1A would provide a new source of 230 kV power to the Paso Robles Substation, which would provide needed redundancy in the electrical grid system in this area.

While ~~the Templeton Expansion~~ Alternative SE-1A would not directly address the Distribution Objective, it would add capacity to the Templeton Substation (and thereby the DPA as a whole) with the addition of the new transformer and 230 kV connection. As such, it could absorb some additional load that is currently served through distribution feeders connected to other area substations, or new load in the future associated with future development. Likewise, the expanded Templeton Substation would provide a location for expansion of future distribution facilities (e.g., feeders) that could serve areas within a reasonable distance from the substation. However, this location is not near the anticipated areas of most vigorous growth (e.g., near the Paso Robles Airport), which could be better served by the proposed substation site. Additionally, ~~the Templeton Expansion~~ Alternative SE-1A would not have the benefit of potentially reducing the length of long feeders in the DPA. As a result, ~~the Templeton Expansion~~ Alternative SE-1A would not fully meet the Distribution Objective identified for the project.

Feasibility

PG&E's preliminary analysis of Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation (NEET West and PG&E 2018b) identified no fatal faults or conflicts that would suggest the alternative is not feasible. Physical space exists for the new substation adjacent to the existing Templeton Substation, as shown in Figure 3-7. Likewise, the alternative would use standard equipment and technologies (e.g., BAAH 70 kV arrangement) that have been used successfully in numerous other locations. The substation expansion area would not be located on or within any wilderness areas, wilderness study areas, restricted military bases, airports, or Indian reservations, which may preclude implementation of the alternative. As such, the alternative is considered to be potentially feasible from a technical and legal standpoint.

The specific costs of Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation are confidential, but the Applicants have indicated that they believe the alternative may be more expensive than the Proposed Project. Costs will need to be further investigated, but, at this point in time, CPUC has no reason to believe that Alternative SE-1A would be so expensive as to be economically infeasible.

With respect to environmental feasibility, Alternative SE-1A could potentially increase biological resources impacts compared to the Proposed Project. The Applicants' preliminary desktop environmental analysis (NEET West and PG&E 2018b) determined that the following special-status species were likely to occur in the substation study area: California red-legged frog (*Rana draytonii*), golden eagle (*Aquila chrysaetos*), and Northern California legless lizard (*Anniella pulchra*). Additionally, Alternative SE-1A: Templeton Substation Expansion -230/70 kV

Substation could necessitate removal of several oak trees. Nesting habitat for migratory passerine birds and raptors protected by the Migratory Bird Treaty Act and California Fish and Game Code, including trees, shrubs, and grasslands, is present throughout the substation expansion area and could be impacted by the alternative. By contrast, the proposed Estrella Substation site is entirely composed of vineyards under active cultivation, which the PEA determines provides low habitat value for sensitive plants and wildlife species.

The Applicants' preliminary desktop analysis also identified a manmade drainage feature in the Templeton Substation Expansion study area (along the southern side of the Templeton Substation) which drains to an unnamed ephemeral drainage feature and eventually into the Salinas River (NEET West and PG&E 2018b). While these features could be considered jurisdictional by applicable regulatory agencies, it does not appear that they would be directly impacted by the substation expansion facilities. In general, Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation would have similar potential hydrology and water quality impacts as the Proposed Project, and those impacts could be similarly avoided or minimized through implementation of a Stormwater Pollution Prevention Plan.

It is anticipated that mitigation measures could effectively minimize the potential environmental impacts described; therefore, such constraints would not render the alternative environmentally infeasible. Overall, Alternative SE-1A is considered potentially feasible.

Potential to Avoid or Reduce Significant Environmental Impacts

Compared to the Proposed Project, Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation would have reduced aesthetics impacts. While there are a number of wineries located in proximity to the Templeton Substation area, including several stops along the "Wine Train," as indicated on the Paso Robles Visitor's Guide, the existing site is characterized by electrical infrastructure. This existing infrastructure includes the 230/500 kV corridor, which passes directly adjacent to the proposed expansion site and connects with the existing Templeton Substation, and the Templeton Substation itself. As such, the addition of the expanded Templeton Substation facilities would not dramatically change the area's existing visual character.

Additionally, the Templeton Substation vicinity is relatively sparsely populated, and there are few sensitive receptors in the area whose views could be impacted. The surrounding area includes a small-scale 1.5-MW distributed solar array (Vintner Solar) located north of El Pomar Drive; Hanging Heart Ranch and a few trailers located west of Templeton Substation, and a seasonal worker structure located east of Templeton Substation (NEET West and PG&E 2018b). More distant views of the substation site would be limited due to variations in topography and intervening vegetation. U.S. Highway 101 is an eligible state scenic highway in this area; however, the substation expansion site (located 1.2 miles east of the highway) likely would not be visible from this highway. The substation expansion area is not located within an area subject to scenic protection standards by the County of San Luis Obispo (NEET West and PG&E 2018b). Overall, the alternative would not be expected to have significant aesthetics impacts, and would reduce aesthetics impacts compared to the proposed Estrella Substation.

Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation also may reduce agricultural resources impacts compared to the Proposed Project substation. The substation

expansion site is primarily designated as Farmland of Local Importance under the Farmland Mapping and Monitoring Program (CDOC 2016a); it is difficult to tell based on aerial photographs whether the site is currently being used for agricultural production. By contrast, the proposed Estrella Substation site is largely Unique Farmland and Farmland of Statewide Importance, both of which are superior classes of land than Farmland of Local Importance, and is under active vineyard cultivation. The alternative would impact small areas of Farmland of Statewide Importance due to the 230 kV interconnection, which would extend across El Pomar Drive to the north of the substation expansion site; however, these impacts would be substantially less severe than under the proposed Estrella Substation and 230 kV interconnection.

Conclusion

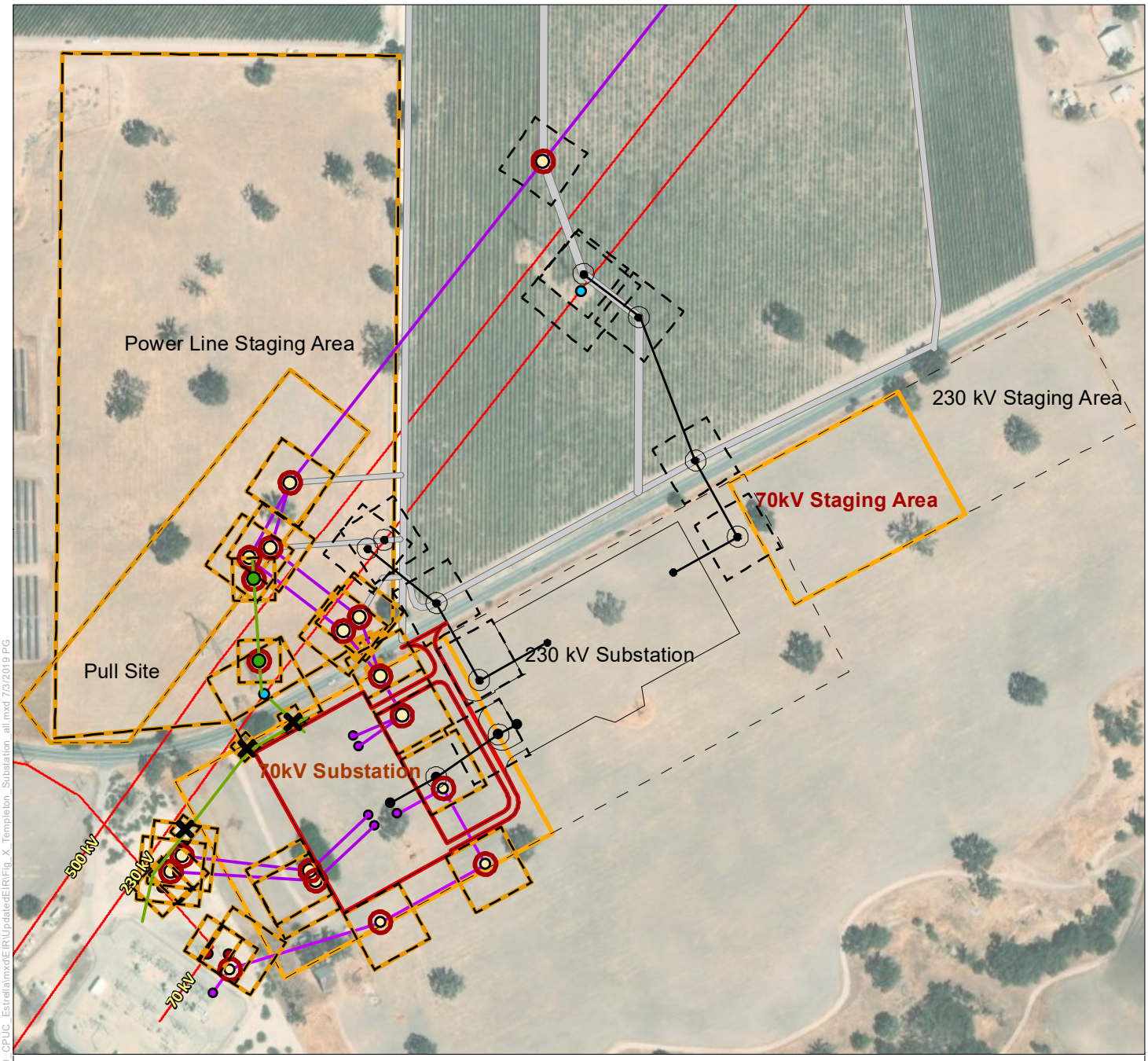
Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation would meet the Transmission Objective, but would not, on its own, fully meet the Distribution Objective. However, it could potentially be paired with another alternative that meets the distribution needs of the project. The alternative is considered potentially feasible and would reduce potentially significant impacts of the Proposed Project (i.e., aesthetics and agricultural resources). Therefore, Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation is **retained** for full analysis in the EIR.

3.4.2 ALTERNATIVE SE-1B: TEMPLETON SUBSTATION EXPANSION – 70 KV SUBSTATION ONLY

Description

Alternative SE-1B would be similar to Alternative SE-1A; however, only the 70 kV portion of the new substation described under Alternative SE-1A would be built. The 230 kV facilities described in Section 3.4.1 and shown in Figure 3-7 would not be included, and no interconnection to the existing 230 transmission line would be required. The 70 kV substation would still need to be connected to the existing Paso Robles Substation via a new 70 kV power line (i.e., Alternative SE-PLR-1, -2, or -3). It is assumed that under Alternative SE-1B, only half of the staging area required for Alternative SE-1A would be needed to support construction of the 70 kV substation. **Figure 3-8** shows the 70 kV facilities that would be retained under Alternative SE-1B, as well as the 230 kV facilities that would not be included.

Alternative SE-1B was conceived of by CPUC in acknowledgement that it is not required to meet the P6 (N-1-1) contingency identified for the Project involving loss of both 230 kV lines connecting to Templeton Substation. In this regard, Alternative SE-1B could greatly reduce the permanent and temporary disturbance associated with Alternative SE-1A, while still meeting the P1 (N-1) contingencies for the Proposed Project.



Basemap Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,

N

0 0.09

Miles

- Existing Distribution Pole Removal
- Existing 230kV Towers
- Existing 70kV Pole Removal
- Existing Transmission Lines
- New Telecommunications Poles
- New Telecommunications Line
- Total Permanent Disturbance Area
- Total Temporary Disturbance Area
- New 230kV Poles
- Access Roads for Power Line
- Estimated Permanent Disturbance Area
- Estimated Temporary Disturbance Area
- New 70kV Poles
- New 70kV Power Line
- 70 kV Deadends

Figure 3-8.
Alternative SE-1B: Templeton Substation Expansion - 70kV Substation Only

Horizon WATER and ENVIRONMENT

Source: NEET West and PG&E 2017

Estrella Substation and Paso Robles Area Reinforcement Project

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Consideration of CEQA Criteria

Project Objectives

As noted above, Alternative SE-1B was conceived of in the belief that it could address the Transmission Objective (i.e., alleviate adverse conditions under Category B [P1] contingencies). However, after further analysis, it was determined that eliminating the 230 kV portion of the new substation described under Alternative SE-1A would lead to vulnerabilities to the P1 (N-1) contingency involving loss of the existing 230/70 kV transformer at Templeton Substation. If a new 230/70 kV transformer were to be installed, a new loop-in to the existing 230 kV transmission line would be required, which could not be accomplished in a small area within or immediately adjacent to the existing substation. Therefore, it was determined that Alternative SE-1B would not meet the Transmission Objective of the Proposed Project.

New feeders could be installed from a 70 kV substation under Alternative SE-1B, thereby addressing the Distribution Objective; however, as described for Alternative SE-1A, the Templeton Substation location is not ideal for expanding distribution service to meet projected future growth. This location is not near the anticipated areas of most vigorous growth (e.g., near the Paso Robles Airport), which could be better served by the proposed substation site. Additionally, Alternative SE-1B would not have the benefit of potentially reducing the length of long feeders in the DPA. As a result, Alternative SE-1B would not fully meet the Distribution Objective identified for the project.

Feasibility

Installing the 70 kV substation envisioned under Alternative SE-1B would likely be feasible; however, as described above, in order to meet the Transmission Objective, an additional 230/70 kV transformer and loop-in would be needed, which would not be feasibly constructed within the 70 kV substation footprint shown on **Figure 3-8** or within or immediately adjacent to the Templeton Substation because of the unusual configuration of the existing substation. Since the primary purpose of Alternative SE-1B would be to address the Transmission Objective (it would not fully meet the Distribution Objective due to its relatively undesirable location) while resulting in reduced impacts compared to Alternative SE-1A, these facts render the alternative infeasible.

With respect to environmental feasibility, Alternative SE-1B would result in similar impacts to Alternative SE-1A, albeit these impacts would be reduced due to the smaller footprint of Alternative SE-1B. Refer to Section 3.4.1 for discussion of potential biological resources and hydrologic features to be present on or near the Templeton Substation Expansion site.

Potential to Avoid or Reduce Significant Environmental Impacts

Similar to Alternative SE-1A, Alternative SE-1B would reduce aesthetics and agricultural resources impacts compared to the Proposed Project. This is due to its location adjacent to an existing substation away from sensitive receptors and on land primarily designated as Farmland of Local Importance (not Farmland of Statewide Importance or Unique Farmland). Refer to Section 3.4.1 for detailed discussion.

Due to its reduced footprint and temporary disturbance areas, Alternative SE-1B would further reduce environmental impacts compared to the Proposed Project. Although not anticipated to be significant, these would include air pollutant emissions, GHG emissions, noise, and traffic-related impacts.

Conclusion

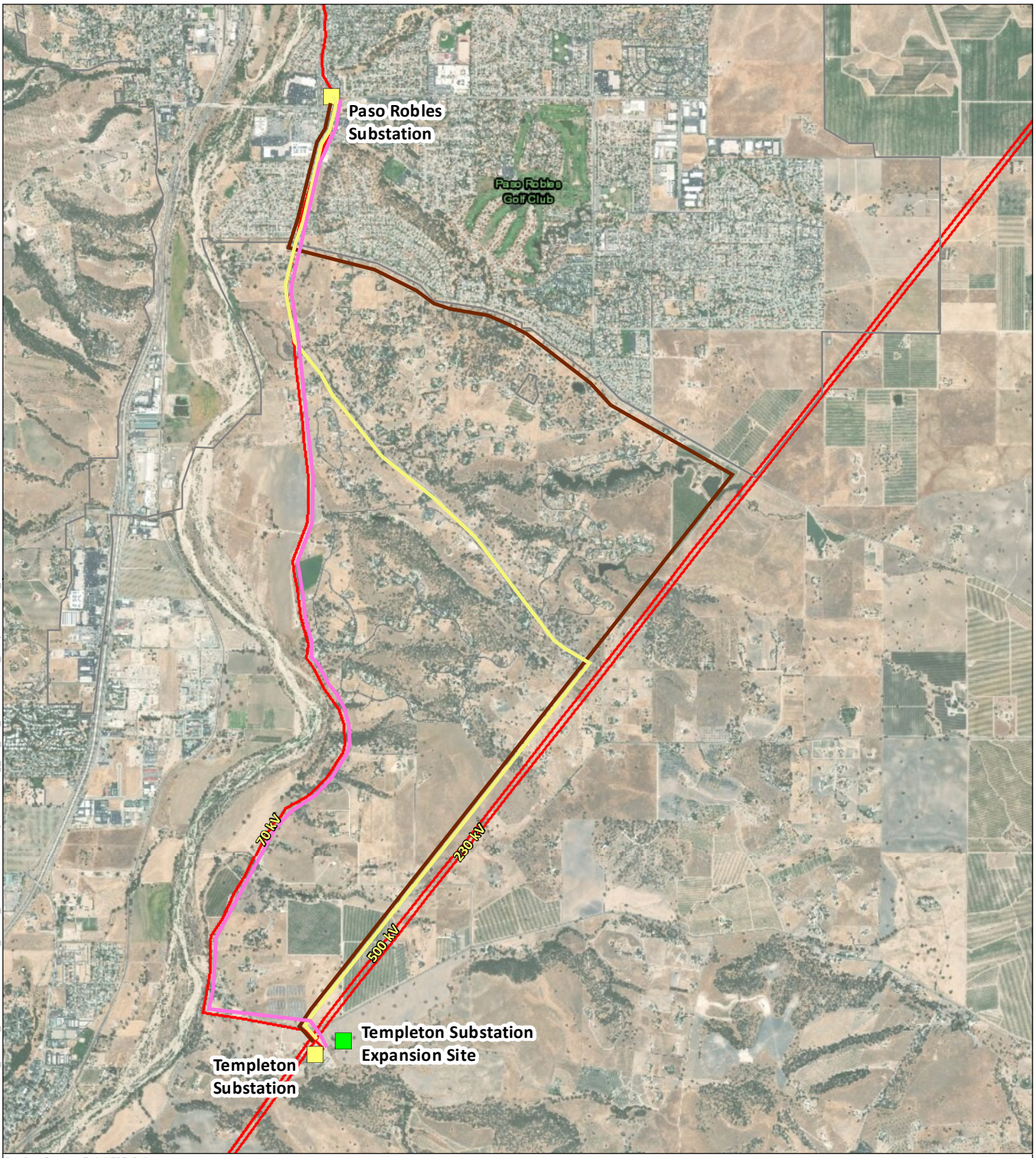
Due to Alternative SE-1B's inability to feasibly meet one of the basic objectives of the Project, the Transmission Objective, it is **screened out** from full analysis in the DEIR.

3.5 EXISTING SUBSTATION EXPANSION (SE) – POWER LINE ROUTE (PLR) ALTERNATIVES

3.5.1 ALTERNATIVE SE-PLR-1: TEMPLETON-PASO 70 KV ROUTE (EXISTING)

Description

As described in Section 3.4.1, Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation would require installation of a second circuit connecting the Templeton Substation to the Paso Robles Substation. The three possible routes for this new circuit are shown in **Figure 3-98**. One of the possible routes for the new circuit is the existing Templeton–Paso 70 kV Route (Alternative SE-PLR-1). This alternative would involve rebuilding the existing 70 kV single-circuit power line that runs from Templeton Substation to Paso Robles Substation and converting it into a double-circuit power line.



Basebap Sources: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap

Alternative

- Alternative SE-PLR-1: Templeton-Paso 70 kV Route (Existing)
- Alternative SE-PLR-2: Templeton-Paso South River Road Route
- Alternative SE-PLR-3: Templeton-Paso Creston Route
- Templeton Substation Expansion Alternative Site
- Paso Robles City Limits

Existing Infrastructure

- Substation
- Transmission Lines

N

0 0.5 Miles

Horizon WATER and ENVIRONMENT

Source: Source: NEET West and PG&E 2017

Note: The route variations shown are offset in order to display the alignments of the alternative routes that may overlap in places.

Figure 3-9.
Alternative SE-PLR-1, -2, and -3: Templeton-Paso 70kV Routes

Estrella Substation and Paso Robles Area Reinforcement Project

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Starting at the Paso Robles Substation (located at the northeast corner of Niblick Road and South River Road in the City of Paso Robles), the existing Templeton–Paso 70 kV Route extends southerly along the west side of South River Road for approximately 0.7 mile to the intersection of South River Road and Charolais Road. The route then continues southerly along South River Road for approximately 0.5 mile. The route then leaves South River Road and continues south generally following Santa Ysabel Avenue for approximately 0.5 mile at which point the route would continue south on private property approximately 3 miles to the Templeton tap point (i.e. point at which the line joins the Templeton–Atascadero 70 kV double-circuit line coming from Templeton Substation) (NEET West and PG&E 2018c).

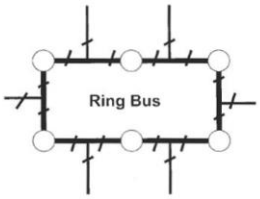
Due to the important role that the existing Templeton-Paso 70 kV Transmission Line plays in the regional transmission system (refer to Section 1.4.2~~1.2.2~~; this existing line provides the main source of power to Paso Robles Substation), construction of Alternative SE-PLR-1 would require construction/utilization of a temporary power line (commonly known as a shoo-fly). This would allow for power flow to be maintained to Paso Robles Substation during the long outages that would be required for conversion of the existing single-circuit power line to a double-circuit line. The shoo-fly would be constructed near the existing line, and in some areas would require construction of the shoo-fly line by adding structures on the east side of the road while constructing the double-circuit on the west side.

Need to Expand Paso Robles Substation to Ring Bus Configuration

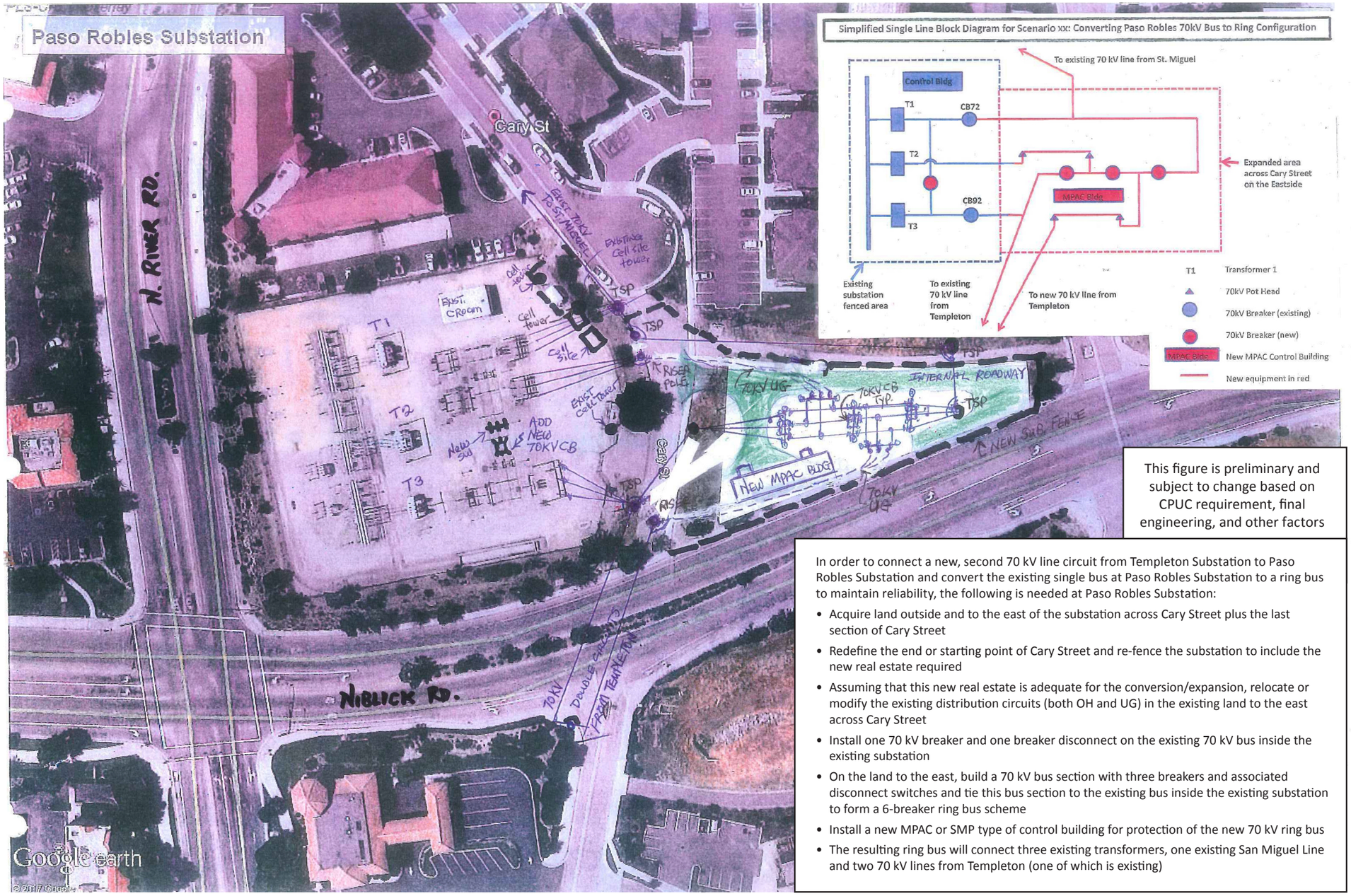
Utilization of the existing 70 kV power line route for the new circuit from Templeton Substation would add another element[5] to the existing Paso Robles Substation, which already has five elements connecting to its single bus. According to PG&E Design Criteria #073131– Bus Configuration (PG&E 2017a), this addition of a sixth element would require expansion of the Paso Robles Substation to a ring bus[6] or BAAH configuration. **Figure 3-10~~9~~** shows a sketch of what would be required at the Paso Robles Substation to reconfigure the existing single bus to a ring bus to accommodate Alternative SE-PLR-1: Templeton–Paso 70 kV Route (Existing). As shown in Figure 3-10~~9~~, a ring bus scheme at the Paso Robles Substation would require acquisition of the property across Cary Street to the east of the substation, and installation of

[5] An element is any power system device connected to a bus, including line, transformer, or reactive compensation device. Bus sectionalizing breakers, bus tie breaks and substitute breakers are not counted as elements.

[6] The ring bus configuration consists of a sectionalized bus with its ends connected (creating a ring) through a power circuit breaker. The ring bus design will have up to six elements and bus sections, with each section sourcing one circuit. This configuration allows for any circuit breaker to be removed from service for maintenance without an outage on any circuit. In the event of a line or bus fault the power circuit breakers on each end of the bus section are opened (PG&E 2017a).



new breaker and bus facilities, as well as construction of a control building to protect the new 70 kV ring bus.



This figure is preliminary and subject to change based on CPUC requirement, final engineering, and other factors

1:1,100

0 50 100 200 Feet

Not to Scale



In order to connect a new, second 70 kV line circuit from Templeton Substation to Paso Robles Substation and convert the existing single bus at Paso Robles Substation to a ring bus to maintain reliability, the following is needed at Paso Robles Substation:

- Acquire land outside and to the east of the substation across Cary Street plus the last section of Cary Street
- Redefine the end or starting point of Cary Street and re-fence the substation to include the new real estate required
- Assuming that this new real estate is adequate for the conversion/expansion, relocate or modify the existing distribution circuits (both OH and UG) in the existing land to the east across Cary Street
- Install one 70 kV breaker and one breaker disconnect on the existing 70 kV bus inside the existing substation
- On the land to the east, build a 70 kV bus section with three breakers and associated disconnect switches and tie this bus section to the existing bus inside the existing substation to form a 6-breaker ring bus scheme
- Install a new MPAC or SMP type of control building for protection of the new 70 kV ring bus
- The resulting ring bus will connect three existing transformers, one existing San Miguel Line and two 70 kV lines from Templeton (one of which is existing)

Aerial Imagery Source: ESRI World Imagery (2017)

Source: NEET West and PG&E 2018c

Figure 3-10.

Ring Bus Configuration at the Paso Robles Substation to Accommodate Alternative SE-PLR-1: Templeton-Paso 70 kV Route (Existing)

Prepared by: Horizon Water and Environment

Estrella Substation and Paso Robles Area Reinforcement Project

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Consideration of CEQA Criteria

Project Objectives

Alternative SE-PLR-1: Templeton–Paso 70 kV Route (Existing), when paired with Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation, would meet the Transmission Objective. However, while Alternative SE-PLR-1, in combination with Alternative SE-1A, would address all of the Category B (N-1) contingency scenarios identified by the CAISO in its 2013-2014 Transmission Plan, it would not address, and would in fact itself create, the potential for a N-2 event, where two lines on the same pole could fail at one time (e.g., due to a vehicle pole strike or other human-made or natural causes). In many respects, such an N-2 event on a double-circuit line from Templeton Substation is similar to the current exposure of the system to a disturbance on the existing single-circuit line from Templeton Substation to Paso Robles Substation. The Applicants note that while NERC and CAISO planning standards allow for load to be dropped for this N-2 contingency, a double-circuit pole arrangement is not recommended in this situation as electric customers in this area would still be susceptible to poor reliability for any issues on the new double-circuit pole line and the limited transmission load serving capabilities from San Miguel Substation (NEET West and PG&E 2018c).

As described in Section 3.4.1, Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation would not, on its own, fully meet the Distribution Objective, but the alternative could potentially be paired with another alternative that addresses distribution needs. By extension, Alternative SE-PLR-1, which would always be paired with Alternative SE-1A, would not fully meet the Distribution Objective.

Feasibility

PG&E has determined that Alternative SE-PLR-1 is technically and legally infeasible for several reasons. First, PG&E found that there is not enough space within the existing Paso Robles Substation yard to convert the existing Paso Robles Substation bus to a ring bus, and that expanding the boundary of the existing substation or building equipment on adjacent lots would be infeasible.

The land area to the east of the Paso Robles Substation is not large enough to accommodate the new equipment and access requirements associated with a ring bus conversion. Additionally, building on this lot or otherwise expanding the substation boundary eastward would require relocating several underground utilities that run between the existing yard and the eastern lot, including a water main owned by the City of Paso Robles. The City has expressed unwillingness to permit PG&E to relocate the water main and PG&E cannot force the City to move the water main in an eminent domain action because the City's public use is deemed "more necessary" as a matter of law. Therefore, this modification would be legally infeasible.

Additionally, PG&E found that converting several existing wood poles along the existing Templeton-Paso 70 kV alignment to TSPs (which would be required to accommodate the double-circuit) would be infeasible due to access and space constraints. The specific infeasible poles are located in the back yards of luxury homes located to the east and bounded on the west by steep slopes bordering the Salinas River. Therefore, the only way to access the sites is from the street in front of the homes to enter the backyards; however, there is not enough

room in the backyards to accommodate the necessary heavy equipment to construct the poles. The use of heavy-lift helicopters during construction is not advisable because the wind shear would damage the homes.

The CPUC has independently evaluated PG&E's determination that this alternative would be infeasible and concurs with this determination. As a result of these issues, Alternative SE-PLR-1 is considered infeasible. ~~There are potential technical and legal challenges associated with Alternative SE-PLR-1: Templeton–Paso 70 kV Route (Existing), particularly with respect to the construction of a ring bus at Paso Robles Substation. The construction of the ring bus could be technically challenging, and would involve a substantial amount of work within an existing substation that provides electrical service to thousands of customers and has limited space available for expansion. Likewise, construction of the shoo-fly could be technically challenging, particularly through inhabited areas along South River Road.~~

~~Additionally, the Applicants do not currently own the land to the east of the substation across Cary Street, and it is unknown whether it could be reasonably acquired. Review of parcel data shows that the land to the east of the substation may be within the road right-of-way (it has no Assessor's Parcel Number [APN]), and thus under the control of the City of Paso Robles, although ownership is not definitively known at this time. The City provided comments during the scoping period for the Proposed Project that it believed that any expansion of the Paso Robles Substation could have significant adverse environmental effects. As such, if the City owns this piece of land, it might be averse to any transfer of the land to the Applicants or any proposal for the substation to be expanded onto City-owned land. While the Applicants could use eminent domain to acquire the land, such a process could take several years and substantially impact the project schedule. This could render the alternative infeasible.~~

~~Cost information for the Templeton Substation Expansion Alternatives is confidential, but the Applicants have indicated that Alternative SE-PLR-1 would be expensive, due in part to the need to expand the existing Paso Robles Substation to a ring bus configuration. Cost will be investigated further, but at this time, no evidence has been presented to suggest that Alternative SE-PLR-1 is so expensive as to be economically infeasible.~~

~~With respect to environmental feasibility, the existing Templeton-Paso 70 kV route's location near the Salinas River lends potential for biological resources impacts, as there are numerous special-status species likely to be present in this area. The Applicants' preliminary desktop analysis (NEET West and PG&E 2018b) found that the following special-status animal species are likely to occur in the alternative study area: American badger, California red-legged frog, golden eagle, Northern California legless lizard, Least Bell's vireo, purple martin, vernal pool fairy shrimp, western pond turtle, western spadefoot, and white-tailed kite. These potential impacts would not be substantially different from those associated with the Proposed Project's reconductoring segment, and it is anticipated that mitigation measures could reduce them to less than significant.~~

Potential to Avoid or Reduce Significant Environmental Impacts

Alternative SE-PLR-1: Templeton–Paso 70 kV Route (Existing) could have some adverse effects on aesthetics, as taller poles would likely be required to accommodate the additional circuit along the existing power line alignment. These taller (and most likely steel) poles would

adversely affect views from residences in the area, as well as from several trails that pass through the power line corridor, and generally decrease the visual quality of the area. However, compared to the Proposed Project, these effects would be less pronounced due to the fact that there is already a transmission line along the proposed alignment. The Proposed Project would add a new power line to areas of San Luis Obispo County and the City of Paso Robles that do not currently have electrical transmission infrastructure; as a result, the contrast between the pre- and post-Project visual landscape would be starker and impacts would be more substantial.

Alternative SE-PLR-1 could decrease agriculture resources impacts somewhat compared to the Proposed Project power line alignment. It would pass through primarily undeveloped and residential (rather than agricultural) areas, whereas the Proposed Project alignment passes through many agricultural areas, including vineyards and areas designated as Farmland of Statewide Importance. However, the agricultural resources impacts of the Proposed Project are primarily the result of the substation rather than the power line, which would have relatively minimal areas of permanent disturbance to agricultural lands.

Due to the shorter length of Alternative SE-PLR-1 compared to the Proposed Project's new power line and reconductoring segment, it would likely have reduced air emissions, GHG emissions, traffic impacts, and noise impacts.

Conclusion

~~Alternative SE-PLR-1, when paired with Alternative SE-1: Templeton Substation Expansion, would meet the Transmission Objective in the strictest sense; however, it would create the potential for an N-2 event, which could result in the same adverse effects on the local system as the current condition, and PG&E advises against this alternative as a solution. Additionally, there are feasibility questions surrounding use of the parcel to the east of the existing substation for expansion to a ring bus. While the alternative would reduce some environmental effects of the Proposed Project, it would not completely avoid any potentially significant effects. On balance, Alternative SE-PLR-1: Templeton–Paso 70 kV Route (Existing) does not offer sufficient advantages compared to other possible power line routes and~~ Because Alternative SE-PLR-1 was found to be technically and legally infeasible, it is **screened out** from full analysis in the EIR.

3.5.2 ALTERNATIVE SE-PLR-2: TEMPLETON–PASO SOUTH RIVER ROAD ROUTE

Description

Alternative SE-PLR-2: Templeton–Paso South River Road Route is one of the possible routes for the new 70 kV circuit from Templeton Substation to Paso Robles Substation that would be installed for Alternative SE-1: Templeton Substation Expansion. As shown in Figure 3-9~~8~~, the route would follow the existing 230/500 kV transmission line corridor northeasterly out of Templeton Substation for approximately 2 miles to where it intersects with South River Road. At this point, the route would veer to the northwest and follow South River Road (on the southwest side), continuing northwesterly through three HOAs until it reaches the intersection of Santa Ysabel Avenue and South River Road. The route would then continue northerly along the easterly side of South River Road paralleling the existing Templeton–Paso single-circuit 70 kV power line (on the other side of the road) until it reaches the city limits of Paso Robles at the intersection of Charolais Road and South River Road. At this point, the route would continue

northerly on the eastern side of South River Road for approximately 0.7 mile, terminating just north of Paso Robles Substation (NEET West and PG&E 2018c).

To avoid the need to expand Paso Robles Substation (see discussion of the ring bus in Section 3.5.1 under Alternative SE-PLR-1), a double-circuit line would be required. With a double-circuit, the power line could tie into the San Miguel–Paso Robles 70 kV power line immediately adjacent to the north side of Paso Robles Substation, with one circuit creating a San Miguel–Templeton 70 kV connection and the other circuit creating a second Templeton–Paso Robles 70 kV connection. Under this scenario, no new elements would be added to the Paso Robles Substation bus; therefore, a ring bus would not be required per PG&E's design standards.

A minor relocation of the existing Templeton–Paso Robles 70 kV Transmission Line would be required under this alternative. The total length of the South River Road Route from Templeton Substation to Paso Robles Substation is approximately 5.2 miles, and the 3-mile-long reconductoring segment would not be required.

Consideration of CEQA Criteria

Project Objectives

Alternative SE-PLR-2: Templeton–Paso South River Road Route, when paired with Alternative SE-1A: Templeton Substation Expansion -230/70 kV Substation, would meet the Transmission Objective. As described in Section 3.4.1, expansion of the existing Templeton Substation would not, on its own, fully meet the Distribution Objective; however, it could potentially be deployed alongside another alternative that would meet distribution system needs.

Feasibility

No ~~legal,~~ regulatory~~,~~ or technical constraints have been identified for Alternative SE-PLR-2: Templeton–Paso South River Road Route. Construction of the new power line and interconnections with the expanded Templeton Substation and the existing San Miguel–Paso Robles 70 kV Transmission Line would be relatively standard technical operations for PG&E and HWT~~NEET West~~, and there are no anticipated regulatory hurdles that would preclude development of this route ~~is no reason to believe that the facilities could not be installed in accordance with applicable regulations and that adequate land entitlements could not be acquired for the power line route~~.

However, PG&E identified potential issues with acquiring easements to construct the power line through two HOAs, including Santa Ysabel Ranch, along the SE-PLR-2 route. In their comments on the Draft ASR, PG&E stated: "Depending on whether HOAs are able to sign-off on easements without signatures from each homeowner and whether there is significant opposition from the HOAs as a whole, eminent domain may be required to obtain the easements, which would add to the time and cost necessary to construct this alternative."

As far as the question of whether there is significant opposition from the HOAs as a whole, the Santa Ysabel Ranch, which is comprised of numerous homes along and near South River Road, made clear that it is opposed to the alternative. Many individuals and homeowners from Santa Ysabel Ranch submitted comments on the Draft ASR in opposition to the South River Road

Route for the 70 kV power line. Additionally, CPUC received a comment letter from a law firm representing the Santa Ysabel HOA stating its client's opposition to the project and its opinion that constructing a power line along South River Road would violate the Open-Space Agreement that was entered into between the County of San Luis Obispo and the HOA. As such, it is likely that the Santa Ysabel Ranch would not willingly grant easements to PG&E to allow construction of Alternative SE-PLR-2.

Specific cost information for the Templeton Substation Expansion Alternatives is confidential. At this point, CPUC has not been presented with evidence to suggest that Alternative SE-PLR-2 would be so costly as to be economically infeasible.

With respect to environmental feasibility, the Applicants' preliminary desktop environmental analysis (NEET West and PG&E 2018b) found that the Templeton–Paso South River Road Route is sensitive for biological resources. Specifically, there is a high concentration of heritage oak trees along South River Road in the northern portion of the alignment. There are also several riparian corridors that bisect the study area; wetlands generally occur from the eastern portion of South River Road to the intersection of Santa Ysabel Avenue. There are no federally designated critical habitat areas for special-status plants or animals, but the following special-status animals were identified as being likely to occur: American badger, California red-legged frog, golden eagle, Northern California legless lizard, purple martin, vernal pool fairy shrimp, western pond turtle, western spadefoot, and white-tailed kite. These impacts would not be substantially different from the Proposed Project's potential biological resources effects and could likely be mitigated to a level that is less than significant.

While the Templeton–Paso South River Road Route has not been comprehensively surveyed for cultural or paleontological resources, the northern portion of the route was surveyed for the proposed Santa Ysabel Ranch Project (NEET West and PG&E 2018b). As a result of this survey, numerous resources were identified in the vicinity of Alternative SE-PLR-2: Templeton–Paso South River Road Route, although none of these resources are directly within the proposed alternative alignment. Due to the proximity of the alternative route to perennial or annual waterways, it is considered sensitive for cultural resources; however, impacts to such resources could likely be avoided or substantially reduced through implementation of mitigation measures. Alternative SE-PLR-2 would follow and occur in close proximity to the Rinconada Fault Zone, which is a quaternary-aged fault zone. Potential hazards associated with the fault zone's location in relation to the power line alignment will be fully evaluated in the DEIR.

Potential to Avoid or Reduce Significant Environmental Impacts

Alternative SE-PLR-2: Templeton–Paso South River Road Route would have similar, or slightly reduced, aesthetics impacts compared to the Proposed Project 70 kV power line alignment. The new power line along South River Road would adversely affect the existing visual character and quality of the largely rural-residential area; however, due to the shorter length of this alternative power line in comparison to the Proposed Project power line, these impacts may be somewhat reduced overall. Additionally, the Templeton–Paso South River Road Route does not pass through new commercial/industrial areas comparable to the Golden Hill Industrial Park, which would be impacted by the Proposed Project. The portion of Alternative SE-PLR-2: Templeton–Paso South River Road Route that would pass through more densely developed areas within the City of Paso Robles is already impacted by existing electric transmission

infrastructure (i.e., the existing Templeton–Paso 70 kV Transmission Line); therefore, the difference between the pre- and post-Project visual landscape would be less pronounced in these areas.

Alternative SE-PLR-2 also may marginally reduce agricultural resources impacts compared to the Proposed Project power line. In general this area of San Luis Obispo County is less sensitive for agriculture than the area that includes the Proposed Project alignment. While there are several pockets of land designated by CDOC as Farmland of Statewide Importance, the majority of lands in the area of Alternative SE-PLR-2: Templeton–Paso South River Road Route are considered Grazing Land or Farmland of Local Importance (CDOC 2016a). Additionally, due to the reduced length of the Templeton–Paso South River Road Route compared to the Proposed Project power line route, it would have fewer permanent impacts on lands due to the new power line pole footprints. In general, by following the existing 230/500 kV corridor and existing roads, it would not directly impact any agricultural operations.

Due to the shorter length of Alternative SE-PLR-2: Templeton–Paso South River Road Route compared to the Proposed Project power line, and avoidance of the need for the 3-mile-long reconductoring segment, the alternative would have fewer construction-related impacts, such as air emissions, GHG emissions, noise, and traffic impacts. Alternative SE-PLR-2 also would always be deployed in tandem with Alternative SE-1A, which, as described in Section 3.4.1, would reduce potentially significant impacts associated with the proposed substation.

Conclusion

Alternative SE-PLR-2: Templeton–Paso South River Road Route, when combined with Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation, would meet the Transmission Objective. It would not meet the Distribution Objective, but could be paired with another alternative that meets the distribution needs of the project. Although there are potential feasibility issues with obtaining easements for construction of Alternative SE-PLR-2 and substantial local opposition, the alternative is assumed to be potentially feasible at this stage and would reduce at least one potentially significant environmental impact of the Proposed Project. Therefore, Alternative SE-PLR-2: Templeton–Paso South River Road Route is **retained** for full analysis in the EIR.

3.5.3 ALTERNATIVE SE-PLR-3: TEMPLETON-PASO CRESTON ROUTE

Description

Alternative SE-PLR-3: Templeton–Paso Creston Route is the final possible power line route alternative for the 70 kV power line connection between Templeton Substation and Paso Robles Substation, which would be required for Alternative SE-1: Templeton Substation Expansion. As shown in Figure 3-9~~8~~, the route would follow the existing 230/500 kV transmission line corridor northeasterly out of Templeton Substation for approximately 3 miles to where it intersects with Creston Road. At this point, the route veers to the northwest and follows Creston Road, then Charolais Road, and then turns north and continues along South River Road until it reaches Paso Robles Substation.

Similar to Alternative SE-PLR-2: Templeton–Paso South River Road Route (see Section 3.5.2), to avoid the need to construct a ring bus at the Paso Robles Substation, a double-circuit 70 kV line is required for Alternative SE-PLR-3. This would allow the new power line to tie into the existing San Miguel–Paso Robles 70 kV Transmission Line immediately adjacent to the north side of Paso Robles Substation, with one circuit creating a San Miguel–Templeton 70 kV connection and the other circuit creating a second Templeton–Paso Robles 70 kV connection.

The total length of Alternative SE-PLR-3: Templeton–Paso Creston Route is approximately 6.2 miles. This alternative would not require the 3-mile-long reconductoring segment that would be required under the Proposed Project.

Consideration of CEQA Criteria

Project Objectives

Alternative SE-PLR-3: Templeton–Paso Creston Route, when paired with Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation, would meet the Transmission Objective. As described in Section 3.4.1, expansion of the existing Templeton Substation would not fully meet the Distribution Objective because it would not provide an optimal location to expand future distribution facilities to meet future anticipated distribution needs. However, it could potentially be deployed alongside another alternative (e.g., battery storage) which meets the distribution needs of the project.

Feasibility

The Applicants note that there could be engineering feasibility conflicts with existing utilities associated with the Creston Route alternatives (see NEET West and PG&E 2017, page 4-15). Additionally, as described in Section 3.3.2 for Alternative PLR-2, the Creston Route could increase aesthetics impacts compared to the Proposed Project, as well as result in impacts on sensitive biological resources (e.g., heritage oaks). Taken together, these facts suggest that Alternative SE-PLR-3, like Alternative PLR-2, may not be feasible.

Potential to Avoid or Reduce Significant Environmental Impacts

Refer to the discussion of environmental impacts in Section 3.3.2.

Conclusion

Alternative SE-PLR-3: Templeton–Paso Creston Route, when combined with Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation, would meet the Transmission Objective. While expansion of Templeton Substation would not fully meet the Distribution Objective, Alternatives SE-PLR-3 and SE-1A could be paired with another alternative that meets the distribution needs of the project. Alternative SE-PLR-3 may be infeasible due to engineering and environmental constraints, and it would not reduce or eliminate any of the potentially significant effects of the Proposed Project. Therefore, Alternative SE-PLR-3 is **screened out** from full analysis in the EIR.

3.6 BATTERY STORAGE (BS) ALTERNATIVES

3.6.1 ALTERNATIVE BS-1: BATTERY STORAGE TO ADDRESS THE TRANSMISSION OBJECTIVE

Description

Alternative BS-1 would include one or more battery energy storage systems (BESSs) to address the CAISO-identified deficiencies at transmission voltages (i.e., above 50 kV). As described in Section 1.4.2~~1.2.2~~, the CAISO identified the possibility for extremely low voltages and system failures to occur in the Los Padres 70 kV system with the loss of any of the following facilities/components: (1) Paso Robles-Templeton 70 kV Power Line (P1 contingency), or (2) Templeton 230/70 kV #1 Transformer Bank (P1 contingency); (3) both the Morro Bay-Templeton and Templeton-Gates 230 kV transmission lines (P6 contingency). The P1 contingencies identified by CAISO are presumed to be the drivers of the Proposed Project because load could not be shed following their occurrence pursuant to the applicable NERC and CAISO transmission planning standards. Solutions for the P6 contingency involving loss of both 230 kV transmission lines are assumed to be beneficial effects of the Proposed Project rather than a primary driver.

Preliminary modeling by ZGlobal, Inc. determined that these failures could be avoided for a period of time with installation of one or more BESSs (ZGlobal, Inc. 2018). The storage size and duration of the BESSs depend on whether the alternative seeks to solve only the P1 contingencies described above or both the P1 and P6 contingencies, as well as the assumptions made regarding outage duration/restoration time. ZGlobal, Inc. modeled a range of scenarios to determine the corresponding requirements for BESS storage size and duration, as shown in **Table 3-4.** Since publication of the Draft ASR, lithium-ion BESS technology has advanced and the space requirement for lithium-ion BESS facilities has been reduced by roughly 40 percent. Therefore, the space requirement numbers associated with BESS scenarios in Table 3-4 have been updated for the Final ASR.

Table 3-4. Alternative BS-1 Storage Sizing Scenarios to Address Transmission Objective

Scenario / Alternative		Paso Robles DPA Peak Load (MW)[1]	Battery Storage Size (MW)	Battery Storage Duration (hours)	Battery Storage Energy Amount (MWh)[2]	~~No. of 50 kW/210 kWh Battery Packs Required~~	~~Space Required for Battery Packs (sq ft)~~[3]	~~Total Space Required with 25% Extra Space for Road, Buildings and Parking (sq ft)~~	Estimated Footprint (Acres)[3]
No.	**Outage Duration Assumptions**								
Battery Energy Storage System (BESS) Sized to Resolve P1 Contingency Involving Outage of Templeton-Paso 70 kV Transmission Line OR Templeton Transformer Bank No. 1									
BS-1A	Short-Term / Peak Shaving (≤4 hrs)	214	65[4]	4	260	~~1,238~~	~~88,623~~	~~110,778~~	1.5 ~~2.5~~
BS-1B	Long Term Outage (10 hrs; 1 pm to 10 pm, Worst Case)	214	65[4]	8	520 Min.: 480	~~2,476~~	~~177,245~~	~~221,557~~	3.1 ~~5.1~~
BS-1C	Long Term Outage (24 hrs)	214	65[4]	11	715 Min.: 710	~~3,405~~	~~243,712~~	~~304,640~~	4.2 ~~7.0~~
BESS Sized to Resolve Either P1 Contingency (see above) or a P6 Contingency Involving Outage of Both Gates-Templeton & Morro Bay-Templeton 230 kV Transmission Lines									
BS-1D	Short-Term / Peak Shaving (≤4 hrs)	214	120[5]	4	480	~~2,286~~	~~163,611~~	~~204,514~~	2.8 ~~4.7~~
BS-1E	Long Term Outage (24 hrs)	214	120[5]	12	1440 Min.: 1425	~~6,857~~	~~490,833~~	~~613,542~~	8.5 ~~14.1~~

Notes: MW = megawatt; MWh = megawatt-hour; kW = kilowatt; kWh = kilowatt-hour; P1 = the loss of a single Bulk Electric System (BES) element, also referred to as a N-1 outage; P6 = the consecutive loss of two BES elements, also referred to as an N-1-1 outage

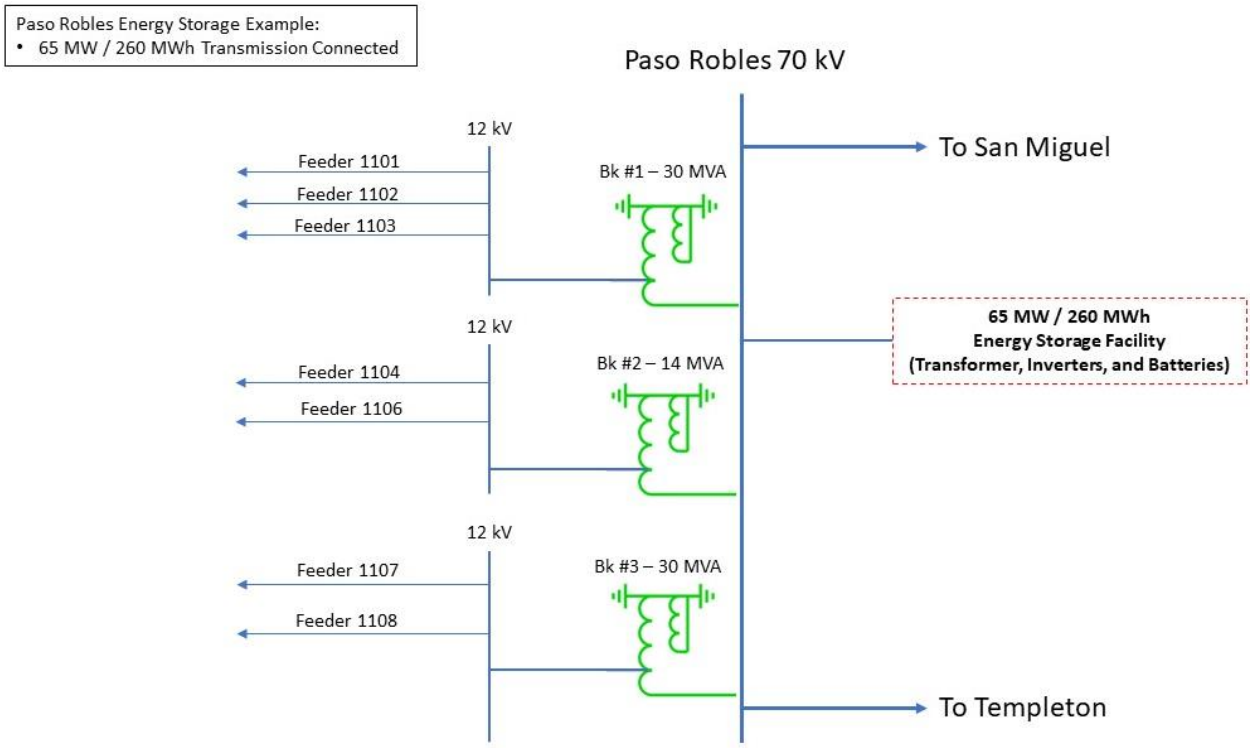
1. All scenarios use the 2023 CAISO Base Case load forecast.
2. Battery storage energy amount (megawatt-hour [MWh]) is dictated by the battery storage size/power output (megawatt [MW]) times the duration (hours [hrs]), the latter of which is expressed in whole numbers for purposes of this analysis. In some cases, the minimum MWh needed was lower than this calculation, as indicated in italics.

3. Footprint assumptions based on lithium-ion battery storage technology. Since publication of the Draft ASR, lithium-ion battery storage technology has advanced substantially and the space needed for lithium-ion battery facilities has been reduced by roughly 40 percent. ~~Assumes approximately 72 square feet (sq ft) is required per pack, based on 2017 product specifications. Tesla PowerPacks were used for the purposes of this analysis, but other providers could have been selected.~~
4. For Alternatives BS-1A, BS-1B, and BS-1C, all of the 65 MW of storage would need to be connected to Paso Robles Substation. This storage could be one or multiple facilities and could be connected to the transmission (i.e., 70 kilovolt [kV]) and/or distribution (12 and 21 kV) systems.
5. For Alternatives BS-1D and BS-1E, the 120 MW of total storage needed could all be connected to Paso Robles Substation. Alternatively, up to 55 MW of that total could be sited at/connected to Templeton Substation.

Source: ZGlobal, Inc. 2019

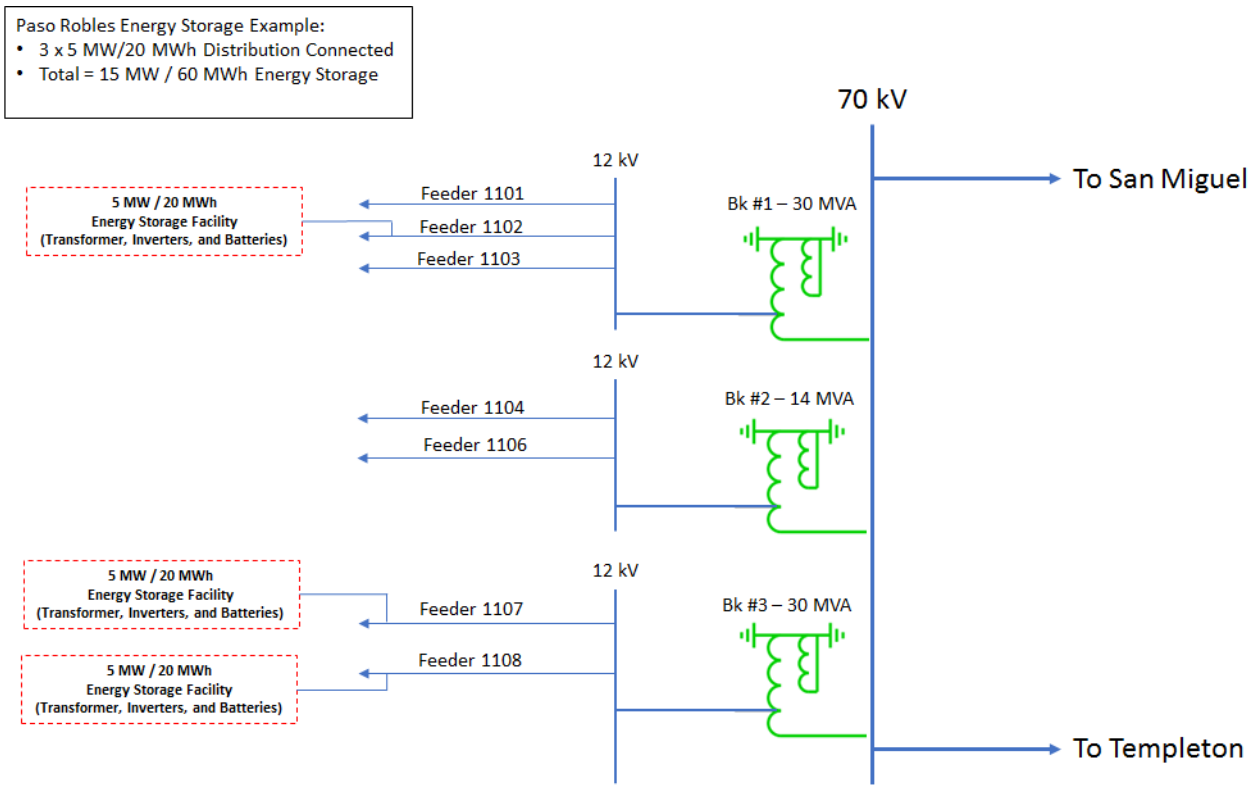
As shown in Table 3-4, 65 MW of storage is needed to mitigate the P1 contingencies identified for the Proposed Project. All of this would need to be connected to the Paso Robles Substation. Assuming a short-term outage or peak shaving scenario, a 4-hour battery could be installed, equating to a 65 MW/260 megawatt-hour (MWh) BESS. If a longer-term outage were to occur, a longer duration battery would be needed (up to 715 MWh for a 24-hour outage), which would correspondingly increase the footprint area of the BESS facility (see Alternative BS-1C in Table 3-4). Alternatives BS-1D and BS-1E considered BESS sizing required to solve the P6 contingency associated with loss of both 230 kV transmission lines. These scenarios required almost double the amount of storage (120 MW), although 55 MW of the total storage needed could be located at Templeton Substation. If a long-term outage (e.g., 24 hours) were to occur, a longer duration battery (up to 12 hours, or 1440 MWh) would be required to mitigate the contingency (see Alternative BS-1E in Table 3-4). The modeling did not consider a potential outage lasting longer than 24 hours. Note: if BTM solar and storage resources were implemented/procured in tandem, this could reduce the amount of FTM storage needed under Alternative BS-1 (see Section 3.6.3 for further discussion).

The storage requirements described for the alternatives in Table 3-4 could be met in a single BESS facility or by multiple BESS facilities. The BESS facilities could be connected directly to a substation (e.g., via a dedicated tie-line), connected to transmission circuits near the substation, or connected to distribution circuits near the substation. **Figure 3-11~~10~~** shows an example of how a single BESS could be connected to the transmission system at Paso Robles Substation. **Figure 3-12~~11~~** shows an example of how multiple BESSs could be interconnected with the Paso Robles Substation distribution system. A combination of these two approaches could be possible.



Notes: MW = megawatt; MWh = megawatt-hour; kV = kilovolt; Bk = Transformer Bank; MVA = mega volt ampere

Figure 3-11~~10~~. Example of Energy Storage Deployment to Transmission – Paso Robles Substation



Notes: MW = megawatt; MWh = megawatt-hour; kV = kilovolt; Bk = Transformer Bank; MVA = mega volt ampere

Figure 3-12~~11~~. Example of Energy Storage Deployment to Distribution – Paso Robles Substation

Siting Criteria and Considerations for BESSs

The CPUC team conducted a preliminary search for sites that could be suitable for BESS facilities in the Proposed Project vicinity. The search was guided by the following siting criteria:

1. **Proximity to Substation.** BESS facilities ideally should be within 2,500 feet (about 0.5 miles) of the distribution substation. In general, the farther from the substation BESSs are located, the greater the chance that the feeder will require some level of upgrades. Where possible, siting adjacent to the existing distribution substation is preferable, as this allows for the possibility of connecting directly to the distribution voltage level bus via a dedicated circuit breaker. The CPUC's search considered sites up to 0.75 miles from Paso Robles Substation to allow for a larger number of candidate sites to be considered.

2. **Proximity to Existing Distribution Feeders or Transmission Lines.** For BESSs not sited directly adjacent to the substation or directly connected to the substation via a dedicated tie-line, proximity to existing distribution feeders or transmission lines is preferable in that it could allow for an easier interconnection. In particular, proximity to an existing feeder that has available hosting capacity would minimize the potential for needed reconductoring/upgrades to the distribution system.

3. **Site Size.** Sites should be at least 0.25 acres to provide enough space for all BESS facility components, including a driveway.

4. **Site Topography.** Sites should be relatively flat. Sites with substantial slopes or uneven terrain were rejected.

5. **Existing Land Use.** Sites should be vacant, as determined by aerial photographs. While the Applicants could potentially acquire already-developed parcels through eminent domain and existing structures could be demolished, parcel acquisition in this way would likely cause substantial project implementation delay. The impact on project schedule could make the alternative infeasible. Sites currently vacant but planned for development as part of a Specific Plan were also rejected.

6. **Potential Environmental Constraints.** Sites should avoid potential environmental constraints, such as the following:

    a. Location within 100-year floodplains. Sites should not be located within a 100-year Flood Hazard Zone, as identified by the Federal Emergency Management Agency. Sites within this zone could be subject to hazards in the event of a large flood event.

    b. Riparian vegetation and biological resources permitting requirements. Sites should not include riparian vegetation and trees, which could provide habitat for sensitive species, such as nesting birds. The presence of habitat on the site may require permitting from biological resources agencies (e.g., CDFW and USFWS). Preferably, sites would be free of documented occurrences or potential habitat for special-status species.

Potential Sites for BESSs

The results of the preliminary site search are shown in **Figure 3-13~~12~~** and **Table 3-5**. For Templeton Substation, the parcel immediately adjacent (east) of the existing substation, within which the Applicants proposed Alternative SE-1: Templeton Substation Expansion, was considered for siting a BESS facility. For Atascadero Substation, where storage may be needed under Alternative BS-2, aerial imagery indicates that space is available on the PG&E parcel where the existing substation is located. Storage also may be needed at San Miguel Substation under Alternative BS-2 and aerial imagery indicates that space is available at this location. The sites identified in the search are also potentially suitable for BESSs to address both the transmission and distribution objectives of the Proposed Project (i.e., Alternative BS-1 and BS-2).



Basebap Sources: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,

Paso Robles City Limits

Potential Battery Storage Site

Potentially Vacant Parcel

Distance from Existing Substaion

Paso Robles Substation 0.75 mile

Paso Robles Substation 0.5 mile

0 0.1 0.2

Miles

N

Existing Substation

Existing Transmission Line

Potential Environmental & Land Use Constraints

Planned Development

100 Year Floodplain

Potential Sensitive Habitats for Plants and/or Animals

Incompatible Topography

Distribution Circuits

PASO ROBLES 1101

PASO ROBLES 1102

PASO ROBLES 1103

PASO ROBLES 1104

PASO ROBLES 1106

PASO ROBLES 1107

PASO ROBLES 1108

Secondary Circuits

Source: SLO County Dept. of Planning 2016, City of Paso Robles 2018, Estrella PEA 2017, FEMA 2005, NEET West and PG&E 2017.

Figure 3-13
Battery Storage Site Screening Summary - Paso Robles Substation Vicinity

Estrella Substation and Paso Robles Area Reinforcement Project

T:_PROJECTS\17010_CPUC_Estrella\mxd\EIR\UpdatedEIR\fig_X_potential_storage_locations_075mi_Feeder.mxd 9/6/2020 PG

Table 3-5. Preliminary Site Screening Results for Potentially Suitable Battery Storage Locations

Assessor's Parcel No. (APN)	Ownership	Land Use Designation	Vacancy	Parcel Size (Acres)	Documented Special-Status Species or Habitat	Distance to Paso Robles Substation (Miles)
Paso Robles Substation Vicinity						
0[1]	Unknown[1]	None	Yes	0.56	No	0.1
009-814-050	Woodland Plaza II	Regional Commercial	Yes	0.87	No	0.2
009-769-042	Land Shak Holdings, LLC	Residential	Yes	1.82	No	0.4
009-611-045	Paso Robles Joint Unified School District	Residential	Yes	0.85	No	0.5
~~009-770-004~~	~~City of Paso Robles~~	~~Residential~~	~~Yes~~	~~2.59~~	~~No~~	~~0.6~~
			Subtotal:	**4.41** ~~**6.69**~~		
Templeton Substation						
034-012-006	Terra Linda Ranchos South	County Other	Maybe[2]	51.89	No[3]	N/A
Atascadero Substation						
054-151-029	Pacific Gas & Electric Company	Public Facilities	Partial[4]	1.56[5]	No[6]	N/A
San Miguel Substation						
027-271-004	Pacific Gas & Electric Company	Residential Suburban	Partial	2.54[7]	No	N/A

Notes:

1. This piece of land, which is located immediately adjacent to Paso Robles Substation to the east, does not have an APN. Ownership of the land is unknown, although if the land is within the road right-of-way, it could be under the control of the City of Paso Robles.
2. There is possibly agricultural use on this parcel, as indicated by aerial photographs. However, the Applicants proposed locating an expanded substation on this parcel (see Alternative SE-1A); therefore, this site is considered potentially suitable for BESS facilities.
3. While this site screening exercise did not identify documented occurrences of special-status species or habitat within this parcel, the Applicant's preliminary desktop environmental analysis (NEET West and PG&E 2018b) for the Templeton Substation Expansion Alternatives found that several special-status species were likely to occur in this general area, including California red-legged frog, golden eagle, and Northern California legless lizard. Additionally, the site does have several oak trees present on-site, which could support habitat for nesting birds.

4. The existing Atascadero Substation occupies a portion of the parcel (on the northern corner). The remainder of the parcel is vacant.
5. The total size of the parcel is 1.56 acres. However, approximately 0.74 acre is occupied by the existing Atascadero Substation, leaving approximately 0.82 acre available for storage facilities.
6. No documented special-status plant or animal species occur on the site, based on a review of the California Natural Diversity Database. However, several trees are present on the site.
7. The total size of the parcel is 2.54 acres. However, approximately 1.06 acre is occupied by the existing San Miguel Substation, leaving approximately 1.48 acres available for storage facilities.

The preliminary site screening exercise originally identified 5 parcels within 0.75-mile of the Paso Robles Substation, totaling 6.69 acres. Based on comments received from the City of Paso Robles on the Draft ASR, the site identified as APN 009-770-004 located at the northeast corner of South River Road and Charolais Road is already planned (to include a large parking lot, restrooms, trailhead, and other amenities) and there is not room on the site for a battery installation. Therefore, this site is no longer considered suitable for BESS facilities and has not been carried forward in the DEIR. When omitting APN 009-770-004, the total acreage of suitable sites near Paso Robles Substation is 4.41 acres. The City of Paso Robles also identified another potentially suitable site for a battery facility adjacent to its 4.3-MW solar installation near the Paso Robles Airport. This site will be considered in the DEIR.

The~~se~~ sites identified in Table 3-5 meet the screening criteria described above and are potentially suitable from an engineering and environmental perspective. However, the site screening did not consider whether the parcels are available for sale or whether the Applicants could reasonably obtain site control within an acceptable timeline for development of the alternative. The Paso Robles Joint Unified School District, in particular, indicated its opposition to locating a battery facility on APN 009-611-045 (although its opposition seemed to be based on the supposition that the battery would need to be charged by a high voltage [i.e., 70 kV] transmission line, which is not necessarily the case). The CPUC team will be coordinating with the Applicants, as well as the City of Paso Robles and other stakeholders, regarding the feasibility of these (or other) sites for installing BESS facilities ~~to meet Alternative BS-1~~. This coordination will also include development of feasible BESS designs for parcels considered to be potentially feasible.

Typical BESS facilities would include battery power packs, a control building, step up transformer, switchgear, heating, ventilation, and air conditioning units, and site development features, such as a driveway, stormwater management features, and fencing. Lithium-ion BESSs will be enclosed in buildings as shown in Figure 3-15~~13~~. A BESS interconnecting to an existing transmission line (e.g., 70 kV) is assumed to require a 3-breaker, ring-bus switchyard facility that measures approximately 200 x 350 feet.

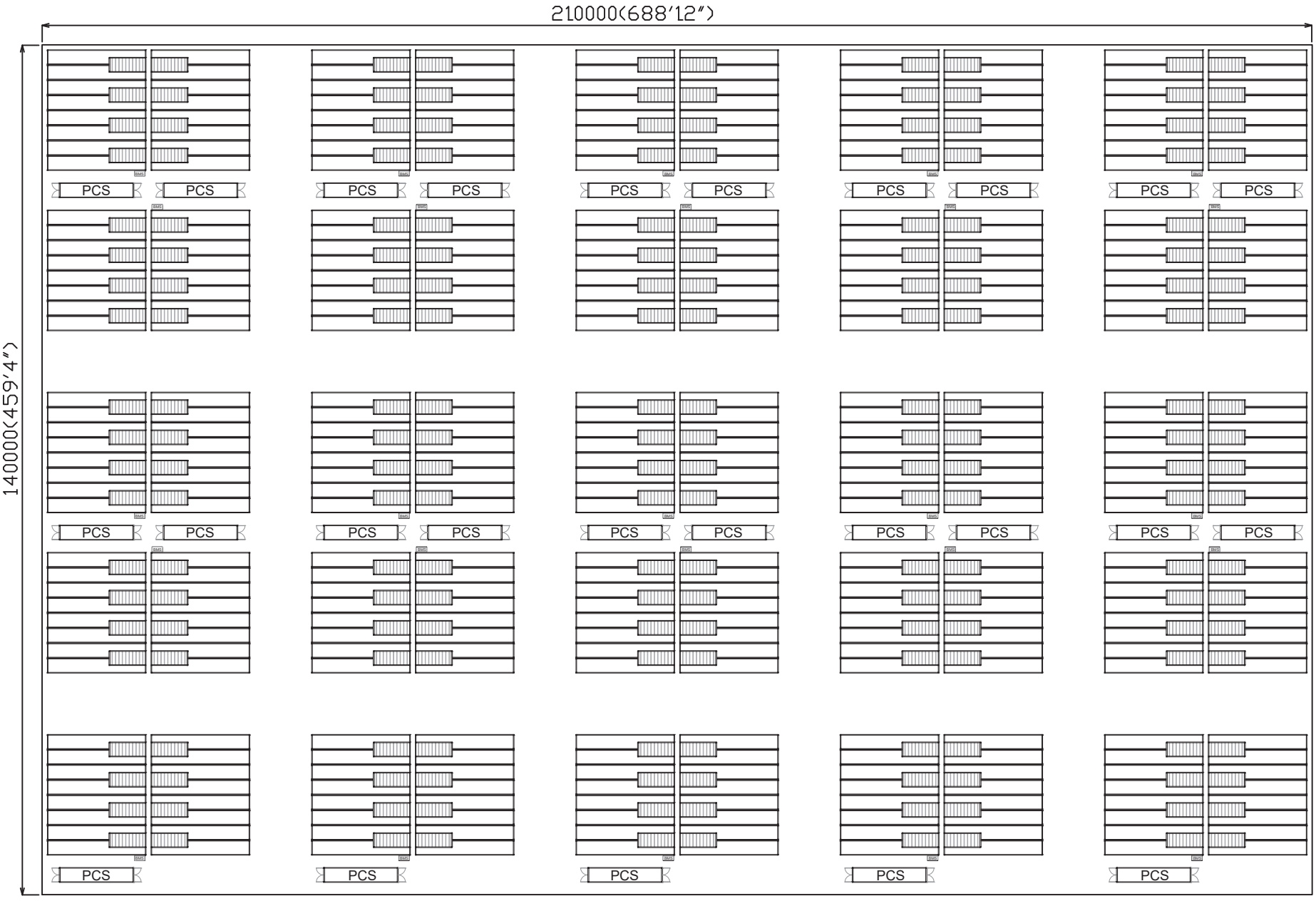
Battery Storage Technology

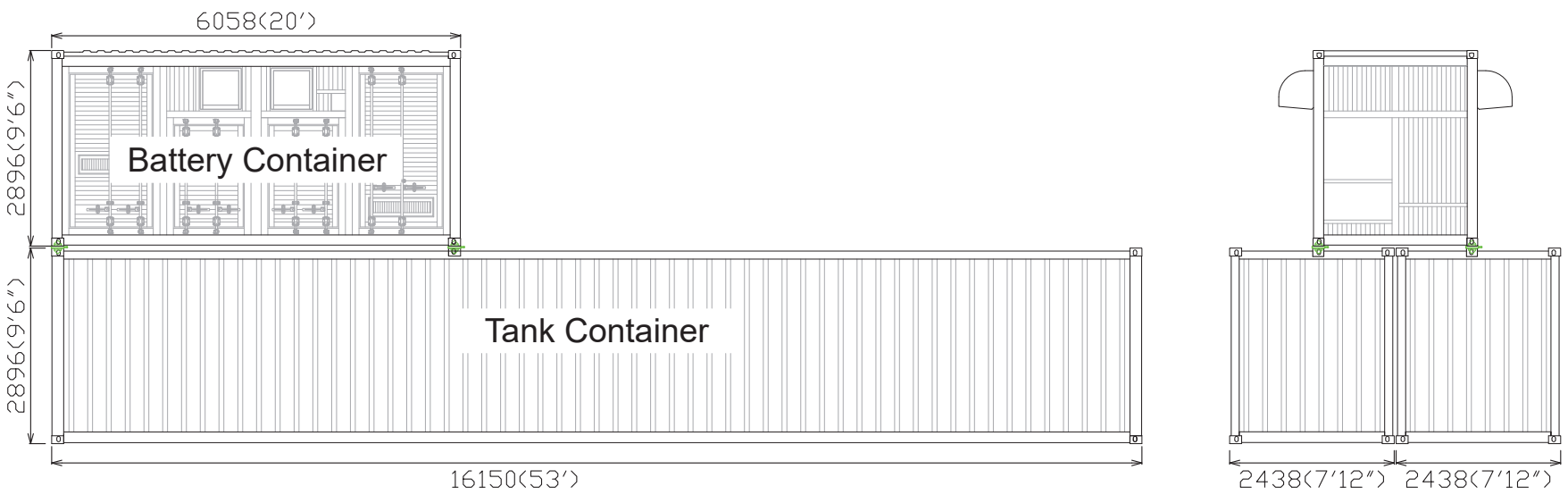
In addition to lithium-ion technology, CPUC also considered other battery storage technology, including redox flow batteries. Redox flow batteries are batteries in which energy storage in the electrolyte tanks is separated from power generation in stacks. The stacks consist of positive and negative electrode compartments divided by a separator or an ion exchange membrane

through which ions pass to complete the electrochemical reactions (Mongird et al. 2019). While redox flow batteries are in the relatively early stages of commercialization, they offer potential advantages, such as long lifecycles, low temperature ranges for operation, and easy scalability (Mongird et al. 2019). Redox flow batteries also may have reduced fire risk compared to lithium-ion batteries.

Redox flow batteries are more expensive (currently about twice as expensive on a per kW/h basis) than lithium-ion batteries, which are the most cost-effective electrochemical battery storage technology (Mongird et al. 2019). Redox flow batteries also require a larger footprint compared to lithium-ion batteries. Thus, for the Proposed Project, this technology may make the most sense at the Templeton Substation location where there is ample space available.

CPUC staff coordinated with individuals from Sumitomo Electric Industries, Ltd. (Sumitomo) to investigate the potential for deployment of a redox flow battery(ies) as an alternative to the Proposed Project. Sumitomo provided the conceptual drawing for a 50 MW/400 MWh (i.e., 8-hour) redox flow battery system shown in **Figure 3-14**. They estimated that such a facility would occupy about 7.3 acres; assuming an additional 25 percent for ancillary equipment tie-ins and a driveway, this would come out to 9.1 acres.





PCS = Power Conditioning System
BMS = Battery Management System

Source: Sumitomo 2019

Figure 3-14. Redox Flow Battery Conceptual Drawing – 50 Megawatts X 8 Hours

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Consideration of CEQA Criteria

Project Objectives

As shown in Table 3-4, BESS(s) could solve the P1 and P6 contingencies identified for the Paso Robles DPA by the CAISO. The necessary size/duration of the BESS(s) is based on several factors, including, foremost, the assumed duration of the potential outage. BESSs can only provide power for a limited period of time until they need to be recharged. This means that a BESS could only solve the P1 or P6 outage for a given duration. In addition to the MWh energy amount of the BESS, duration is determined by the load curve and timing of the outage; for example, if the outage occurred at night or in the winter when load is typically lower, a battery could last longer. ZGlobal, Inc.'s modeling for the results shown in Table 3-4 assumed that the outages occurred at peak load.

In their comments on the Draft ASR, CAISO, PG&E, and HWT all argued that Alternative BS-1 is infeasible and would not be able to meet the Transmission Objective of the Proposed Project. All three entities similarly argued that a BESS, regardless of size and capacity, would not be able to recharge to address a very long duration outage or be in an adequate state of charge to address a subsequent outage. PG&E, in its comments on the Draft ASR and in subsequent discussions, indicated that an outage of the Paso Robles-Templeton 70 kV Transmission Line could last more than 24 hours. PG&E provided data showing that unplanned transmission system outages within its service territory lasting longer than 24 hours have occurred, with the longest duration outage lasting 178 days.

If an outage were to occur during peak loading conditions (i.e., summertime), there may not be any charging window in the load curve that would provide an opportunity for a BESS to recharge. For example, if Paso Robles Substation were to lose power from the south (e.g., loss of the Paso Robles-Templeton 70 kV Transmission Line), the northern line from San Miguel would be the only remaining transmission-level power source, and this line can only supply roughly 20 MW of power. During the summertime, it is possible that load demand on the Paso Robles Substation may not drop below 20 MW even during the night-time (typically the period of lowest demand in the daily load curve). This would leave no potential charging window (or period of time during which load would be below the level where supplemental power would be needed) for BESS facilities.

CPUC and its consultants confirmed the recharging issues raised by CAISO and the Applicants. CPUC concurs that this would prevent Alternative BS-1 from fully meeting the Transmission Objective. Even if BESS(s) were sized to meet the identified need during a P1 contingency for 24 hours (see Table 3-4), the BESS(s) may not have the opportunity to recharge to solve the outage for multiple days or subsequent outages. CPUC also fully evaluated the potential for BTM solar plus storage resources to be implemented/procured in tandem with FTM resources to potentially address the Transmission Objective of the Proposed Project (see Section 3.6.3 for further discussion). Even while BTM resources could substantially reduce the amount of FTM storage needed under Alternative BS-1, these resources would ultimately be subject to the same duration and recharging limitations as described above.

Thus, Alternative BS-1, even in combination with BTM resources pursuant to Alternative BS-3, would not meet the Transmission Objective.

~~At this time, we are not aware of adopted standards that address outage duration to provide guidance on BESS sizing. NERC and Western Electricity Coordinating Council (WECC) Reliability Standards, such as TLP-001, are generally focused on validation of acceptable system parameters (i.e. voltage, line loading, frequency) during various system conditions including single and multiple outages of lines and/or generators. These studies are performed with detailed models of the bulk power system and the connected loads and generators which focus on a single snapshot in time of the electrical system, such as summer (peak load). This has been the historical approach to ensuring system reliability as it is generally assumed that less stressed conditions will be covered by considering the worst-case condition at peak loads.~~

~~Resource Adequacy (RA)[7] requires that resources have a duration of 4 hours (CPUC 2014a, 2014b). This requirement reflects the need to support morning and evening ramping periods as well as typical daily peak demand periods. Four hours is the standard in California for supply resources designated to meet peak system demand and is applied to both System and Local reliability areas. Local RA requirements are established based on contingency analyses (i.e. loss of critical transmission system elements) and are designed to ensure that transmission system elements do not violate reliability requirements in the event of outages. Given that that the RA requirement is 4 hours, one could assume that the expected restoration time associated with one of the critical transmission line outages would also be 4 hours.~~

~~However, restoration times vary depending on outage circumstances and system conditions at the time of outage. For example, it is conceivable that a major transmission line feeding a Local Capacity Area could be lost for more than 4 hours and result in risk of loss of load during peak conditions. Restoration time is an important factor when considering use of energy storage in lieu of physical system upgrades. In the case of Aliso Canyon, the request for energy storage only required 4-hour batteries to replace the lost supply from local generation previously designated as Local RA. Under typical planning criteria and RA provisions, it appears that 4 hours is an acceptable restoration time for planning purposes, and, consequently, a 4-hour BESS would be an acceptable means of alleviating adverse system conditions during P1 contingencies.~~

~~CAISO has previously expressed a desire to go with a traditional, "wired" approach (e.g., new transmission lines) for the Proposed Project. As of this writing, CAISO is still in the process of developing its Storage as a Transmission Asset initiative, which would lay out a framework for cost-recovery and market participation of storage assets (CAISO 2018b). In this respect, some of the details/logistics for exactly how a BESS would be integrated into the transmission grid, particularly with respect to maximizing the economic potential of storage to provide multiple services and grid value, have not been fully fleshed out. Nevertheless, CPUC recently approved~~

~~[7] Resource Adequacy (RA) is CPUC program/policy framework with two goals: (1) provide sufficient resources to the CAISO to ensure the safe and reliable operation of the grid in real time, and (2) provide appropriate incentives for the siting and construction of new resources needed for reliability in the future (CPUC 2019b). Developed in response to the 2001 California energy crisis, the RA Program requires CPUC jurisdictional Load Serving Entities (LSEs) to report their procurement of resources/capacity necessary to meet upcoming load demands. There are three distinct RA requirements: "System," "Local," and "Flexible" requirements, each of which looks at a different aspect of the energy market and load demand (CPUC 2019b).~~

~~PG&E's proposal for four new energy storage projects (two of which will connect to the transmission grid), totaling 567.5 MW/2,270 MWhs (4 hour duration), at Moss Landing. Currently, PG&E has procured 692 MW of transmission-connected storage, which exceeds the storage procurement mandate established by AB 2514 (CPUC 2018a).~~

~~Additionally, BESSs have been proposed/selected to address deficiencies identified in CAISO transmission planning processes. For example, as described in the 2017-2018 Transmission Plan (CAISO 2018a), NextEra Energy Resources (NEER) proposed the Alto 45 MW/183 MWh (4 hours) BESS Project and the Las Gallinas 22 MW/91 MWh (4 hours) BESS Project to mitigate reliability issues in the system.. During the same transmission planning process, NEER also proposed a 41.80 MW/167.20 MWh (4 hours) BESS project in Lodi to address thermal overloads on the 60 kV system. Other proposals documented in the adopted 2017-2018 Transmission Plan and Draft 2018-2019 Transmission Plan included BESSs with durations from 1 to 4 hours. In several cases, a duration was not specified for BESSs proposed in the Draft 2018-2019 Transmission Plan.~~

~~In the 2017-2018 Transmission Plan, CAISO approved a proposal submitted by PG&E to address reliability concerns in the East Bay Area caused by the retirement of the Oakland Power Plant (CAISO 2018a). PG&E's proposal would include substation upgrades, transmission switching, and competitively sourced energy storage and preferred resources (both behind the meter [BTM] and in front of the meter [FTM]) (PG&E 2018). The project would be a collaboration between PG&E and East Bay Community Energy (EBCE), with PG&E focusing on addressing the P2 contingency issues and commissioning a FTM 10 MW/40 MWh plus BESS. EBCE will assist with procuring market-participating renewable generation or energy storage, including BTM. An analysis of peak summer day load in the Oakland area found that 10 hours of storage would be needed to address the P2 contingency for an outage during this period, while 15 hours of storage would be needed to address the P6 contingency (PG&E 2018).~~

~~Overall, a BESS appears capable of meeting the Transmission Objective for the Proposed Project. Currently adopted standards (e.g., NERC, WECC) are unclear regarding the duration for which P1 and P6 outages must be alleviated and what is an acceptable restoration time. Due to this uncertainty, multiple scenarios were modeled (see Table 3-4) and CPUC will be coordinating with CAISO and PG&E to further develop the BESS alternatives. For the purposes of this ASR, Alternative BS-1 is considered potentially capable of meeting the Transmission Objective.~~

~~Alternative BS-1 would not address the Distribution Objective, but could be paired with another alternative that meets the distribution needs of the project.~~

Feasibility

A range of potentially feasible sites for BESS facilities have been identified (see Figure 3-13~~12~~ and Table 3-5). Particularly with recent advances in lithium-ion battery storage technology reducing the footprint and space requirements of lithium-ion BESSs, there may be room on suitable sites to install FTM BESS facilities. However, as discussed above, regardless of sizing, a BESS could not fully solve the potential outages under the Transmission Objective. Therefore, Alternative BS-1 would be infeasible. ~~The CPUC team expects to further assess site suitability and to develop specific designs for BESSs for consideration in the EIR. Nevertheless, the information currently available suggests that Alternative BS-1 is potentially feasible from a technical perspective.~~

~~With respect to environmental feasibility, fire risk is a concern with BESS installations and several high-profile fires involving electric vehicles have shown the potential for lithium-ion batteries to spontaneously ignite. Additionally, should BESS facilities catch fire, they could potentially pose a hazard to fire fighters and other first responders due to their chemical components. These issues will need to be fully evaluated in the EIR, but successful (so far) implementation of transmission-scale batteries in other parts of the world (e.g., Australia) suggest that any fire risk of BESS facilities can be adequately mitigated. UL 9540 is a safety standard that has been specifically developed for energy storage systems and equipment. Requiring UL 9540 certification, as well as implementation of measures to provide fire fighter training for how to respond to battery fires and/or measures to obtain review and approval of fire protection drawings and specifications for the proposed facilities by the local fire department, could minimize hazards associated with BESSs.~~

~~Other potential impacts of BESSs include hazards associated with recycling and disposal of batteries and materials at the end of their usable life. BESSs contain hazardous materials, which could expose workers, the public, or the environment to risks if not disposed of properly. This is another area that will need to be evaluated in the EIR, but, at this screening level of analysis, there is no reason to believe that this potential impact would necessarily be significant and/or could not be adequately addressed with mitigation.~~

Potential to Avoid or Reduce Significant Environmental Impacts

~~Information is not sufficiently available regarding Alternative BS-1 to fully evaluate its potential environmental impacts in comparison to the Proposed Project; nevertheless, some general assumptions can be made. First, g~~Given that Alternative BS-1 would require construction/installation of (up to) 8.1 ~~14.1~~ acres of lithium-ion BESS facilities (i.e., for Alternative BS-1E) (or as little as 1.5 ~~2.5~~ acres for Alternative BS-1A), compared to the roughly 15-acre-substation, 7-mile-long new 70 kV power line, and 3-mile-long reconductoring segment needed for the Proposed Project, it can be assumed that the alternative could reduce a number of construction-related impacts (e.g., air pollutant and GHG emissions, potential impacts to biological and cultural resources, etc.) and involve less overall ground disturbance. A redox flow battery may occupy more space, but could still reduce impacts if it were to avoid the need for the new and reconductored power line.

~~While Alternative BS-1 would only address the Transmission Objective, and thus it is not an equal comparison with the Proposed Project, e~~Even considering Alternative BS-1 in combination with another alternative that meets the Distribution Objective (e.g., Alternative BS-2; see Section 3.6.2), it would likely reduce overall ground disturbance/permanent impact area compared to the Proposed Project. Assuming Alternative BS-1 and BS-2 were implemented in tandem, for example, and that this combination could fully meet the objectives of the Proposed Project, this combination would completely avoid the need for the new 7-mile-long 70 kV power line. Therefore, such an approach would avoid the potential aesthetics, biological resources (e.g., special-status birds), and possible public services (i.e., obstruction of CAL FIRE helicopter flight path) impacts that could result from the new 70 kV power line.

Although BESS facilities themselves could result in aesthetics impacts (depending on their location and design), they also could potentially reduce aesthetics impacts, particularly in comparison to the proposed substation and power line. The City of Paso Robles specifically

noted in its scoping comments that it was concerned about potential aesthetics (and other) impacts from battery facilities at or near Paso Robles Substation. However, the CPUC believes that BESSs can be tastefully incorporated into new or existing buildings. **Figure 3-15~~13~~** shows a hypothetical example of such a BESS facility that is enclosed in a building and integrated into the surrounding landscape.



NOTES:

Example 10 MW/40 MWh 4-hour battery; 4,225 sq. ft. building on 0.37 acre lot; All distribution line connections are underground; Unspecified lot location in Any Town, USA

Source: Itani, pers. comm., 2018

Figure 3-15~~13~~. Example Energy Storage Facility Enclosed in Building

When compared to the proposed Estrella Substation, a BESS facility, such as the hypothetical example shown in Figure 3-15~~13~~, could be more compatible with its surrounding landscape and have less adverse visual effects.

Conclusion

Due to the inability for a BESS to charge during peak loading/transmission outage conditions and the possibility of a P1 contingency lasting multiple days, Alternative BS-1 could not feasibly meet the Transmission Objective of the Proposed Project. ~~Alternative BS-1 could potentially meet the Transmission Objective, and could be paired with another alternative that meets the Distribution Objective. The potential availability of suitable sites near Paso Robles Substation suggests that the alternative is potentially feasible. As the alternative could obviate the need for the new 15-acre substation, new 7-mile-long power line, and 3-mile-long reconductoring~~

~~segment required for the Proposed Project, it could reduce potentially significant environmental impacts.~~ Therefore, Alternative BS-1 is **screened out** ~~**retained for**~~ from full analysis in the EIR.

3.6.2 ALTERNATIVE BS-2: BATTERY STORAGE TO ADDRESS THE DISTRIBUTION OBJECTIVE

Description

Alternative BS-2 would involve installation of smaller BESSs connected to the distribution system to defer the need for additional distribution capacity in the Paso Robles DPA, in accordance with the Distribution Objective of the Proposed Project. ~~As described in Section 1.2.2, PG&E estimates that load growth in the Paso Robles DPA could exceed the capacity of local area substations by 2024; the Proposed Project would address this need by providing an additional substation.~~ The substation would be used to provide additional distribution service (i.e., new feeders) to meet increased future demand.

Kevala Analytics, Inc. (Kevala) evaluated the potential for BESSs to address the distribution need (Kevala 2018). Kevala's analysis considered the hosting capacity of specific feeders within the DPA forecasted to be overloaded by 2024 or expected to handle new block load growth, as well as storage modeling, to identify potential sizes for BESSs. The effects of such BESSs on substation capacity were then calculated to determine the capability of the BESSs to defer the distribution capacity need. **Table 3-6** shows the amount of storage that Kevala determined could be deployed on target feeders in the DPA with minimal upgrades to existing distribution facilities.

Table 3-6. Energy Storage Potential by Existing Distribution Circuit

Feeder	Voltage (kV)	Peak Load, 2024[1] (MW)	Storage Capacity Estimate—Minimal Grid Improvement Required (MW)[2]
Atascadero 1103[3]	12	11.9	2.4
Paso Robles 1102[3]	12	8.8	1.8
Paso Robles 1107	12	11.5	1.8
Paso Robles 1108	12	14.3	2.9
San Miguel 1104	12	9.3	1.9
Templeton 2109	12	15.5	3.1
Templeton 2113	21	20.6	2.9
		Total:	16.8

Notes:

KV = kilovolt; MW = megawatt

1. Updated peak load forecasts for 2028 will be available from PG&E in May 2019. They are based on the recorded peak loads from 2018.

2. With conductor upgrades and other improvements to the distribution grid, the storage capacities of each feeder could be increased above the capacities listed in this table.
3. PG&E's Distribution Deferral Opportunity Report listed Paso Robles 1103 as one of the feeders forecast to overload but omitted Paso Robles 1102 and Atascadero 1103 (PG&E 2019).

Source: Kevala 2018

The precise deployment of BESSs would depend on site availability (see Table 3-5) and, when considering that either a single BESS or multiple BESSs could be deployed (and BTM storage could also be employed to reduce loading; see Section 3.6.3), many combinations/scenarios are possible. The amount of storage shown in **Table 3-6** (i.e., a total of 16.8 MW dispersed across 7 feeders) is offered as an Example Storage Solution for the purposes of this discussion. **Table 3-7** shows the aggregated impact of the Example Storage Solution on area substation capacity.

Table 3-7. Example Storage Solution and Aggregated Substation Impact

Substation	Substation Available Capacity (MW)	PG&E 2026 Load Forecast (MW)	Aggregated Impact of Example Storage Solution,[1, 2] 2026[3] (MW)
Atascadero	28.2	29.76 **(-1.56)**	2.44 **(+0.88)**
Paso Robles	84.65	85.48 **(-0.83)**	6.50 **(+5.67)**
Templeton	84.65	86.93 **(-2.28)**	5.95 **(+3.67)**
San Miguel	15.05	14.68 **(+0.37)**	1.86 **(+2.23)**
Totals	212.55	216.85 **(-4.3)**	16.75 **(+12.45)**

Key: **Red text** = overload forecast amount; **Green text** = no overload forecast or overload alleviated by battery energy storage system above substation capacity; MW = megawatt

Notes:

1. The example storage solution is the amount of storage that can be installed on target feeders in the Distribution Planning Area without incurring significant interconnection and distribution grid upgrade costs (see **Table 3-6**).
2. Both front of the meter (FTM) and behind the meter (BTM) battery energy storage systems may be sited to address loads at the substations. ~~The BTM analysis has not yet been completed; r~~Refer to Section 3.6.3 for discussion of BTM resources procurement potential and siting.
3. ~~3.~~ Updated peak load forecasts for 2028 will be available from PG&E in May 2019. They are based on the recorded peak loads from 2018.

Source: Kevala 2018

As shown in Table 3-7, the Example Storage Solution would alleviate forecasted overloading at substations within the Paso Robles DPA and provide excess capacity to accommodate future growth. Implementation of the storage solution would provide 12.45 MW of excess capacity. **Table 3-8** shows how the Example Storage Solution sizes could translate into BESS facilities and the approximate space requirements for such facilities.

Table 3-8. Example Storage Solution Facilities and Space Requirements

Feeder / Battery Energy Storage System Deployment Site	Example Storage Solution[1] Sizes (MW)	4-Hour Duration (MWh)	~~No. of 50 kW / 210 kWh Battery Packs Required~~	Footprint[2] (Acres)
Atascadero 1103~~[3]~~	2.4	9.6	~~45.7~~	0.05~~9~~
Paso Robles 1102~~[3]~~	1.8	7.2	~~34.3~~	0.04~~7~~
Paso Robles 1107	1.8	7.2	~~34.3~~	0.04~~7~~
Paso Robles 1108	2.9	11.6	~~55.2~~	0.07~~11~~
San Miguel 1104	1.9	7.6	~~36.2~~	0.04~~7~~
Templeton 2109	3.1	12.4	~~59.0~~	0.07~~12~~
Templeton 2113	2.9	11.6	~~55.2~~	0.07~~11~~
Totals	16.8	67.2	~~320~~	0.4~~66~~

Notes:

MW = megawatt; MWh = megawatt-hour; kW = kilowatt; kWh = kilowatt-hour;

1. Behind-the-meter storage may be sited to further address loads at the respective substations. ~~This analysis has not yet been completed; r~~Refer to Section 3.6.3 for discussion.
2. Footprint size estimates based on lithium-ion technology. Since publication of the Draft ASR, lithium-ion battery storage technology has advanced substantially and the space needed for lithium-ion battery facilities has been reduced by roughly 40 percent. ~~Footprint calculations are based on Tesla 2017 product specifications and assume that approximately 72 sq ft is needed per 50 kW/210 kWh power~~ pack~~. An additional 25 percent extra space is then assumed to be needed for roads, buildings, and parking on the Battery Energy Storage System site. Tesla PowerPacks were used for the purposes of this analysis, but other providers could have been selected.~~
3. PG&E's Distribution Deferral Opportunity Report listed Paso Robles 1103 as one of the feeders forecast to overload but omitted Paso Robles 1102 and Atascadero 1103 (PG&E 2019).

Source: Kevala 2018

As shown in Table 3-8, assuming a 4-hour duration for BESSs, implementation of the Example Storage Solution would involve the installation of BESSs~~320 battery packs (each providing 50 kW/210 kWh)~~, which would occupy a total of 0.4~~66~~ acres (assuming use of lithium-ion technology). This assumes that 25 percent extra space would be needed at the BESS site for site development (e.g., road, parking, etc.).

Practically, BESSs could be deployed at the substation (preferable) or on sites along the feeders. The siting criteria described in Section 3.6.1 for Alternative BS-1 also generally apply to FTM BESSs targeting the distribution need under Alternative BS-2. As shown in Table 3-5, space appears to be available in immediate proximity to the existing Templeton and Atascadero substations. A portion of the needed storage could be deployed at these locations to meet projected load increases on target feeders emanating from these substations. The preliminary site screening identified 5 sites within 0.75-mile of Paso Robles Substation that could be suitable

for BESS facilities, although one of these sites was eliminated based on comments received on the Draft ASR.

In a practical sense, BESS facilities under Alternative BS-2 would function to "shave" peak loads during periods when energy use along these feeders is high (i.e., reduce peak loads during the summer) to relieve pressure on the area substations and feeders. Although designs have not yet been developed, BESSs may be sited outdoors on concrete slabs or integrated into buildings, as shown on Figure 3-15~~13~~.

~~In many ways, Alternatives BS-2 and BS-1 are related. The more storage that is installed under Alternative BS-2, the less storage may be needed under Alternative BS-1 to address the Transmission Objective. However, the BESS facilities under the two alternatives may function differently (e.g., BESS capacity under Alternative BS-1 may be reserved for substantial output in the event of N-1 or N-1-1 outages, while BESSs under Alternative BS-2 may serve to shave peak load). Additionally,~~ BTM storage considered under Alternative BS-3 could help to reduce peak load on feeders and thereby help to meet the distribution need of the Proposed Project. ~~The interrelationship between Alternatives BS-1, BS-2, and BS-3 will be further fleshed out during the development/refinement of these alternatives and in the EIR.~~

The analysis in this ASR was based on data provided by PG&E in response to CPUC data requests ~~made in 2018~~, as well as information presented in the Applicants' PEA. CPUC will be coordinated~~ing~~ with PG&E to understand the methodology for the results presented in their 2018 Distribution Deferral Opportunity Report (DDOR) and resolve the discrepancies between the DDOR and this ASR (see discussion under "Feasibility" section below).

Consideration of CEQA Criteria

Project Objectives

Preliminary modeling suggests that Alternative BS-2 could meet the Distribution Objective. The alternative would not meet the Transmission Objective, but could potentially be paired with another alternative that meets the Transmission Objective.

Feasibility

As noted above, potentially suitable sites have been identified; however, further coordination and research will be needed to determine the feasibility of acquiring parcels and locating BESSs on these sites. Additionally, PG&E would need to comment on the interconnection of the BESS to the distribution system. A PG&E Interconnection Study is expected to be required.

Similar projects have been successfully implemented in California; for example, PG&E's Brown's Valley 500 kW/2 MWh facility was implemented in part to demonstrate the feasibility of using a utility-operated energy storage asset to address capacity overloads on the distribution system and improve reliability, as well as evaluate energy storage controls systems and integrate energy storage functionality with existing Distribution Operations protocols (PG&E 2017b). Ultimately, this project was a success and the BESS was able to effectively provide autonomous peak-shaving capacity relief for a substation transformer bank. The project report states that "the facility was tested in a variety of control modes as part of system commissioning and proved its

ability to reliably follow real-time control signals as well as to deliver and consume real and reactive power as instructed" (PG&E 2017b).

In addition, numerous BESSs have been successfully implemented on SCE's electric grid. The following passage from the CPUC 2018 Final EIR (CPUC 2018b) for a proposed SCE substation and power line project (CPUC Application A.15-12-007) provides insight into the expected feasibility of implementing BESS solutions within the Paso Robles area to address the Distribution Objective of the Proposed Project:

> *…hundreds of additional energy storage facilities [currently operate] within SCE's service territory, which amount to more than 350 MWs and a much larger total energy capacity (megawatt hours), although total energy capacity was not provided by SCE in response to CPUC Energy Division data requests. SCE does not own many of these additional facilities, but they have been operating within SCE's electric system and are connected both in-front-of-the-meter and behind-the-meter at the customer, distribution, and transmission domains (grid domains).[1] Facilities that SCE does not own still provide SCE with important operational experience. Among the additional 350 MWs of energy storage facilities in operation are those connected pursuant to SCE's Rule 21[2] obligations. According to SCE's public data, the first energy storage facility for which an interconnection agreement was executed with SCE was a 2 MW facility in Orange County. This occurred in 2008 (SCE Rule 21/WDAT interconnection que as of 10/2/2018). By approximately 2022, SCE's public data indicates that about 3.2 gigawatts[3] of energy storage will be operating within their service territory, and more than 3.0 gigawatts of the total will be lithium-ion technology. The majority of the storage facilities through 2022 will be behind-the-meter, but about 135 MWs of the behind-the-meter storage will be under SCE operational control, and SCE uses behind-the-meter resources to meet its obligations for Resource Adequacy—adequate generation resources available to reliably meet forecast load (see http://www.cpuc.ca.gov/RA). SCE will own or contract for about 500 MWs of the 3.2 gigawatt total, and about 220 MWs of the 500 MWs is expected to be under SCE operational control [SCE 2018 of this report].[4]*
>
> *[1] The term, "grid domains," refers to the three levels of the electric system at which an energy storage device may be interconnected—behind the customer meter, on the utility distribution system, or on the transmission system (Decision D.18-01-003).*
>
> *[2] Electric Rule 21 describes the interconnection, operating, and metering requirements for generation facilities to be connected to a utility's distribution system over which the CPUC has jurisdiction. Interconnected generation may be classified as non-export under the CPUC/SCE Electric Rule 21 tariff or export under the Federal Energy Regulatory Commission WDAT—Wholesale Distribution Access Tariff (www.sce.com/wps/portal/home/business/generating-your-own-power/Grid-Interconnections/Interconnecting-Generation-under-Rule-21).*

[3] SCE stated that "projects which have not proceeded beyond an interconnection request are considered speculative, so they are not included" with the data describing the 3.2 gigawatts of storage to be operational through approximately 2022 within SCE's service territory [SCE 2018 of this report]. Hence, the total amount of storage that may be operational in the timeframe may be greater than 3.2 gigawatts.

[4] At this time, SCE defines "operational control" as applicable to projects for which SCE is either bidding into the CAISO market and/or performing distribution deferral dispatches or testing [SCE 2018 of this report].

Significantly, during the course of preparing this draft ASR, PG&E identified the Proposed Project as a Candidate Deferral (i.e., through DER implementations, such as battery storage) in its 2018 DDOR prepared pursuant to the Distribution Resource Planning Proceeding, R.14-08-013 (PG&E 2019). Within the DDOR, PG&E identifies grid need for specific distribution feeders/transformer banks in the Los Padres Division that would be addressed by the Proposed Project. See the BTM Solar plus Solar Adoption Propensity Analysis Report (CPUC 2020) (Appendix B) for further discussion of the relationship between the data provided in DDOR filings and the distribution needs of the Proposed Project. ~~Generally, the data in the DDOR are consistent with Kevala's analysis and the information presented in this section; however, there appear to be several discrepancies. For example, the DDOR identified an overall deficiency of 4.87 MW for the area (PG&E 2019), while Kevala calculated a deficiency of 4.3 MW (see Table 3-7). Also, the DDOR listed Paso Robles 1103 as one of the feeders forecasted to be overloaded, but omitted Paso Robles 1102 as well as Atascadero 1103, which differs from Kevala's conclusions (PG&E 2019).~~

With respect to environmental feasibility, fire risk is a concern with BESS installations (particularly lithium-ion BESSs) and several high-profile fires involving electric vehicles have shown the potential for lithium-ion batteries to spontaneously ignite. Additionally, should BESS facilities catch fire, they could potentially pose a hazard to fire fighters and other first responders due to their chemical components. These issues will need to be fully evaluated in the EIR, but successful (so far) implementation of transmission-scale batteries in other parts of the world (e.g., Australia) suggest that any fire risk of BESS facilities can be adequately mitigated. UL 9540 is a safety standard that has been specifically developed for energy storage systems and equipment. Requiring UL 9540 certification, as well as implementation of measures to provide fire fighter training for how to respond to battery fires and/or measures to obtain review and approval of fire protection drawings and specifications for the proposed facilities by the local fire department, could minimize hazards associated with BESSs. Use of alternative technology, such as redox flow batteries, could also minimize fire risk hazards.

Other potential impacts of BESSs include hazards associated with recycling and disposal of batteries and materials at the end of their usable life. BESSs contain hazardous materials, which could expose workers, the public, or the environment to risks if not disposed of properly. This is another area that will be evaluated in the EIR, but, at this screening level of analysis, there is no reason to believe that this potential impact would necessarily be significant and/or could not be adequately addressed with mitigation.

~~See the discussion in Section 3.6.1 on the potential environmental constraints associated with BESS facilities. In summary, none of the potential environmental impacts/risks (e.g., fire risk, hazardous materials disposal impacts, etc.) are anticipated to be so severe as to render a BESS alternative environmentally infeasible.~~ Overall, while feasibility of Alternative BS-2 may depend

on site availability for sale/acquisition, among other factors, at this screening level of analysis, the alternative is considered potentially feasible.

Potential to Avoid or Reduce Significant Environmental Impacts

See the discussion in Section 3.6.1 on the potential for a BESS alternative to avoid or reduce significant environmental impacts of the Proposed Project. Assuming implementation of the Example Storage Solution (16.8 MW on approximately 0.4~~66~~ acre using lithium-ion technology), Alternative BS-2 could decrease the amount of permanent disturbance and construction activities that would be required for the Proposed Project (e.g., new 15-acre substation, 7-mile-long power line, and 3-mile-long reconductoring segment, as well as future new 21 kV distribution feeders emanating from the proposed substation). Even if Alternative BS-2 was paired with another alternative that addresses the Transmission Objective (e.g., ~~BS-1 or~~ SE-1/SE-PLR-2), the combined effects of the alternatives would likely be less than the effects of the Proposed Project.

Like Alternative BS-1, BESS facilities under Alternative BS-2 could have aesthetic impacts depending on their specific location, but tasteful design of facilities could potentially alleviate these impacts (see Figure 3-15~~13~~).

Conclusion

Alternative BS-2: Battery Storage to Address the Distribution Need could potentially meet the Distribution Objective and could be paired with another alternative that meets the Transmission Objective. ~~If paired, the total energy storage amount would need to be large enough to meet both objectives. For example, if a 65 MW/260 MWh BESS were selected to address the Transmission Objective, we assume that the amount of storage may need to be increased by about 4.3 MW/17.2 MWh to also address the Distribution Objective. This assumes that 4 hours is the optimal duration to address both objectives. The power and duration of battery storage needed for these objectives will be further explored in the DEIR and continually updated based on each, annual load forecast provided by PG&E throughout the duration of the CPUC Proceeding.~~ The potential availability of suitable sites near Paso Robles Substation and at other area substations suggests that the alternative is potentially feasible. As the alternative could obviate the need for the new distribution facilities envisioned under the Proposed Project (e.g., substation, future feeders, etc.), it could reduce potentially significant environmental impacts. Therefore, Alternative BS-2 is **retained** for full analysis in the EIR.

3.6.3 ALTERNATIVE BS-3: BEHIND-THE-METER SOLAR AND BATTERY STORAGE

Description

BTM solar and battery storage (i.e., "BTM resources") adoption also could ~~may be another way to~~ reduce loading on circuits within the Paso Robles DPA, and thereby avoid potential future forecasted substation overloads. BTM resources ~~storage~~ would be metered at the building-level, and could be owned and/or operated by either the building owner or a third party provider. In particular, because (1) the projected DPA overload in 2026 is relatively minor (roughly 4 MW over 10 years); (2) there are numerous potential developers bidding into PG&E requests for offers of energy storage and preferred resources, (3) there are numerous commercial and

industrial parcels in target storage areas, and (4) PG&E has the flexibility to either own BTM resources or procure them with third-party contracts, BTM solar and storage is a potentially viable option to address the Distribution Objective of the Proposed Project. In addition, to the extent BTM resources are ~~storage is~~ sited by customers on customer-owned parcels, this would reduce or eliminate the need for the utility to obtain rights to a particular parcel of land.

Adoption Propensity

CPUC and its consultants evaluated the potential for BTM solar plus storage adoption propensity (Kevala 2020; see Appendix B to this ASR). **Table 3-9** provides a summary of the evaluation's results. ~~Kevala's preliminary analysis of BTM storage potential on Paso Robles distribution circuits.~~

Table 3-9. Summary Results for the BTM Adoption Propensity Analysis – All Customer Types in the Paso Robles DPA

Scenario	BTM Adoption Propensity			
	Solar (MW)	Battery Storage (MW)	Battery Storage (MWh)	Total # of Customers
Low	88	125	240	~17,000
Medium	92	138	272	~19,000
High	100	175	343	~21,000

~~Table 3-9.~~ Aggregated Peak Loading Information for Paso Robles Distribution Circuits

~~Feeder Name / No.~~	~~Aggregated Peak Load from Commercial and Industrial Customers (Non-Coincident) (MW)[1, 2]~~	~~No. of Customers (Range[3]) with Peak Load of 50 kW or Higher[1]~~
~~Paso Robles 1101~~	~~6.7~~	~~20-30~~
~~Paso Robles 1102~~	~~3.6~~	~~10-20~~
~~Paso Robles 1103~~	~~9.1~~	~~10-20~~
~~Paso Robles 1104~~	~~5.3~~	~~20-30~~
~~Paso Robles 1106~~	~~3.3~~	~~10-20~~
~~Paso Robles 1107~~	~~2.1~~	~~10-20~~
~~Paso Robles 1108~~	~~6.2~~	~~20-30~~

~~Notes:~~

~~MW = megawatt; kW = kilowatt~~

~~1. Peak load from commercial and industrial customers on the identified feeders is *at least* as high as reported in this table. Some Advanced Metering Infrastructure data points are missing, either from customers choosing to opt out, or because PG&E's dataset is missing some service IDs.~~

~~2. This number represents total peak load from individual commercial and industrial customers, and not coincident circuit-level peak load, to estimate total potential of BTM storage.~~

~~3. A range is provided (e.g., 20-30) rather than an exact number, to avoid any potential customer confidentiality issues.~~

As shown in Table 3-9, across the Paso Robles DPA, there is substantial potential for BTM resources adoption. Under the low scenario, roughly 17,000 customers (residential and C&I) meet the criteria for economically-efficient adoption. If all of these customers adopted BTM solar and/or storage technology at the parameters used in the study, this would equate to 88 MW of solar and 125 MW / 240 MWh of storage (Kevala 2020). Under the high scenario, approximately 21,000 economically-efficient potential adopters were identified, equating to 100 MW of solar and 175 MW / 343 MWh of storage.

For Paso Robles feeders specifically, **Table 3-10** shows that there is relatively substantial BTM adoption potential for customers along feeders in target areas for future distribution service from the Estrella Substation.

Table 3-10. BTM Storage Adoption Propensity for Paso Robles Feeders – Low and High Scenarios

	Low Scenario			High Scenario		
Feeder	**# of Customers**	**MW**	**MWh**	**# of Customers**	**MW**	**MWh**
Paso Robles 1101	123	0.8	3.6	151	1.1	2.5
Paso Robles 1102	676	4.8	9.3	881	7.3	14.3
Paso Robles 1103	1,112	9.7	15.1	1,324	10.9	21.5
Paso Robles 1104	624	4.5	8.8	843	6.7	13.3
Paso Robles 1106	1,737	12.2	23.6	2,325	18.8	36.5
Paso Robles 1107	918	6.6	12.9	1,123	9.5	18.7
Paso Robles 1108	1,399	9.9	19.2	1,822	14.9	29.2
Total:	**6,589**	**48.5**	**90.6**	**8,468**	**69.2**	**136.0**

~~commercial and industrial customers account for a significant portion of the peak load on circuits in the Paso Robles area. A number of these customers individually contribute at least 50 kW to the peak loading. Generally, these findings show that there is potential for BTM storage to be deployed and positively affect loading, as commercial and industrial customers with larger electrical demands logically make the most sense for BTM storage. However, more analysis is needed to determine whether aggregate BTM participation can reduce sufficient demand on the circuit to avoid forecasted substation overloads.~~

Although future load conditions would depend on where future development projects and other new load sources occur in the Paso Robles area, **Table 3-10** shows that there is adoption potential along all of the feeders that connect to Paso Robles Substation. In particular, Paso

Robles Feeder 1107, which passes through two of the anticipated growth areas in Golden Hill Industrial Park and near the Paso Robles Airport, has potential for BTM storage adoption of 9.5 MW / 18.7 MWh under the high scenario. Similarly, Paso Robles Feeder 1102 also passes through the Golden Hill Road area and has potential for adoption of 7.3 MW / 14.3 MWh of BTM storage under the high scenario.

Education and Incentives Program

To capture all or a portion of the BTM resources adoption potential described above, Alternative BS-3 would include a targeted program to provide education and incentives to encourage BTM resources adoption in the Paso Robles DPA. The program would be funded and procured by the Proposed Project Applicants and would generally follow a process of:

1. Applicants issue a Request for Proposals (RFP) that describes the BTM resources program, including the level of incentives to be offered, outreach/education activities, BTM resources installation and operating requirements, etc.;

2. Companies respond to the RFP with proposals (including scopes of work and cost estimates) for administering the BTM resources program;

3. Applicants select a company ("BTM Resources Program Administrator") to administer the BTM resources program;

4. The BTM Resources Program Administrator conducts the BTM resources education and outreach program, manages and tracks issuance of incentives to customers that choose to install BTM resources, coordinates with PG&E to ensure smooth interconnection of BTM resources to the distribution grid, and monitors and reports on the effectiveness of the BTM resources program and BTM resources adoption;

5. The Applicants track data provided by the BTM Resources Program Administrator regarding adoption of BTM resources and monitors the effects of new BTM resources interconnections on distribution system loading;

6. Applicants prepare and submit annual reports to the CPUC describing the BTM resources program activities and BTM resources adoption rates under the current incentive structure, including an updated load forecast for the DPA taking into account the new BTM resources interconnections;

7. CPUC reviews reports and reserves the right to adjust the incentive structure if BTM resources adoption is lagging behind the pace necessary to defer distribution system upgrades such as to meet the Distribution Objective.

The education program would include outreach to specific C&I customers along target feeders in the Paso Robles area, as well as in the Paso Robles DPA as whole, with information on the benefits of BTM solar and storage, annual bill savings that could be achieved, installation and operating costs of BTM solar and storage facilities, and the incentives that are available through the BTM resources program.

BTM Sites and Facilities

Because it is unknown which specific customers will opt into the BTM resources program and install BTM resources on their property, the specific locations of activities under Alternative BS-3 are unknown. In general, BTM resources would be anticipated to be installed within existing commercial and industrial buildings, and within existing residential homes or apartment complexes.

Construction, Operation, and Maintenance

Construction activities under Alternative BS-3 would include deliveries of individual BTM solar and/or storage units to customers' properties, installation of the units on-site, and wiring work to connect the BTM resources to existing electrical systems. In general, it is assumed that minimal ground disturbance would be required since BTM solar and storage facilities would be installed primarily on and within existing buildings; however, it is possible that at some locations building owners may choose to install the BTM facilities on previously undeveloped portions of their property. In this case, some vegetation clearing, light grading, and minor excavation is possible. A concrete slab may be installed to support the BTM solar and/or storage facilities or a small enclosed building with a foundation may be constructed to house the storage facilities.

Once installed, BTM storage facilities would require minimal operation and maintenance. Control systems would be set up at the time of installation which would control the BTM storage systems' behavior (e.g., charging/discharging) in relation to building energy usage, PV energy production, grid pricing, etc. BTM storage systems may require minor adjustments and servicing from time to time, which would typically involve one or two workers traveling to the site and conducting maintenance/repairs. At the end of their usable life, BTM BESSs would need to be recycled (if possible) or disposed of; because BESSs contain hazardous materials, this may require transport of the BESS materials to a hazardous waste landfill.

~~From a practical perspective, CPUC staff and consultants also will need to determine how to frame Alternative BS-3 such that it could be feasibly implemented and properly evaluated under CEQA. Using BTM storage as an option to provide distribution services could require the utility to issue a Request for Offer to source storage resources if the utility does not own the BTM resource. Innovative public-private partnerships may also be an option with interested participants, such as local wineries or at the Paso Robles Municipal Airport (Kevala Analytics, Inc. 2018). At this time, the potential for Alternative BS-3 to adequately address the Distribution Objective, be feasibly implemented, and reduce one or more potentially significant environmental impacts of the Proposed Project is **to be determined.**~~

Consideration of CEQA Criteria

Project Objectives

As described in detail in the BTM Solar plus Storage Adoption Propensity Analysis (BTM Report) (Kevala 2020; see Appendix B to this ASR), the level of potential BTM resources adoption in the Paso Robles DPA would far exceed the overall capacity need (4.3 MW over 10 years) reported by the Applicants in the PEA. Even assuming a BTM resources program could only capture a small portion of the total identified BTM resources adoption potential (88 MW of solar and 125 MW / 240 MWh of battery storage under the low scenario; see **Table 3-9**), this could still potentially

alleviate the cumulative anticipated overloading on distribution feeders with future electrical demand growth.

However, when looking at the specific capacity needs reported in PG&E's 2019 DDOR, the BTM Report found that BTM resources alone could not fully meet all of the capacity needs. Specifically, PG&E reported a 3.6 MW need for a 9-hour time period at the San Miguel Bank 1. Given the long duration, BTM resources could not fully address this need, but could be paired with FTM resources in this location to address the need. Thus, Alternative BS-3 could not, on its own, fully address the Distribution Objective of the Proposed Project, but could be paired with FTM resources (e.g., Alternative BS-2) to fully meet the Distribution Objective.

With respect to the Transmission Objective, deployment of BTM resources could substantially reduce or totally avoid the amount of FTM storage needed under Alternative BS-1 to address a P1 or P6 contingency for a limited period of time. As discussed in more detail in the BTM Report, modeling conducted by ZGlobal, Inc. showed that full adoption of BTM resources under the high scenario would completely avoid the need for FTM storage to address P1 and P6 outage conditions assuming a short duration outage (see Table 8 in the BTM Report). Full adoption of BTM resources under the medium or low scenarios would require some FTM storage connected at the Paso Robles Substation. As described in the BTM Report, however, BTM storage would be subject to the same duration and recharging limitations as FTM storage generally (see discussion under Alternative BS-1), and thus would not be able to address a long-duration outage affecting the Paso Robles Substation and/or may not be in an adequate state of charge following an initial outage to be ready for a subsequent outage. As such, BTM resources, on their own or in combination with FTM resources, are not considered capable of fully meeting the Transmission Objective.

Feasibility

Given that BTM resources would be adopted by individual C&I or residential customers out of their own volition, it is not possible to say with certainty that the alternative is feasible. Even if (hypothetically) the BTM resources program were to cover 100 percent of the cost of the BTM solar and storage systems, individual customers still might not choose to participate for whatever reason. CPUC and/or the Applicants would not force any individual customers to adopt BTM technology; thus, the ultimate level of BTM resources adoption is beyond their complete control.

That being said, only a relatively small portion of the total BTM resources adoption potential identified in the BTM Report would need to be captured to make Alternative BS-3 viable. Additionally, since it would be in customers' interest to adopt BTM solar and storage (although it may take a number of years to realize the economic returns), it is reasonable to assume that a number of the potential adopters identified in the BTM Report would react positively to a BTM resources program. Particularly when considering that incentives could be increased based on the participation rate, it would not be surprising for a substantial proportion of the total identified BTM adoption potential to be successfully captured.

As far as the actual BTM solar and storage facilities, this technology has been successfully deployed in numerous homes and businesses in California and elsewhere. Moreover, the technology continues to improve with better capacity/performance and affordability over time.

Certain businesses or homes in the Paso Robles DPA may have different load curves (e.g., greater or less energy use at night vs. during the day), which may require fine-tuning of BTM solar and storage facility behavior, but there is no reason to believe that BTM resources could not be successfully deployed under Alternative BS-3.

Refer to the discussion in Section 3.6.2 on the potential environmental constraints associated with BESS facilities. In general, BTM storage systems would have similar concerns as FTM BESSs with respect to fire risk, hazardous materials disposal, etc. Solar panels could potentially have impacts related to solid waste disposal and could have minor construction-related impacts (e.g., traffic and air quality/GHG impacts from transport of materials), but none of these potential impacts would render the alternative environmentally infeasible.

Overall, this alternative is considered potentially feasible.

Potential to Avoid or Reduce Significant Environmental Impacts

BTM resources could have even greater potential to avoid or reduce significant environmental impacts than FTM storage, as described under Alternative BS-2. To the extent that BTM resources could meet the Distribution Objective, this could defer or completely avoid the need to build the distribution components of the Proposed Project (i.e., build-out of the 70/21 kV facilities in the 70 kV substation, construction of the new sections of distribution line to complete the Estrella feeders, etc.). As such, the environmental effects of the Proposed Project's distribution components could be deferred or avoided, although none of these are anticipated to be significant and unavoidable.

On their own, BTM resources could not meet the Transmission Objective and thus could not avoid the need for the transmission components of the Proposed Project, including the Estrella Substation and proposed 70 kV power line. As discussed in Section 3.6.1, BTM resources also could not be paired with FTM storage to fully address the Transmission Objective. However, BTM resources could potentially be paired with Alternative SE-1A: Templeton Substation Expansion – 230/70 kV Substation and Alternative SE-PLR-2: Templeton-Paso South River Road Route, which would meet the Transmission Objective. This pairing could meet both objectives of the Proposed Project, while reducing the Proposed Project's aesthetics and agricultural resources impacts (see discussion in Section 3.4.1), as well as avoiding the impacts from constructing the Proposed Project's distribution components.

The environmental effects of BTM resources themselves are anticipated to be relatively minor, particularly since the majority of new BTM solar and storage systems would likely be installed on or within existing buildings and there would be minimal new ground disturbance. Overall, when paired with Alternative SE-1A/SE-PLR-2, Alternative BS-3 could reduce significant impacts of the Proposed Project.

Conclusion

Modeling by CPUC's consultant team has shown that there are a substantial number of C&I and residential customers in the Paso Robles DPA for whom it makes economic sense to adopt BTM resources. It is reasonable to assume that many of these customers could be spurred to BTM resources adoption through an education and incentives program. Particularly when paired with

another alternative that meets the Transmission Objective, BTM resources can avoid or reduce environmental impacts, including the potentially significant aesthetics and agricultural resources impacts of the substation and power line. Therefore, Alternative BS-3 is **retained** for full analysis in the DEIR.

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Chapter 4
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Appendix A
SUMMARY OF COMMENTS RECEIVED ON THE DRAFT ASR

Table A-1. Summary of Comments Received on the Draft Alternatives Screening Report

Comment	Commenting Party(ies)
General Comments on the ASR Document / Process	
The Draft ASR should include a description of the Applicants' public outreach efforts and the nature of the comments received through that process.	Horizon West Transmission (HWT)
The project objectives developed by CPUC should be modified to reflect the fundamental objective of increasing service reliability in the area.	HWT
The project objectives developed by the CPUC cannot achieve the project's underlying fundamental purpose.	Pacific Gas & Electric Company (PG&E)
The CPUC project objectives should be modified to include a dual transmission/distribution objective that fully captures the reliability need of the Project.	HWT
The detailed analysis of alternatives in the EIR should not understate the environmental impacts of an alternative (e.g., through piece-mealed review of alternatives that only partially address the project objectives on their own) compared to the Proposed Project.	HWT
The CPUC should not consider battery storage procurement initiatives in developing / screening alternatives.	HWT; PG&E
The consideration of battery storage initiatives in the Draft ASR is prejudicial to HWT, which is not a load-serving entity and would not be able to procure storage if a battery storage alternative were selected by the Commission.	HWT
References to Public Utilities Code Sections 1002.3 and 1002 should be removed since the Commission is not considering granting a Certificate of Public Convenience and Necessity (CPCN) for the Proposed Project.	HWT; PG&E
Applicant Proposed Measures (APMs) are part of the Proposed Project and should not be ignored or converted to mitigation measures.	PG&E
CPUC should consider additional criteria in reviewing alternatives such as public safety, constructability, community perception, long-term maintenance, sustainability and long-term usability and cost.	Member of the public
It's inappropriate for an approving agency to take over and re-develop an environmental report in the manner that CPUC has done.	Member of the public

Comment	**Commenting Party(ies)**
Comments Specific to the Proposed Project or Alternatives	
Proposed Project	
Routing the 70 kV power line through the Golden Hill Industrial Park could benefit economic development and make it less expensive to serve businesses that would locate there.	City of Paso Robles
Preference for the original (i.e., proposed) routing for the 70 kV power line.	City of Paso Robles
If the original 70 kV power line routing could be adjusted to avoid San Antonio Winery but still traverse the industrial park, this would be an improvement.	City of Paso Robles
The Proposed Project 70 kV power line route is within the 100-year floodplain.	County of San Luis Obispo, Department of Public Works
A portion of the Proposed Project 70 kV power line route is in a Municipal Separate Storm Sewer System (MS4) area and may be subject to post-construction stormwater requirements.	County of San Luis Obispo, Department of Public Works
A portion of the Proposed Project 70 kV power line route is within the unincorporated Paso Robles Urban Reserve Line and the County would requiring undergrounding of new utilities in this area, irrespective of Alternative PLR-3: Strategic Undergrounding.	County of San Luis Obispo, Department of Public Works
The Draft ASR overstates the Proposed Project's potential impacts on agricultural resources, which would not be significant according the significance standard applied by CPUC on other projects.	HWT
The portion of the Proposed Project 70 kV route that goes through the Golden Hill Industrial Park needs to be re-routed to avoid a new construction project underway on Tractor Danley Court Street between Germaine Engine Street Way and Golden Hill Road. PG&E proposes to route the 70 kV line up Germaine Engine Street Way past the cul-de-sac and then west behind San Antonio Winery.	PG&E
The Proposed Project 70 kV power line route was rushed to judgment and did not receive the same level of consideration with respect to criteria as the alternatives in the ASR.	Member of the public
Opposition to the Proposed Project 70 kV power line route.	Multiple members of the public
The Proposed Project 70 kV route would adversely affect recreational uses (i.e., RV campers) and potentially expose recreational users to health risks from EMFs, as well as noise.	Member of the public
The Proposed Project 70 kV route would impact previously completed environmental mitigation and landscaping/fencing for the Cava Robles RV Park.	Member of the public
The Union Road route is the most cost effective route and has been recommended by PG&E.	Member of the public

Comment	Commenting Party(ies)
The Proposed Project 70 kV route (Union Road route) would be least disruptive for the community with fewer homes in the affected area, and would be the safest route considering potential and earthquake hazards.	Member of the public
Proposed Project, Alternatives PLR-1, PLR-2, SE-PLR-1, SE-PLR-2, SE-PLR-3: Comments Related to Overhead Power Lines in General	
All overhead lines should be placed underground due to the fire risk associated with these facilities.	Member of the public
Overhead power lines adversely affect property values.	Multiple members of the public
Overhead lines will cause adverse health impacts from EMF radiation.	Multiple members of the public
Power lines should include an "advanced falling conductor protection system" that will cut power to a falling line before it hits the ground.	Member of the public
The pole towers are too tall and could interfere with emergency response helicopters.	Member of the public
Alternative SS-1: Bonel Ranch (formerly McDonald Ranch) Substation Site	
This alternative should be screened out because it would not eliminate or reduce environmental impacts of the Proposed Project.	HWT
Alternative SS-1 would have a significant adverse effect on aesthetics due to the potential visual incompatibility of the substation with the surrounding landscape, as seen from Estrella Road.	HWT
Overall, the Draft ASR improperly downplays the potential impacts of Alternative SS-1 (e.g., longer construction time; increased erosion, sedimentation, and fugitive dust), which would be greater than those of the Proposed Project.	HWT
Support for Alternative SS-1.	Adamski Moroski Madden Cumberland & Green, LLP (AMMCG) (law firm representing San Antonio Winery)
Alternative SS-2: Mill Road West Substation Site	
The Draft ASR properly eliminates Alternative SS-2 from full analysis in the DEIR, but it would have additional environmental impacts beyond that identified in the Draft ASR.	HWT
Alternative PLR-1: Estrella Route	
Alternative PLR-1 (Estrella Route) appears to have fewer constraints from the perspective of the County Department of Public Works.	County of San Luis Obispo, Department of Public Works

Comment	Commenting Party(ies)
There are potential feasibility issues associated with all of the Alternative PLR-1 variations (i.e., PLR-1A, -1B, -1C, and -1D) due to lack of all-weather access roads for maintenance. In particular, Alternative PLR-1D would have significant access issues and should therefore be removed from further consideration.	PG&E
If no permanent access can be established for Alternative PLR-1 variations and existing roads are not passable, PG&E would need to drop or remove a row of grapevines to drive over the area to conduct maintenance, which could result in 5 years of crop loss reimbursement, adding to the project cost.	PG&E
Alternative PLR-1 variations would have greater impacts on agricultural resources than the Proposed Project 70 kV route.	PG&E
Alternative PLR-1 variations would traverse more rural/agricultural areas compared to the Proposed Project 70 kV power line route, which would result in a more drastic change to the visual quality of the landscape.	PG&E
Biological resources impacts for Alternative PLR-1 variations would be reduced compared to the Proposed Project.	PG&E
Alternative PLR-1 variations would result in increased air and GHG emissions, noise, and truck trips than the Proposed Project 70 kV route due to the 2 months longer construction schedule.	PG&E
Alternatives PLR-1B and -1C would cross a stream/river in the area of Treasury Wine Estates, which could result in increased impacts due to potential increased truck trips for stabilizing soils for structure foundations, as well as the possibility of impacting cultural resources and increased erosion.	PG&E
Portions of the Alternative PLR-1D route would traverse an elevated plateau that is subject to erosion; this could require use of engineered fill to address slope instability issues.	PG&E
Due to its location on an elevated plateau, Alternative PLR-1D would be visible to motorists along Estrella Road and would result in a stark contrast from the surrounding landscape.	PG&E
Obtaining easements for development of the Alternative PLR-1D route would result in properties being severed, leaving a large amount of unusable land in the middle of these properties. This route was also opposed by many members of the public during open houses in 2015 and 2016.	PG&E
All of the Alternative PLR-1 routes include more sharp direction changes requiring angle poles, which involve more permanent ground disturbance and are more costly to install.	PG&E
Overall, due to the longer length (5 to 7 miles longer), more difficult access, and more angle poles, Alternative PLR-1 routes would cost 50 to 100% more than the Proposed Project 70 kV route to construct.	PG&E
Support for Alternatives PLR-1C and PLR-1D.	AMMCG
Support for the Alternative PLR-1 generally.	Member of the public

Comment	Commenting Party(ies)
Alternative PLR-2: Creston Route	
Opposition to the Creston Route.	Member of the public
Constructing a power line along Charolais Road will result in traffic impacts.	Member of the public
Installing new overhead transmission lines along Charolais Road would create an eyesore for the community and discourage tourism.	Member of the public
The Creston Route is in the planned growth area for Paso Robles and widening Creston Road may be required in the next 5-10 years. This could require relocating the newly installed larger poles and increase the cost of the project.	Member of the public
Aesthetic impacts would be more severe along this route due to the density of homes and planned homes approved to be built in the future.	Member of the public
If a fire were to occur in this area due to the power lines, it could be especially devastating due to the current and planned housing density.	Member of the public
Impacts to heritage oaks along this route would alter the rural feel the community now enjoys and expects.	Member of the public
Alternative PLR-3: Strategic Undergrounding	
Undergrounding would result in greater environmental impacts due to the additional ground disturbance required and would cost considerably more to construct and maintain than the Proposed Project overhead 70 kV route.	PG&E
As a result of Alternative PLR-3, new large block load customers moving to the Golden Hill Industrial Park would find connection to the underground 70 kV power line cost-prohibitive.	PG&E
The Draft ASR overstates the aesthetic impacts of the Proposed Project 70 kV route in the area of Golden Hill Road; this area is largely zoned for commercial/industrial use and the transmission line is appropriate for this zoning.	PG&E
Alternative PLR-3 would result in increased biological resources impacts compared to the Proposed Project due to the need to remove all scrub oaks within a 60- to 80-foot-wide corridor from the entrance to the Circle B Homeowners' Association (HOA) north to the end of the underground segment to facilitate trenching as well as operation and maintenance of the underground line.	PG&E
Alternative PLR-3 is conditionally supported by San Antonio Winery. This alternative would be more desirable to San Antonio than the proposed overhead 70 kV lines assuming that the towers and transmission lines are still not within the viewshed of the owners and residents of this area.	AMMCG
Undergrounding the transmission line would be a lengthy and noisy construction process and would result in greater impacts on adjacent property owners than the Proposed Project.	Multiple members of the public

Comment	Commenting Party(ies)
To accommodate construction of Alternative PLR-3, new sidewalks will have to be altered and the new fencing and landscaping along the route will also be altered or removed.	Member of the public
Putting the power lines underground will not completely alleviate the dangers of high voltage and EMF radiation.	Member of the public
There is no information in the ASR on how deep the lines will be.	Member of the public
If the Union Route is ultimately selected, undergrounding the lines would be the most visually and environmentally acceptable option.	Member of the public
Alternative SE-1: Templeton Substation Expansion	
Work done on the Templeton Substation could potentially affect the Santa Ysabel Pump Station, which is a high electrical demand pump station located on the south end of River Road near Santa Ysabel Ranch.	County of San Luis Obispo, Department of Public Works
The Draft ASR properly retains Alternative SE-1, but its environmental impacts are likely greater than the proposed Estrella Substation.	HWT
Alternative SE-1 would disrupt traffic flow along El Pomar Road and would result in greater traffic impacts than the proposed Estrella Substation due to the higher average daily traffic on El Pomar Road compared to Union Road.	HWT
Alternative SE-1 would result in significant impacts to biological resources, including impacts to oak trees and nesting and foraging habitat for passerine birds and raptors, including golden eagle, which is likely to occur in the substation expansion site.	HWT
Support for Alternative SE-1.	AMMCG; Multiple members of the public
Alternative SE-1 would involve far less environmental and agricultural resources impacts than the proposed Estrella Substation and also would likely support battery storage technologies discussed in Alternatives BS-1, BS-2, and BS-3.	AMMCG
Alternative SE-PLR-1: Templeton-Paso 70 kV Route (Existing)	
There are significant feasibility constraints associated with converting Paso Robles Substation to a ring bus and in converting the existing 70 kV line to a double-circuit.	PG&E
Alternative SE-PLR-1 would have increased aesthetics and biological resources impacts compared to the Proposed Project, and also would impact known cultural resources sites.	PG&E

Comment	Commenting Party(ies)
Alternative SE-PLR-2: Templeton-Paso South River Road Route	
Opposition to the South River Road Route (Alternative SE-PLR-2).	City of Paso Robles; County of San Luis Obispo, Supervisor Peschong; Multiple members of the public
The South River Road Route (Alternative SE-PLR-2) could result in impacts to heritage oak trees.	City of Paso Robles; County of San Luis Obispo, Supervisor Peschong; Keilah Smith, District Director for Assemblyman Jordan Cunningham; Multiple members of the public
Alternative SE-PLR-2 could impact various species of birds (e.g., bald eagles, great blue herons, red-tail hawks, great egrets, great horned owls) that nest and forage in the area.	Multiple members of the public
Alternative SE-PLR-2 would result in greater impacts to biological resources than the Proposed Project, as more oak trees would need to be removed/topped for construction, thereby impacting habitat for birds.	PG&E
The route would destroy habitat for endangered mammals (kit fox) and amphibians (red legged frog).	Multiple members of the public
There are active golden eagle nests in close proximity to the proposed route. Additional nests and golden eagle activity have been documented in the past. In total, there are 8 documented raptor nests in Santa Ysabel Ranch.	Member of the public
The South River Road Route could adversely affect aesthetics.	City of Paso Robles; County of San Luis Obispo, Supervisor Peschong
Alternative SE-PLR-2 would have greater aesthetics impacts than the Proposed Project due to the higher average daily traffic along El Pomar Drive compared to Union Road and because Alternative SE-PLR-2 would be visible from HOA residences on elevated bluffs to the west and east.	PG&E
The Draft ASR is incorrect in stating that the South River Road Route "would have similar or slightly reduced aesthetic impacts compared to the Proposed Project." In fact, the South River Road Route would have more severe aesthetic impacts due to the rural quality of the area, smaller road width, undulating terrain and oak tree canopy, and other factors.	Member of the public
Alternative SE-PLR-2 would destroy the last pastoral route entering Paso Robles, including the blue oaks that were seen in the 18th Century by Europeans encountering Native American in the area.	Multiple members of the public

Comment	Commenting Party(ies)
Alternative SE-PLR-2 is routed through the 100-year floodplain.	County of San Luis Obispo, Department of Public Works
Alternative SE-PLR-2 cross multiple County roads and encroachment would need to be obtained for construction, traffic control, maintenance, access, etc.	County of San Luis Obispo, Department of Public Works
Alternative SE-PLR-2 could have traffic circulation impacts.	County of San Luis Obispo, Department of Public Works
South River Road is narrow with no shoulder and has significant traffic that moves at high speed. Power poles would present a driving hazard, and an accident could result in fatalities, power interruption, and fire.	Member of the public
The Nacimiento Pipeline (and fiber-optic lines) runs along South and North River Road through Paso Robles. These may cause issues with alternative alignments from the Templeton Substation.	County of San Luis Obispo, Department of Public Works
Alternative SE-PLR-2: Templeton-Paso South River Road Route is sensitive for cultural resources due to its proximity to perennial and annual waterways.	County of San Luis Obispo, Supervisor Peschong
Alternative SE-PLR-2 could result in significant impacts to cultural resources as significant Native American artifacts have been found on both sides of River Road and several sites in the area are eligible for the National Register of Historic Places.	Multiple members of the public
The waterway along River Road was declared a Chumash camping site; therefore, it should be a protected area.	Member of the public
The Rinconada Earthquake Fault lies along the length of South River Road and Santa Ysabel Ranch; putting a transmission line in this area could be hazardous.	County of San Luis Obispo, Supervisor Peschong; Keilah Smith, District Director for Assemblyman Jordan Cunningham; Multiple members of the public
According to the Paso Robles Hazard Report of 2016, the Rinconada fault has a maximum magnitude of 7.3.	Multiple members of the public
The South River Road Route would actually encounter two earthquake faults, one underneath South River Road and another larger one a few hundred yards away, both of which are part of the Rinconada fault zone.	Multiple members of the public
The seismic faults in the area would require more significant foundations for power line poles, resulting in larger footprints and greater impacts (particularly to heritage oak trees).	Multiple members of the public

Comment	Commenting Party(ies)
The residents in Santa Ysabel Ranch are confined by the Salinas River on the west and South River Road on the east, such that if the proposed line were to be downed on South River due to earthquake, high winds, fires, etc., there would be very limited alternative evacuation routes.	Member of the public
Placing a transmission line along South River Road could expose residents to fire risk.	Keilah Smith, District Director for Assemblyman Jordan Cunningham; Multiple members of the public
This route is especially susceptible to fire because of the high winds in the area as well as the fuel supplied by the dense blue oak forest on Santa Ysabel Ranch (the area is designated as a High Fire Danger Zone in the Paso Robles Hazard Report of 2016).	Multiple members of the public
The route passes hundreds of single-family homes on both sides of South River Road, as well as a senior living facility that is under construction, and one of the busiest shopping areas in Paso Robles. The new power line could pose a hazard to these residents/land uses.	Multiple members of the public
The South River Road Route cannot accommodate the minimum recommended safety zone (800 to 1,200 feet) between EMF generated by a high voltage transmission line and human habitation.	Multiple members of the public
Constructing Alternative SE-PLR-2 could be complicated due to the need to acquire easements from two HOAs. This could add cost and delay the schedule.	PG&E
Alternative SE-PLR-2 would result in reduced air quality impacts, GHG emissions, noise, and traffic impacts due to its shorter length and shorter duration of construction activities.	PG&E
Support for Alternative SE-PLR-2.	AMMCG
Alternative SE-PLR-2 would violate the terms of the Open Space Agreement between the developer of Santa Ysabel Ranch and the County of San Luis Obispo.	Beaumont Tashjian (law firm representing Santa Ysabel Homeowners' Association); Member of the public
Of all the routes under consideration, this is the most pristine from an aesthetic and ecological standpoint, and it runs through several upscale neighborhoods.	Member of the public
The communities along the South River Road Route adhere to strict CC&Rs to limit development to protect heritage oaks and wildlife; the new overhead power line would degrade the character and appeal of these communities.	Member of the public

Comment	Commenting Party(ies)
Spanish Camp, Spanish Lakes, and Santa Ysabel Ranch are all restricted from removing oak trees or excavating in certain areas; therefore, overhead lines in these areas would not be appropriate.	Member of the public
The development of Santa Ysabel Ranch was permitted only after numerous visual mitigation measures were implemented to preserve views for residents in the area. Alternative SE-PLR-2 would have greater aesthetic impacts than the previous development and should still have to comply with the mitigation.	Member of the public
There are golden eagle nesting sites near River Road that could be impacted by this alternative.	Member of the public
Power poles cannot be placed along the west side of River Road for much of the alignment as this property has already been set aside for environmental mitigation for another project. This was encountered on a project involving Caltrans and they were forced to eliminate an alternative alignment due to this factor.	Member of the public
Alternative SE-PLR-3: Templeton-Paso Creston Route	
Efforts to construct Alternative SE-PLR-3 could be complicated due to the need to acquire easements from HOAs.	PG&E
Public comments received during open houses in 2015 and 2016 indicated that the Alternative SE-PLR-3 route seemed like the most direct and logical route that does not impact property values, has less interference with vineyards and birds, and has less impact on horse farms (although some comments were completely opposed to the route).	PG&E
Opposition to Alternative SE-PLR-3.	Member of the public
Constructing a power line along Charolais Road will result in traffic impacts.	Member of the public
Installing new overhead transmission lines along Charolais Road would create an eyesore for the community and discourage tourism.	Member of the public
The Creston Route is in the planned growth area for Paso Robles and widening Creston Road may be required in the next 5-10 years. This could require relocating the newly installed larger poles and increase the cost of the project.	Member of the public
Aesthetic impacts would be more severe along this route due to the density of homes and planned homes approved to be built in the future.	Member of the public
If a fire were to occur in this area due to the power lines, it could be especially devastating due to the current and planned housing density.	Member of the public
Impacts to heritage oaks along this route would alter the rural feel the community now enjoys and expects.	Member of the public

Comment	Commenting Party(ies)
The Templeton-Paso Creston Route makes more sense for the power line since this area has fewer ecological considerations to contend with and the new line could parallel or replace the existing utility poles along the entire route.	Member of the public
Alternative BS-1: Battery Storage to Address Transmission Objective	
Alternative BS-1: Battery Storage to Address Transmission Objective is not a viable alternative and would not meet the CAISO-identified need.	California Independent System Operator (CAISO); HWT
The analysis of Alternative BS-1 in the Draft ASR fails to demonstrate that the charging of the battery storage system could be sustained for long or multiple, sequential outages.	CAISO; PG&E
Absent a new 230 kV source, use of battery storage would reduce the existing distribution system bank capacity for recharge purposes and may create new, or exacerbate existing, local distribution planning area reliability issues.	HWT
Based on the required storage amount (65 MW or 120 MW) and limited number of potentially suitable parcels, Alternative BS-1 is likely not potentially feasible.	HWT
Completing the CAISO interconnection process for multiple BESS units at multiple sites would delay the project schedule.	HWT
In the event that the Paso Robles-Templeton 70 kV line was lost, a transmission-level BESS would need to provide a minimum of 24 hours of load relief to allow for sufficient time to conduct repairs on this line. Only Alternative BS-1A would meet this minimum need.	PG&E
Load at the Paso Robles Substation during the summer is higher than transmission capacity under the P1 scenario (only Coalinga-San Miguel 70 kV transmission line providing power) even at night; therefore, charging a transmission-level battery during a P1 contingency would not be feasible.	PG&E
If the 65 MW BESS is sited at or near the Paso Robles Substation, the battery connection to the substation bus will trigger a bus conversion, which is infeasible.	PG&E
It is unclear how the five potentially suitable BESS parcels identified in the Draft ASR could be linked together in the 70 kV network based on current transmission design criteria and the location of the parcels.	PG&E
Support for Alternative BS-1.	AMMCG
Alternative BS-1 or BS-2: Comments on Front-of-the-Meter Battery Storage Sites in General	
Any alternative that proposes expansion of Paso Robles Substation would impact existing businesses, transportation infrastructure, the natural environment, and aesthetics.	City of Paso Robles
The identified potential battery storage site at the northeast corner of South River Road and Charolais Road is already planned for improvements / recreational uses and there is not room for a battery installation.	City of Paso Robles

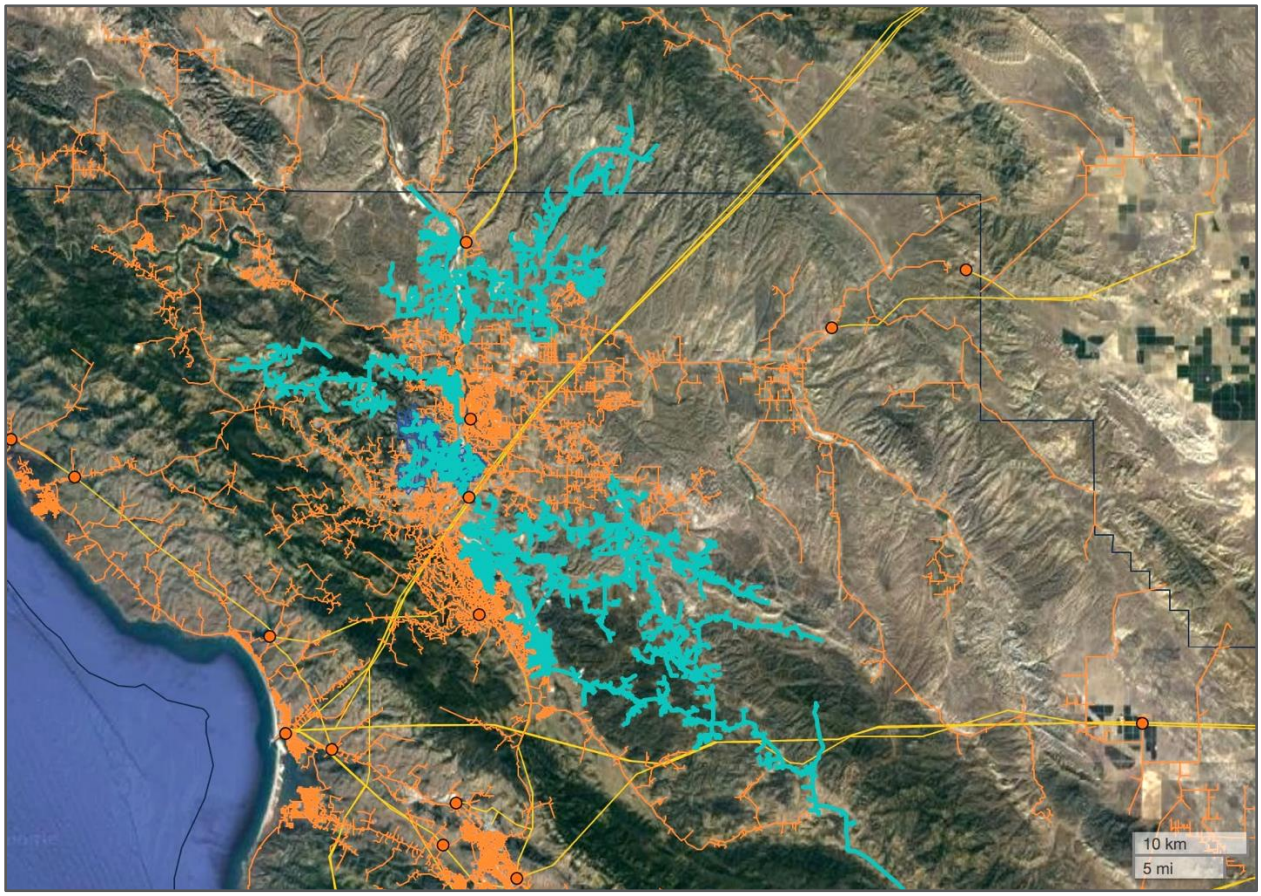
Comment	Commenting Party(ies)
The City of Paso Robles is working on a 4.3 megawatt (MW) solar installation at the Paso Robles Municipal Airport; this could be a good opportunity / location for a battery installation.	City of Paso Robles
It would not be possible to meet California Department of Education minimum setback standards for power lines if a battery facility was placed on the identified Paso Robles High School site.	Paso Robles Joint Unified School District (PRJUSD)
Constructing a battery facility at the Paso Robles High School site could expose students/staff to electromagnetic fields (EMF) and violate best practices instituted by the Department of Public Health, the Division of State Architect, and CPUC.	PRJUSD
Alternative BS-1, BS-2, or BS-3: Comments on Battery Storage in General	
Battery storage will help achieve the State's goal of achieving 100 percent renewable energy by 2045 and would improve grid efficiency and reliability.	AMMCG
Support for battery storage as an alternative.	Multiple members of the public
As the goal of CEQA is to prevent or minimize damage to the environment, it appears that the only viable option among the alternatives considered is battery storage.	Member of the public
Alternative BS-2: Battery Storage to Address Distribution Objective	
Although distribution BESS installations can alleviate overloads at the bank, feeder, or more localized level, they can potentially have detrimental impacts, such as reduced operational flexibility due to charging windows. A BESS also would not improve reliability issues associated with long feeder length.	PG&E
Installing multiple BESSs on multiple feeders would be cumbersome and costly since each BESS installation would require duplication of permitting and facilities, such as step-up transformers, switchgear, protective relaying, and control schemes.	PG&E
Load profiles on individual feeders could change in the future, which could reduce or eliminate a BESS's charging window.	PG&E
Support for Alternative BS-2.	AMMCG
Alternative BS-3: Behind-the-Meter Battery Storage	
Support for Alternative BS-3.	AMMCG

Appendix B
BEHIND-THE-METER SOLAR PLUS STORAGE ADOPTION PROPENSITY ANALYSIS

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Behind-the-Meter Solar plus Storage Adoption Propensity Analysis

Estrella Substation and Paso Robles Area Reinforcement Project



March 2023

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Acronyms and Abbreviations

$/W	dollars per watt
AMI	Advanced Metering Infrastructure
Alternative Battery Storage #1	Battery Storage to Address Transmission Objective
Alternative Battery Storage #2	Battery Storage to Address Distribution Objective
Alternative Battery Storage #3	Behind-the-Meter Battery Storage
Applicants	HWT and PG&E
ASR	Alternatives Screening Report
BES	Bulk Electric System
BESSs	battery energy storage systems
BTM	behind-the-meter
Category B	Criteria for system performance following the loss of a single BES element
Category C	Criteria for system performance following the loss of two or more BES elements
C&I	commercial and industrial
CAISO	California Independent System Operator
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
DA	Day Ahead
DDOR	Distribution Deferral Opportunities Report
DEIR	Draft environmental impact report
DER	Distributed Energy Resource
DPA	Distribution Planning Area
feeders	distribution lines
FOM	front-of-the-meter
GNA	Grid Needs Assessment
Horizon	Horizon Water and Environment, LLC
HWT	Horizon West Transmission, LLC
IEPR	Integrated Energy Policy Report
IRP	Integrated Resource Planning
ITC	investment tax credit
Kevala	Kevala Analytics, Inc.
kV	kilovolt
kW	kilowatt

kWh	kilowatt hour
MW	megawatts
MWh	megawatt-hours
NEM	net energy metering
NERC	North American Electric Reliability Corporation
N-1	A single contingency involving the loss of a single BES element
N-2	A multiple contingency involving the simultaneous loss of two BES elements
N-1-1	A multiple contingency involving the consecutive loss of two single BES elements that are not physically or electrically connected
PEA	proponent's environmental assessment
PG&E	Pacific Gas & Electric Company
Proposed Project	Estrella Substation and Paso Robles Reinforcement Project
PV	photo voltaic
P1	A single contingency
P6	A multiple contingency with two overlapping singles
RFP	Request for Proposals
RT	real time
SGIP	self-generation incentive program

1. Executive Summary and Report Purpose

Kevala Analytics, Inc. (Kevala) prepared this report for the California Public Utilities Commission (CPUC) Energy Division to supplement the March 2019 Draft Alternatives Screening Report (ASR) prepared by Horizon Water and Environment, LLC (Horizon). The Draft ASR was prepared in support of the CPUC's California Environmental Quality Act (CEQA) review of the Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project) proposed by Horizon West Transmission, LLC (HWT) (formerly NextEra Energy Transmission West, LLC) and Pacific Gas & Electric Company (PG&E) (together, the "Applicants"). The Draft ASR and detailed information about the Proposed Project and application to the CPUC are provided here:

www.cpuc.ca.gov/environment/info/horizonh2o/estrella/index.html.

The Draft ASR included a brief description of a potential behind-the-meter (BTM) battery storage alternative (*Alternative Battery Storage #3*)[1] but stated that the feasibility of this alternative was "to be determined." The BTM solution would include the application of Distributed Energy Resources (DERs)[2]. The purpose of this report is to provide further data about the potential for BTM resources (including solar photovoltaic) to serve as an alternative to components of the Proposed Project.

BTM (customer-side) battery energy storage systems (BESSs), including when paired with BTM solar systems, can reduce loading on electric grid facilities in the Paso Robles area such that the need for components of the Proposed Project can be avoided or deferred. This report identifies the amount of electric capacity that could be provided by BTM resources based on Kevala's big data approach to adoption propensity analysis. This information is necessary for the CPUC to determine whether the amount could be sufficient to address the transmission and distribution needs that would otherwise be addressed by the Proposed Project.

Kevala's analysis applied a bottom-up economic propensity for adoption model to identify likely adopters of BTM resources within PG&E's Paso Robles Distribution Planning Area (DPA). Low, medium, and high adoption scenarios were considered to provide a reasonable range of potential BTM solar plus storage adoption, as well as inform the possible development and use of customer incentives to help ensure BTM adoption occurs as required for the Draft ASR's Battery Storage #3 alternative. The issuance of a Request for Proposals (RFP) and development of a BTM storage program

[1] Alternative Battery Storage #1 and #2 would use front-of-the-meter resources to address the Proposed Project's transmission and distribution needs, respectively. Alternative Battery Storage #3 would use BTM resources to address one or both needs.

[2] DERs are small-scale generation or storage facilities that can serve as alternatives to or an enhancement of traditional electric grid facilities.

including economic incentives is one potential pathway for achieving the required BTM resources adoption in the target area.

The model indicates that under the low adoption scenario, there is potential for adoption of 88 megawatts (MW) of solar and 125 MW and 240 megawatt-hours (MWh)[3] of battery storage across residential, commercial, and industrial customers within the Paso Robles DPA (see **Table 7).** Under the high adoption scenario, this potential is 100 MW of solar and 175 MW / 343 MWh of battery storage. For Paso Robles distribution lines (feeders),[4] specifically, there is potential for 48.5 MW / 90.6 MWh under the low adoption scenario, and 69.2 MW / 136 MWh under the high adoption scenario (see Table 7).

Based on the original distribution need presented by the Applicants in their 2017 application to the CPUC (A.17-01-023) (roughly 4.3 MW of additional capacity over the next ten years), Kevala observes that this BTM adoption potential could provide more than enough load reduction to defer the need for the distribution components of the Proposed Project for many years (i.e., build-out of the distribution transformers and electrical lines from Estrella Substation). Only 8.3 percent of the identified BTM adoption potential around Paso Robles Substation would need to be realized to meet the 4.3 MW DPA-wide capacity need. However, based on subsequent filings regarding distribution system capacity need (i.e., PG&E's 2019 Grid Needs Assessment [GNA] and Distribution Deferral Opportunities Report [DDOR] filings pursuant to the CPUC Distribution Resources Plans proceeding [R.14-08-013]), BTM resources alone may not be able to solve all of the specific capacity needs.

The latest filings indicate that 5.9 MW of additional capacity is required to address needs for Paso Robles Feeder 1104 (1.2 MW, 8 hours), San Miguel Substation Transformer Bank 1 (3.6 MW, 9 hours), and Templeton Substation Transformer Bank 3 (1.1 MW, 3 hours) (see **Table 2**) (PG&E 2019a). Kevala's propensity for adoption analysis indicates that BTM resources have potential to directly solve the grid need identified at Templeton Substation Transformer Bank 3 and Paso Robles Feeder 1104 (although a front-of-the-meter [FOM; utility-side] storage facility may also be a good approach for this feeder), and that BTM resources could partially mitigate the grid need at San Miguel Substation Transformer Bank 1. A FOM solution could be paired with BTM resources to address the remaining capacity needs at San Miguel Substation.

With respect to the transmission components of the Proposed Project, Kevala observes that the modeled BTM adoption potential (if fully realized) could fully meet the 65 MW capacity need at Paso Robles Substation (as identified by ZGlobal, Inc. [ZGlobal] and described in the Draft ASR). However, individual BTM resources would only provide up

[3] Battery storage is rated in terms of capacity and energy. Capacity is defined in megawatts and energy is defined in megawatt hours. For example, a storage facility capable of providing 10 MW of capacity for two hours is rated to provide 20 MWh (i.e., 10 x 2) of energy.

[4] Feeders are electrical lines that transfer electricity from substations to customers.

to 2 hours of energy at full output, and even when paired with FOM resources, would not likely be able to address the 11 hours that could be needed if an outage of a transmission resource were to occur during peak summertime loading conditions and lasted at least a day. Furthermore, the California Independent System Operator (CAISO) explained that the need could extend for multiple days depending on how long it would take to resolve the outage or secondary, back-to-back outages that could occur (CAISO 2019). CPUC Energy Division verified that even if BTM and FOM resources could provide the 11 hours of daily capacity required during an outage event lasting for at least 24 hours, the resources could not fully recharge to address an outage that continued for a second day or longer (Rahman 2019).

Hence, Kevala finds that BTM resources, in combination with FOM resources, have the potential to cost-effectively avoid or defer the distribution components of the Proposed Project. The FOM resources might include battery storage or a transformer upgrade at an existing substation site, for example. Kevala's model results, in combination with power flow modeling by ZGlobal, indicates that BTM resources would not be able to avoid or defer transmission components of the Proposed Project, even when combined with FOM resources.

2. Estrella Project Objectives and Alternatives Explored

The objectives of the Proposed Project, as defined by the CPUC for their review of alternatives pursuant to CEQA, are as follows:

- Transmission Objective: Mitigate thermal overload and low voltage concerns in the Los Padres 70 kilovolt (kV) system during Category B[5] contingency scenarios, as identified by the CAISO in its 2013 - 2014 Transmission Plan.

[5] The CAISO uses the North American Electric Reliability Corporation (NERC) reliability standards to analyze the need for transmission system upgrades. The NERC standards provide criteria for system performance requirements that must be met under a varied but specific set of operating conditions, and prior to 2012, included the following categories:

- Category A – System Performance Under Normal Conditions
- Category B – System Performance Following Loss of a Single Bulk Electric System (BES) Element
- Category C – System Performance Following Loss of Two or More BES Elements
- Category D – System Performance Following Extreme BES Events

The latest adopted NERC TPL-001-4 transmission reliability standard applies new terminology; P0 through P7 define different scenarios based on the initial system condition and nature of the event (e.g., loss of generator, transmission circuit, bus section fault, etc.). The Category B contingencies identified for the Proposed Project would equate to a P1 (single contingency), while the Category C3

- Distribution Objective: Accommodate expected future increased electric distribution demand in the Paso Robles DPA, particularly in the anticipated growth areas in northeast Paso Robles.

2.1 Transmission Objective and DER Alternatives

The Draft ASR (CPUC 2019a) identified Alternative Battery Storage #1 as a potential way to address the Transmission Objective of the Proposed Project. This alternative would include one or more FOM BESSs, sized from 65 MW to 120 MW, as shown in Table 3-4 of the Draft ASR. To address the N-1 (i.e., P1 or Category B) scenarios identified by CAISO (i.e., loss of either the Paso Robles-Templeton 70 kV Transmission Line or Templeton Transformer Bank #1), 65 MW of storage sited at or near Paso Robles Substation would be needed. To address the N-1-1 (i.e., P6 or Category C3) scenario (loss of both Templeton-Gates and Templeton-Morro Bay 230 kV Transmission Lines)[6], roughly 120 MW of total storage would be needed and could be split between Paso Robles Substation and Templeton Substation (CPUC 2019a).

Alternative Battery Storage #1 in the Draft ASR also considered different scenarios on the duration of a potential P1 or P6 contingency. Alternative Battery Storage #1C modeled a duration of 24 hours for solving the P1 contingency; under this scenario, FOM BESS(s) at or near Paso Robles Substation would need to be able to provide 11 hours of power, for a total of 65 MW/715 MWh. The Draft ASR found that this size BESS(s) would require roughly 7 acres; however, since publication of the Draft ASR, advances in battery storage technology have reduced the space/footprint needed for facilities substantially (roughly 40 percent), such that roughly 4.2 acres would be needed.

PG&E, HWT, and CAISO all commented on the Draft ASR that the Alternative Battery Storage #1 was infeasible due to the inability for a FOM BESS to recharge during high loading conditions, such as to be able to address long duration outages (i.e., possibly multiple days) or to be in an adequate state of charge after an initial outage to solve a subsequent outage(s) (PG&E 2019b; HWT 2019; CAISO 2019). PG&E, in its comments on the Draft ASR and in subsequent discussions, indicated that an outage of the Paso

contingencies would equate to a P6 (multiple contingency; two overlapping singles) (NERC No Date). The NERC standards allow for load to be dropped for a P6 contingency, but not for a P1 contingency.

NERC also refers to single contingencies (i.e., loss of a single BES element) as N-1 events. A multiple contingency where both BES elements fail at the same time (e.g., two circuits on the same pole line fail when a pole is hit by a vehicle) is known as an N-2 event. A multiple contingency involving the consecutive loss of two single BES elements that are not physically or electrically connected is known as an N-1-1 event. The Category B/P1 contingencies identified for the Proposed Project would be N-1 events, whereas the Category C3/P6 contingency would be an N-1-1 event.

[6] While the Draft ASR modeled the energy capacity needed to address the N-1-1/P6/Category C3 contingencies, the Draft ASR noted that CAISO's transmission planning standards allow for non-consequential load to be shed following such contingencies, thus they are not considered the primary drivers of the Proposed Project.

Robles-Templeton 70 kV Transmission Line could last more than 24 hours. In its response to CPUC's Data Request #3, PG&E provided information on unplanned outages within its service territory, which showed that transmission system outages lasting longer than 24 hours have occurred, with the longest duration outage lasting 178 days (PG&E 2019c, 2019d). ZGlobal confirmed the recharging issues brought up by the Applicants and CAISO, and acknowledge that a FOM BESS solution alone, given existing and projected loading patterns in the Paso Robles DPA, could not achieve the Transmission Objective of the Proposed Project.

BTM resources could potentially change the calculation with respect to an FOM BESS solution to the Transmission Objective by meeting some of the localized electrical demand that otherwise would need to be met through an FOM BESS during an outage. This analysis considered the potential feasibility of Alternative Battery Storage #1 with inclusion of potential BTM adoption in the Paso Robles DPA.

2.2 Distribution Objective and DER Alternatives

The Draft ASR identified Alternative Battery Storage #2, which would include FOM BESSs to address the Distribution Objective of the Proposed Project. These BESSs would be connected to the distribution system (e.g., feeders in the Paso Robles area) and could be sited at the same locations identified for Alternative Battery Storage #1. The Draft ASR considered the hosting capacity of feeders within the Paso Robles DPA forecasted to be overloaded and determined that up to 16.8 MW of energy storage capacity could be connected to feeders with minimal grid improvements required (see Table 3-6 in the Draft ASR) (CPUC 2019a). While specific deployment of BESSs would depend on site availability, this amount of storage could potentially solve the roughly 4.3 MW capacity need over 10 years originally identified in the Applicants' application to the CPUC, shown Table 3-7 of the Draft ASR. Additionally, the Draft ASR identified Alternative Battery Storage #3, which would include BTM resources that could be deployed on their own to address distribution needs or in tandem with FOM storage under Alternative Battery Storage #1.

Subsequent to the release of the Draft ASR, PG&E's 2019 GNA/DDOR filings identified the Estrella Substation (distribution components only) as a Candidate Deferral Opportunity, or a project that could potentially be deferred through DERs. The GNA/DDOR, which was established through the CPUC Distribution Resources Plan proceeding (R.14-08-013), identifies grid needs that could be met through DERs, and ranks Candidate Deferral Opportunities through three qualitative prioritization metrics (cost effectiveness, forecast certainty, and market assessment), such as to assign a

tier[7]. **Table 1** shows PG&E's 2019 DDOR prioritization metrics for the distribution components of the Estrella Substation.

Table 1. PG&E 2019 DDOR Filing Prioritization Metrics - Estrella Substation

Tier	Candidate Deferral	In-Service Date	Cost of the Project[1]	Deficiency (MW)	Prioritization Metrics		
					Cost Effectiveness	Forecast Certainty	Market Assessment
3	Estrella Substation	2024	$18.5 million	19.4	Moderate	Low	Low

Note: 1. The transmission components of the Proposed Project were not included in the $18.5 million cost estimate because only the CPUC-jurisdictional costs are required to be included in PG&E's GNA/DDOR filing.

Source: PG&E 2019a

The designation of "low" forecast certainty is due to the target in-service date of the Proposed Project (2024), which increases the forecast uncertainty and indicates that it might be more appropriate to consider the candidate deferral in future GNA/DDORs. The designation of "low" market assessment is due to the long duration requirement of some of the facility needs associated with the Proposed Project. Table 2 shows the specific facility needs that would be addressed by the Proposed Project and which could potentially be met through DERs, as reported in PG&E's 2019 DDOR.

Table 2. PG&E 2019 DDOR - Specific Facility Capacity and Reliability Needs Addressed by the Proposed Project That Could Potentially be met through DERs

Facility	Need Date	Distribution Service Required	Day Ahead (DA) or Real Time (RT)[1]	Grid Need (MW)	Months of Forecast Need Occurrence	Occurrences per Year	Time Period	Duration (hours)
Paso Robles Feeder 1104	2019	Capacity	DA	1.2	Jul-Aug	21	2PM-10PM	8

[7] PG&E uses a 4-tier system, where each tier represents PG&E's proposed priority ranking of those Candidate Deferral Opportunities likelihood of success for DER sourcing (PG&E 2019a). The 4-tier prioritization system is as follows:

- Tier 1: Relatively High Ranking
- Tier 2: Relatively Moderate Ranking
- Tier 3: Relatively Low Ranking
- Tier 4: Already Sourced Elsewhere

Facility	Need Date	Distribution Service Required	Day Ahead (DA) or Real Time (RT)[1]	Grid Need (MW)	Months of Forecast Need Occurrence	Occurrences per Year	Time Period	Duration (hours)
San Miguel Transformer Bank 1	2019	Capacity	DA	3.6	Jul-Sep	122	6AM-10PM	9
Templeton Transformer Bank 3	2023	Capacity	DA	1.1	Jul-Aug	23	12PM-3PM	3
Cholame Between X14 and R96	Existing need[2]	Reliability / Other	RT	1.5	Apr-Oct	8	12AM-12AM	4
Cholame Substation DA	Existing need[2]	Reliability / Other	DA	3.5	Apr-Oct	1	12AM-12AM	48
Cholame Substation RT	Existing need[2]	Reliability / Other	RT		Apr-Oct	8	12AM-12AM	24
L/S R78 – Templeton Feeder 2109	Existing need[2]	Reliability / Other	RT	8.5	Apr-Oct	8	12AM-12AM	4

Note:

1. For DA needs, DER providers would receive advance notice when a service is needed. For RT requirements, notice is available only minutes before the need.
2. The need has existed for at least 10 years according to PG&E's data response to Energy Division. PG&E does not have plans to address the need at this time regardless of whether Estrella Substation is constructed.

Source: PG&E 2019a, PG&E 2019e

The three reliability needs related to Cholame Substation shown in Table 2 were not included in PG&E and HWT's 2017 application to the CPUC or the 2018 GNA/DDOR filing. Energy Division staff learned that these needs are contingent on the outage of a radial 70-kV power line that supplies the substation. Pursuant to CAISO planning standards, load shedding would be allowed in this instance.[8] The Templeton reliability need relates to the length of Feeder 2109, but PG&E does not have a planning standard

[8] PG&E stated, "A single line outage of the 70-kV line to Cholame 70 kV Substation results in the loss of power to the substation and the direct loss of about 12 MW of current customer load which creates a customer reliability issue for those customers. PG&E does not have any plans at this time to solve the Cholame 70 kV N-1 issue whether the proposed Estrella Substation is constructed or not. The single line outage does not result in any impacts to the transmission system and as such does not result in any NERC or CAISO reliability standards violations" (PG&E 2019e).

based on length.[9] Accordingly, only the capacity-related grid needs are evaluated in this report. These considerations will be further discussed in the Final ASR, which will be included in the CPUC's Draft Environmental Impact Report (DEIR) in 2020.

Much of the reason for the Estrella Substation's relatively low ranking in terms of Candidate Deferral Opportunity prioritization (see Table 1) is due to the fact that the Cholame and Templeton reliability needs were included in the calculation, as well as the assumed 2024 in-service date. Energy Division staff requested that, for comparative purposes, PG&E reconsider the Estrella Substation's deferral prioritization without including the four reliability needs and assuming a 2022 need date instead of 2024. PG&E's 2024 assumption is not entirely appropriate for the analysis given that some of the grid needs that would be addressed by the proposed substation already exist as of 2019 and have existed for a number of years (e.g., more than 10 years). PG&E has not yet prioritized these needs for mitigation, and it remains unclear whether PG&E would mitigate them if the Estrella Substation were not approved for construction. With the change in assumptions, the Estrella Substation would be a Tier 1 Candidate Deferral Opportunity, as shown in **Figure 1**, and possibly the most cost-effective candidate of the deferral options identified in the PG&E's 2019 GNA/DDOR.

This report evaluates whether BTM resources could address the Distribution Objective of the Proposed Project, including the distribution capacity needs identified through PG&E's 2019 GNA/DDOR. The analysis considers whether BTM resources on their own could address the distribution capacity needs and/or defer portions of the Proposed Project, or be deployed in tandem with FOM storage under Alternative Battery Storage #2.

[9] "PG&E is aware of no distribution planning standard that determines whether a feeder is too long to provide reliable service" (PG&E and HWT 2018).

Tier	Candidate Deferral	In Service Date	Deficiency (MW)	Prioritization Metrics		
				Cost Effective-ness	Forecast Certainty	Market Assess-ment
1	Alpaugh New Feeder	2022	4.4			
	Calflax Bank 2	2023	cc			
	Santa Nella New Bank & Feeder	2022	9.3			
	Estrella Substation (hypothetical)	2022	5.9			
2	Camp Evers 2107	2022	0.9			
	FMC 1102	2023	0.8			
	Brentwood 2105	2022	1.2			
3	Pueblo Bank 3	2022	23.2			
	Oceano 1106	2022	1.2			
	Rosedale2102	2022	1.8			
	Rob Roy 2105	2022	3.0			
	Peabody 2106	2022	cc			
	Madison 2101	2022	cc			
	Martin SF H 1108	2022	1.0			
	Martin SF H 1107	2022	1.8			
	Avenal 2101	2022	cc			
	Edenvale 2108	2022	1.5			
	Dairyland 1110 New Feeder	2022	4.5			

Notes: Blue = relatively more likely to be deferrable. Magenta = some red flags that indicate they are unlikely to be successfully deferred now, but closely monitor status and project conditions and re-evaluate for a future date. Red = multiple major red flags indicate it is not likely that a deferral solution would be successfully sourced.

Source: PG&E 2019e

Figure 1. Estrella Substation Candidate Deferral Prioritization Assuming Capacity Needs Only and 2022 Need Date (i.e., In-service Date)

3. Methodology

This analysis uses an adoption propensity approach to identify economically feasible adoption of BTM resources at the customer-sited level (i.e., at existing residential and commercial and industrial [C&I] buildings or properties). BTM resources included solar plus storage and storage-only systems. Adoption propensity is based on an individual customer's load profile, payback period for investment in BTM resources, Value of Lost Load, and other factors. The analysis included evaluation of full 8760 time-series load profiles (i.e., 365 days times 24 hours per day) for approximately 75,000 customer meters in Paso Robles DPA and San Luis Obispo DPA.

BTM storage systems function by either directly reducing the customer's own grid consumption (i.e., discharging to meet the customer's electrical demand, especially during peak demand periods), or sending excess stored power back to the grid, often in response to a price or event signal. When paired with solar, BTM storage can store excess solar generation to be used when solar goes offline (or, "when the sun goes down"). This allows solar plus storage customers to further reduce consumption from the grid during times of peak demand, and likely save costs on their electricity bill through time-of-use rate arbitrage.

3.1 Approach

Kevala used its Network Assessor platform to ingest data provided by PG&E and run advanced analytics related to grid infrastructure, load, generation, and price. At a high level, Kevala's Network Assessor platform ingests and employs data across the following three key areas (see also **Figure 2**):

- **Load.** Load data are typically provided as time series datasets, which are generally incompatible with geospatial data, as the volume of data associated with time series is much larger than geospatial data systems are often capable of processing. Kevala ingested PG&E-provided metered data to generate an 8760 time series load profile, aggregated to the feeder level.

- **Generation.** This includes both data at the bulk power level, as well as DERs, such as all known installed DG, nameplate capacity, and associated feeder. Kevala uses this dataset to estimate local energy supply and forecasted production profiles. In aggregate, this information additionally factors into analyses such as hosting capacity analysis.

- **Infrastructure.** For this project, Kevala used PG&E-provided geospatial files on electric infrastructure.

The result of this data ingestion process is a 1:1 map of the electric grid, with granularity down to the parcel level. In this way, Network Assessor is both a platform for accessing data and a technology to support grid modernization functions, including circuit

modeling, DER value and solutions analysis, load modeling, rate impacts, and DER forecasting and adoption propensity.

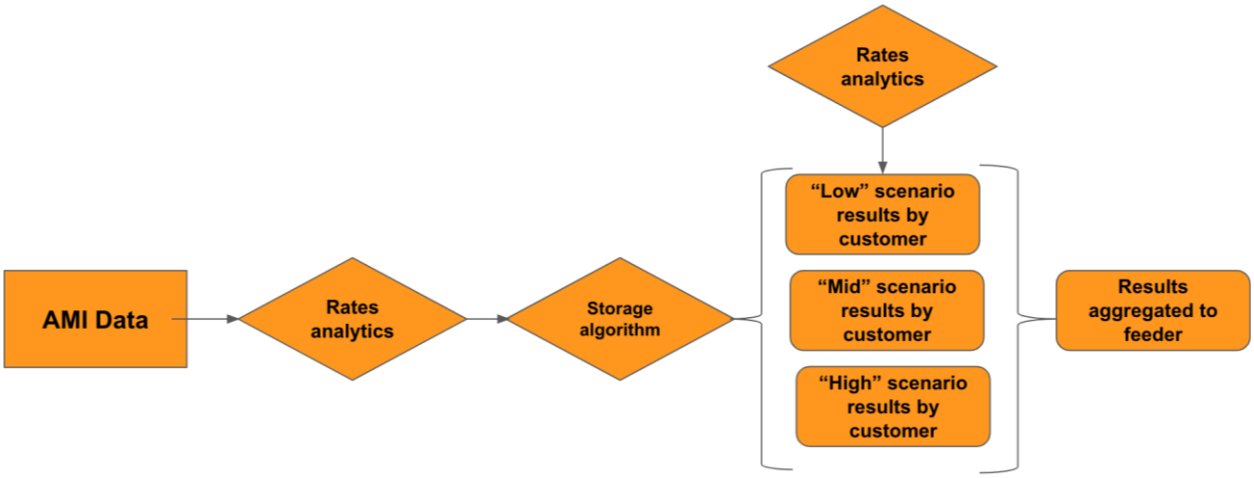


Figure 2. Kevala's Data Analysis Approach

As shown in Figure 2, the Advanced Metering Infrastructure (AMI) (i.e., load) data fed the rates analytics and storage algorithm, which ultimately identified economically-efficient BTM adoption customers under "low", "medium", and "high" scenarios, which were based on the number of outages customers faced in a given year (see detailed information in **Table 3**). Results were then aggregated to the feeder-level.

Separate analyses were performed for residential customers and C&I customers. ~~Whereas~~ T~~t~~he residential analysis considered the potential for new customers to adopt solar plus storage systems, as well as the potential for existing residential solar owners to adopt an incremental BTM storage system~~;~~]. This does not consider evaluation of whether customers reside in apartment buildings, multi-family units, or are renters. T~~t~~he C&I analysis looked solely at the potential for customers without existing DER to adopt new BTM storage systems, incentivized largely by a desire to reduce demand charges.

The analysis was conducted on historical AMI data for the 2017 calendar year. Actual solar growth was backed out of the total adoption propensity from 2018 and 2019 using the net energy metering (NEM) Currently Interconnected Data Set (California Distributed Generation Statistics 2019). Consideration of DER growth forecasts is discussed in Section 3.3.

3.2 Inputs and Assumptions

To conduct the BTM analysis, Kevala modeled performance of BTM storage resources at the customer level, optimizing size to meet payback period requirements. Inputs used in the analysis (e.g., performance and cost of battery storage systems, and current policies and incentive structures) are consistent with those used by the CPUC in the

2019 - 2020 Integrated Resource Planning (IRP) process. Table 3 summarizes the inputs and assumptions used in the residential and C&I analyses.

Table 3. Summary of Inputs and Assumptions

Input	Residential Analysis	Commercial & Industrial Analysis
Rate	Customers subject to PG&E's 2019 time-of-use rate: Peak: 4pm - 9pm Seasonal: May 1 - October 31	Customers subject to appropriate PG&E rate based on load. Customer is subject to demand charges.
Solar system size, performance, and cost	Photo voltaic (PV) kilowatt (kW) size is optimized based on household energy consumption. PV performance is modeled using NREL PV Watts PV system cost is aligned with IRP assumptions on dollars per watt ($2.90/W) for 2019	N/A
Storage system size, performance, and cost	7 kW/13.5 kilowatt hour (kWh) lithium ion 5 kW continuous output rating Customer adoption of # of batteries is optimized based on historic load and payback period. Storage performance uses estimates used in the 2019 IRP, including: 10 year warranty 85% round trip efficiency 0% degradation rate Storage system total cost (hardware plus installation) is $9,376, calculated based on IRP "mid cost option" assumption for storage costs for 2019	Customer adoption of kW/kWh size is optimized to minimize customer demand charges while meeting the payback period requirements (10 years). Storage performance uses estimates used in the 2019 IRP, including: 10 year warranty 85% round trip efficiency 0% degradation rate Storage system total cost (hardware plus installation) is based on the formula used to develop the IRP "mid case" assumption for storage costs for 2019-2020 (CPUC 2019b).

Input	Residential Analysis	Commercial & Industrial Analysis
Policy assumptions	Customers are eligible to benefit from the solar investment tax credit (ITC)[10] and self-generation incentive program (SGIP)[11], following current program incentive levels and rules for enrollment. Customers are eligible to benefit from NEM programs as they are currently administered, aligned with 2019 Integrated Energy Policy Report (IEPR) "mid PV" scenario.	Customers are eligible to participate through SGIP, based on current incentive levels in PG&E territory. Customers are not additionally incentivized through participation in other markets (e.g., demand response).
Payback period	10 years or below[12]	N/A
Value of Lost Load 2	Low, medium, and high scenarios are tested at a value of $5/kWh Low: four, 4-hour outages Medium: six, 4-hour outages High: eight, 4-hour outages	$5/kWh for large C&I customers (100 kW peak demand) $9/kWh for medium C&I customers (50 kW peak demand) Low, medium and high scenarios run as follows: Low: four, 4-hour outages Medium: six, 4-hour outages High: eight, 4-hour outages

Notes:

[10] The ITC incentives are applied at 26%, given that the projects in this analysis are assumed to charge from solar PV systems.

[11] SGIP incentives start at $0.35/Wh based on 2019 incentive offers. Incentives decline based on the estimated storage duration in a tiered format. For most projects, the total incentive is subtracted from the total cost of the project at Year 1. For projects over 30 kW, only 50% of the incentive is paid upfront. The remaining 50% is paid over the next 5 years of the project

[12] A 10-year payback period was chosen as a threshold based on the current average payback period for PV systems (7 years) and BESS (3-5 years) for California residential customers.

Aligned with CPUC IRP 2019-2020 inputs and assumptions for the “mid cost option” unless otherwise noted and explained (CPUC 2019b).

The Value of Lost Load is an economic indicator used to assign a dollar cost to the interruption of electricity delivery. This can represent the cost consumers are willing to pay to avoid an outage or public safety power shutoff. Publicly available studies on this value ranges from $5 - $20/kWh. This analysis used a Value of Lost Load on the low side of stated ranges. The CPUC’s new resiliency and microgrids proceeding (R.19-09-009) is expected to provide guidance regarding this assumption.

Other studies that were used to inform this assumption include:

Sullivan, M.J., M. Mercurio, and J. Schellenberg. (2009). *Estimated Value of Service Reliability for Electric Utility Customers in the United States*. Lawrence Berkeley National Laboratory.

Frayer, J., S. Keane, and J. Ng. (2013). *Estimating the Value of Lost Load*. Prepared for ERCOT by London Economics International LLC.

Southern California Edison (No Date). *Aberhill System Project; Data Request Item C – Planning Study; ED-Aberhill-SCE-JWS-4: Item C*.

3.3 Integrated Energy Policy Report (IEPR), DER Forecasts, and Economic Propensity

The responsibility of developing load and DER forecasts is shared among the investor owned utilities in California (e.g., PG&E) and the California Energy Commission (CEC). On a biennial basis, the CEC prepares the IEPR, informed by stakeholders, which includes a top-down forecast of load and DER across the state. PG&E then conducts a load forecast and DER forecast disaggregation process to provide feeder-specific estimates of load and DER impact. This process uses the IEPR system-level forecast and assumptions as inputs, while PG&E is responsible for identifying the best options for disaggregation. Forecast disaggregation is the process of taking a system-level forecast, and determining where on the grid those forecasts will likely occur.

Energy storage forecast estimates are a new component of the IEPR as of the 2019 - 2020 report. PG&E and HWT's 2017 application to the CPUC for the Proposed Project applied the 2016 IEPR to estimate the impacts of DERs and thus does not include feeder-specific impacts for energy storage. PG&E currently uses a proportional allocation technique to disaggregate storage, expecting high locational correlation with known energy storage projects based on SGIP data, proportional to load. As energy storage technology is a nascent and growing market, it is expected that DER forecast and disaggregation techniques will improve in time as available datasets on adoption and performance increase.

At the time of this analysis and report, feeder-specific DER forecasts for battery storage, based on the utility's disaggregation process, have not been published by PG&E, as they are still under development. Thus, it is not feasible to compare feeder-specific future storage forecasts with these analysis results, and "back out" estimates to avoid double counting. This is a recommended step in advance of conducting a targeted procurement, when considering the BTM alternative.

Finally, it is important to understand the difference between a DER forecast and an economic propensity analysis. A forecast identifies what is *likely to occur* given a set of factors, such as, but not limited to, historic adoption rates, cost of technology, cost of energy, demographics, financial ability to adopt, and consumer adoption behavior. The analysis documented in this report is not a forecast; it is an economic propensity analysis. Economic propensity analyses simply identify customers for which it would make economic sense to adopt a technology, not necessarily what is *likely to occur*.

4. Results and Discussion

4.1 BTM Adoption Propensity

Detailed results for the BTM adoption propensity analysis (disaggregated by feeder) are provided in **Appendix B**. **Table 4** summarizes the results for all customer types in the Paso Robles DPA.

Table 4. Summary Results for the BTM Adoption Propensity Analysis - All Customer Types in the Paso Robles DPA

Scenario	BTM Adoption Propensity			
	Solar (MW)	Battery Storage (MW)	Battery Storage (MWh)	Total # of Customers
Low	88	125	240	~17,000
Medium	92	138	272	~19,000
High	100	175	343	~21,000

As shown in Table 4, across the Paso Robles DPA, there is substantial potential for BTM adoption. Under the low scenario, roughly 17,000 customers (residential and C&I) meet the criteria for economically-efficient adoption and/or which could potentially be effectively incentivized to BTM resources adoption through a RFP process. If all of these customers adopted BTM solar and/or storage technology at the parameters used in the study, this would equate to 88 MW of solar and 125 MW / 240 MWh of storage. Under the high scenario, approximately 21,000 economically-efficient potential adopters were identified, equating to 100 MW of solar and 175 MW / 343 MWh. **Table 5** breaks down the summary results from Table 4 by substation within the Paso Robles DPA (i.e., BTM resources at customer sites along feeders associated with a given substation).

Table 5. BTM Adoption Propensity Results by Substation

	Substation				
	Atascadero	Paso Robles	San Miguel	Temple-ton	Total
Low Scenario					
# of Customers	3,269	6,589	909	6,643	17,347
Solar (MW)	17	32	5	34	88
Storage (MW)	23	48	6	47	124

	Substation				
	Atascadero	**Paso Robles**	**San Miguel**	**Temple-ton**	**Total**
Storage (MWh)	44	91	13	92	242
Medium Scenario					
# of Customers	3,514	7,141	949	7,145	18,749
Solar (MW)	17	34	5	36	92
Storage (MW)	28	51	7	51	137
Storage (MWh)	55	101	15	102	273
High Scenario					
# of Customers	4,041	8,468	970	7,617	21,096
Solar (MW)	19	39	5	37	100
Storage (MW)	33	69	8	64	175
Storage (MWh)	64	136	17	126	343

As shown in Table 5, the greatest BTM adoption potential is associated with the Paso Robles and Templeton substations. At Paso Robles Substation (i.e., along feeders connected to Paso Robles Substation), under the low scenario, there is potential for adoption of 32 MW of solar and 48 MW / 91 MWh of storage. Under the high scenario, this increases to 39 MW of solar and 69 MW / 136 MWh of storage.

In general, the majority of the total adoption propensity (MW) was driven by residential customers adopting new solar plus storage systems. Residential customers with existing solar systems adopting new storage, and new C&I storage customers, played less of a role. One primary reason for this is that there are many more residential customers without existing solar relative to other categories of potential BTM adopters. Even though C&I customers represented a smaller portion of potential BTM adopters, the average payback period for those identified was shorter than it was for residential customers. **Table 6** shows BTM adoption propensity results for C&I customers under the low scenario, disaggregated by substation.

Table 6. C&I Customer BTM Adoption Propensity by Substation - Low Scenario

Substation	# of Commercial Customers	# of Industrial Customers	Total Storage Amount		Average Payback Period (Years)	Percentage of Total C&I Customers
			MW	MWh		
Atascadero	*	*	*	*	6.7	3%
Paso Robles	52	140	1.8	4.2	6.4	7%
San Miguel	*	*	*	*	5.6	9%
Templeton	47	163	2.1	5.1	6.5	6%
Totals / Averages	**116**	**383**	**4.6**	**11**	**6.3**	**6%**

Note: *Redacted customer counts and associated data. Checking with PG&E to confirm whether this data is confidential due to low customer counts in the Commercial or Industrial categories.

As shown in Table 6, a greater number of industrial customers were identified as economically-efficient BTM adopters compared to commercial customers. The area with the greatest C&I BTM adoption potential was that served by Templeton Substation (2.1 MW / 5.1 MWh), followed by Paso Robles Substation (1.8 MW / 4.2 MWh). In general, the analysis found that, under the low scenario, a relatively small proportion (6 percent) of total C&I customers were good candidates for BTM adoption.

Finally, looking specifically at Paso Robles feeders (i.e., feeders connected to Paso Robles Substation), Table 7 shows that there is relatively substantial BTM adoption potential for customers along feeders in target areas for future distribution service from the Estrella Substation.

Table 7. BTM Storage Adoption Propensity for Paso Robles Feeders - Low and High Scenarios

Feeder	Low Scenario			High Scenario		
	# of Customers	MW	MWh	# of Customers	MW	MWh
Paso Robles 1101	123	0.8	3.6	151	1.1	2.5
Paso Robles 1102	676	4.8	9.3	881	7.3	14.3
Paso Robles 1103	1,112	9.7	15.1	1,324	10.9	21.5
Paso Robles 1104	624	4.5	8.8	843	6.7	13.3
Paso Robles 1106	1,737	12.2	23.6	2,325	18.8	36.5
Paso Robles 1107	918	6.6	12.9	1,123	9.5	18.7

Feeder	Low Scenario			High Scenario		
	# of Customers	MW	MWh	# of Customers	MW	MWh
Paso Robles 1108	1,399	9.9	19.2	1,822	14.9	29.2
Total:	**6,589**	**48.5**	**90.6**	**8,468**	**69.2**	**136**

4.2 Implications for Alternative Battery Storage #1 and the Transmission Objective

As discussed under Section 2.1, the Draft ASR considered the potential for an FOM BESS to solve the Transmission Objective for the Proposed Project. This alternative was identified as Alternative Battery Storage #1. Using the BTM adoption propensity results from Section 4.1, ZGlobal, Inc. (ZGlobal) re-ran its model to determine the effects of the potential BTM storage on the requirements for an FOM BESS under Alternative Battery Storage #1. ZGlobal's updated analysis generally found that the BTM storage at Paso Robles Substation would equate to a one-for-one reduction in the amount of FOM transmission level storage needed to mitigate the P1 and/or P6 outages (ZGlobal 2019) (see **Table 8**). The BTM storage connected to Templeton Substation feeders would not be helpful in addressing the two P1 contingencies (since these involve loss of power to Paso Robles Substation), but would help with the P6 contingency (i.e., loss of both the Templeton-Gates and Morro Bay-Templeton 230 kV lines), although not quite at a one-to-one ratio.

Table 8. FOM Storage Requirements to Address Critical Outages under Alternative Battery Storage #1 with Inclusion of BTM Storage

Scenario	FOM Storage Connected at Paso Robles Substation (MW)	BTM Storage Connected at Paso Robles (MW)	BTM Storage Connected at Templeton (MW)	Total Storage (MW)
Outage: Paso Robles – Templeton 70 kV Transmission Line (P1)				
No BTM Scenario	65	-	-	65
Low BTM Scenario	18.9	48.5	N/A	67.4
Medium BTM Scenario	16.5	51.1	N/A	67.6
High BTM Scenario	0.0	69.2	N/A	69.2

Scenario	FOM Storage Connected at Paso Robles Substation (MW)	BTM Storage Connected at Paso Robles (MW)	BTM Storage Connected at Templeton (MW)	Total Storage (MW)
Outage: Templeton 230/70 kV Transformer Bank #1 (P1)				
No BTM Scenario	45	-	-	45
Low BTM Scenario	0.0	48.5	N/A	48.5
Medium BTM Scenario	0.0	51.1	N/A	51.1
High BTM Scenario	0.0	69.2	N/A	69.2
Outage: Morro Bay – Templeton and Templeton – Gates 230 kV Transmission Lines (P6)				
No BTM Scenario	120	-	-	120
Low BTM Scenario	29.1	48.5	47.2	124.8
Medium BTM Scenario	22.7	51.1	51.3	125.1
High BTM Scenario	0.0	69.2	64.2	133.4

Note: Used Base Case: CAISO 2018/2019 TPP for 2023 Central Coast & Los Padres Area

Source: ZGlobal 2019

As shown in Table 8, under the high BTM adoption scenario, BTM storage alone could completely solve (for a limited duration) all three of the identified critical outages associated with the Proposed Project (note: only the P1 contingency outages are be required to be solved). This would result in avoiding the need for any FOM storage under Alternative Battery Storage #1 to meet the Transmission Objective but for the long duration required (i.e., 11 hours each day for multiple days).

If the duration were shorter, the P1 contingency involving loss of the Templeton 230/70 kV Transformer Bank #1 might be solvable by BTM storage under the low or medium scenarios. Meanwhile, for the P1 contingency involving loss of the Paso Robles – Templeton 70 kV Transmission Line, BTM storage under the low and medium BTM adoption scenarios could substantially reduce the amount of FOM storage needed to address the contingency (18.9 MW of FOM storage needed under the low scenario and 16.5 MW of storage needed under the medium scenario). ZGlobal's modeling did show that with increasing use of BTM resources, there would be a need for reactive support at Paso Robles Substation, either in the form of capacitors or reactive support from the BTM storage itself (ZGlobal 2019).

The findings in Table 8 indicate that BTM storage alone or in combination with FOM storage could potentially solve the critical outages and meet the Transmission Objective of the Proposed Project for a few hours. Assuming that BTM and/or FOM storage resources are charged and available at the time a transmission-level outage occurred, these

resources could discharge to meet the electrical demands on the system, thereby preventing a blackout or other grid failure.

However, batteries can only discharge for so long without being recharged and thus could not solve a longer term or indefinite transmission-level outage as described by the CAISO (Section 2.1, above), particularly if there is no charging window within the load pattern (i.e., point during the day or night at which load is below the threshold where supplemental power would be needed). In the case of the Paso Robles Substation, if power supply is lost from the south (through the loss of either the Paso Robles – Templeton 70 kV Transmission Line or Templeton Transformer Bank #1), the northern line from San Miguel is the only remaining transmission-level power source, which can supply roughly 20 MW of power. During peak summer loading conditions, load demand on the Paso Robles Substation may not drop below 20 MW even during the night-time, leaving no potential charging window for battery storage facilities.

As indicated in Table 3, the residential BTM adoption propensity analysis assumed that customers would be adopting market-ready products (expected 7 kW/13.5 kWh size), which typically supply about 2 hours of power at sustained maximum output. If a given residential customer were to minimize their electricity usage during an outage condition, these BTM storage units could meet basic demands for substantially longer. Even still, at some point the residential and/or C&I BTM storage resource would need to recharge, and thus would no longer be able to support Paso Robles Substation while restoration work is being done on the incapacitated transmission system components, or be in an adequate state of charge to potentially help solve a subsequent outage. As explained by CAISO in its comments on the Draft ASR: “following an initial discharge, the battery will need the ability to be charged to be available in subsequent days either in the event of a long duration outage or in preparation for a subsequent outage to meet the reliability requirements in the area (CAISO 2019).”

Overall, while the BTM adoption propensity results shown in Section 4.1 suggest that BTM storage could greatly reduce or completely avoid the amount of FOM storage needed under Alternative Battery Storage #1, BTM storage would be subject to the same duration limitations and would not fully address the concerns raised by CAISO, PG&E, and HWT. These findings indicate that Alternative Battery Storage #1 be insufficient to meet the transmission-level objective, whether or not BTM resources were procured alongside (i.e., under Alternative Battery Storage #3). Likewise, the findings indicate that using BTM resources alone to meet the Transmission Objective under Alternative Battery Storage #3 would be insufficient.

4.3 Implications for Alternative Battery Storage #2 and the Distribution Objective

As discussed in Section 2.2, the Draft ASR considered the potential for FOM storage to address the Distribution Objective of the Proposed Project (Alternative Battery Storage #2). The Draft ASR found this alternative to be potentially feasible on its own merits, but the amount of FOM storage needed could be reduced through deployment/adoption of BTM resources. Additionally, BTM resources on their own (i.e., Alternative Battery Storage #3) could potentially fully meet the distribution needs of the Paso Robles DPA that would be addressed through the Proposed Project.

Based on the BTM adoption propensity results (Section 4.1), potential BTM adoption could far exceed the overall Paso Robles DPA capacity needs identified in the Applicants' proponent's environmental assessment (PEA) Appendix G (PG&E and HWT 2018) of 4.3 MW over 10 years. BTM storage can reduce peak load by charging during off-peak hours and discharging during peak hours to meet load demands. Particularly with inclusion of solar (which generates electricity and could directly charge associated BTM storage facilities), these BTM resources could reduce or avoid the forecasted overload conditions identified in the PEA Appendix G.

Although future load conditions would depend on where future development projects and other new load sources occur in the Paso Robles area, Table 7 shows that there is adoption potential along all feeders that connect to Paso Robles Substation. In particular, Paso Robles Feeder 1107, which passes through two of the anticipated growth areas in Golden Hill Industrial Park and near the Paso Robles Airport, has potential for BTM storage adoption of 9.5 MW / 18.7 MWh under the high scenario. Similarly, Paso Robles Feeder 1102 also passes through the Golden Hill Road area and has potential for adoption of 7.3 MW / 14.3 MWh of BTM storage under the high scenario. Capturing this BTM potential would directly reduce loading on these circuits, although BTM resources adoption along any of the Paso Robles feeders would help mitigate cumulative loading on the substation.

With respect to the 2019 GNA/DDOR, the amount of BTM resources adoption identified in Section 4.1 would exceed the identified needs for Paso Robles 1104 and Templeton Bank 3 in the PG&E filings. When taking into account the duration of the need associated with San Miguel Bank 1, the amount of BTM storage adoption potential (as expressed in MWh) would not fully meet this need. **Table 9** provides a comparison of the BTM storage adoption propensity results to the specific facility capacity needs in the 2019 DDOR.

Table 9. Comparison of BTM Storage Adoption Propensity Results to the Identified Capacity Needs in PG&E's 2019 DDOR

	Paso Robles 1104	San Miguel Bank 1	Templeton Bank 3	Total
Grid Needs Summary				
Grid Need (MW)	1.2	3.6	1.1	5.9 MW
Months	Jul – Aug	Jul – Sep	Jul – Aug	n/a
Calls/Year	21	122	23	n/a
Time Period	2 pm – 10 pm	6 am – 10 pm	12 pm – 3 pm	n/a
Duration (Hours)	8	9	3	n/a
Total Grid Need (MWh)	9.6	32.4	3.3	45.3 MWh
BTM Storage Adoption Propensity				
Low Scenario (MWh)	8.8	11.3	30.9	51 MWh
Medium Scenario (MWh)	9.8	13.5	34.2	57.5 MWh
High Scenario (MWh)	13.3	15.4	42.2	70.9 MWh

Source: PG&E 2019a

As shown in Table 9, the BTM storage adoption propensity numbers (expressed in MWh) for Paso Robles 1104 under both the medium and high scenarios would be sufficient to meet the total grid need (MW x Hours). In other words, the BTM storage resources, assuming they were fully charged at the start of the peak period and could be subsequently discharged in a coordinated fashion (a master control system, of which there is currently no existing off-the-shelf solution, may be required for this), could provide sufficient power over the course of the peak period (lasting from 2 p.m. – 10 p.m. during July to August on Paso Robles 1104) to meet demand. The timing of the duration requirement (July to August) on Paso Robles 1104 indicates that the solar plus storage profile is suitable for meeting this need.

Similarly, for Templeton Bank 3, the BTM storage adoption propensity under all scenarios considered would be sufficient to meet the total grid need. The time period associated with the Templeton Bank 3 grid need would only last 3 hours (from 12 p.m. to 3 p.m. during July to August), and thus the total grid need would only amount to 3.3 MWh, which is far less than the BTM storage that could potentially be achieved in this area. Under the low scenario, only about 23 percent of the identified economically-efficient customers would need to adopt BTM storage to meet the duration requirement.

Due to the grid need of 3.6 MW at San Miguel Bank 1 and long duration of the potential need (6 a.m. to 10 p.m.), BTM resources alone would not be able to fully meet this need.

Even under the high scenario (15.4 MWh), the BTM resources would not be sufficient to meet the total need (32.4 MWh). The shortfall could potentially be made up with FOM storage at or near San Miguel Substation. There appears to be available space at the substation site according to recent aerial imagery.

Overall, the analysis shows that BTM resources could potentially meet future expected load demand in the Paso Robles DPA. The total BTM adoption propensity for the Paso Robles DPA under the high scenario (100 MW of solar, 175 MW / 343 MWh of storage) would far exceed the projected increased load demand (4.3 MW over 10 years), as reported in the PEA Appendix G. However, when looking at specific facility capacity needs identified in the 2019 GNA/DDOR, BTM resources on their own could only meet two of the three needs. For the third need, FOM resources would also be required. All of this suggests that BTM resources could not on their own fully meet the Distribution Objective of the Proposed Project, but could be deployed alongside FOM storage to meet this objective.

5. Recommendations

The analysis in this report is considered adequate for assessing the potential feasibility of Alternative Battery Storage #3 (on its own and in tandem with the other DER alternatives being considered for the Proposed Project pursuant to CEQA). CPUC's DEIR will evaluate the potential environmental impacts associated with implementing Alternative Battery Storage #3 and will further describe the mechanisms by which BTM resources adoption could be encouraged and facilitated (e.g., through a targeted RFP). Should Alternative Battery Storage #3 be selected by the Commission for implementation, Kevala recommends several additional studies to further refine the potential BTM resources program in advance of any targeted procurement efforts that may occur. These include:

A. **Re-run the Analysis Closer to Procurement with Latest Available Data:** As load growth becomes more certain, the analysis should be re-run in advance of any targeted procurement efforts using data sources such as the latest GNA/DDOR filed, address-specific information on existing DER projects, and the most recent customer-specific AMI data.

B. **Consider Likely Adoption:** An adoption propensity study evaluates where adoption is economically efficient but does not consider other factors that impact a customer's ability to adopt, such as socioeconomics in the study area, expected perception or understanding of battery storage technology, efficacy of outreach and marketing programs, available roof space, etc. (Kevala's study does consider homeownership). These factors are considered when conducting a DER growth forecast and should be considered in advance of targeted BTM resource procurement to further refine the BTM program approach and identify the likely needed level of incentive. When possible, these should align with likely adoption factors used by either the CEC or investor owned utilities.

C. **Further Refine the Value of Lost Load**: Currently, there is no singular or universally agreed upon Value of Lost Load. A conservative value was modeled for this study at different outage frequencies. The appropriate value requires further research. Guidance is expected from the CPUC's resiliency and microgrid proceeding (R.19-09-009). The Value of Lost Load assumption can have a significant effect on the perceived cost-effectiveness of BTM resources and associated economic propensity for adoption.

D. **Consider Solar Adoption for C&I Customers:** The model assumed that C&I customers would place the highest value on BTM storage resources, absent solar, for demand charge reduction purposes, and did not consider potential solar plus storage adoption for these customers. Residential customers, by comparison, are not subject to demand charges. Under residential time-of-use rates, solar plus storage (together) is most cost effective. The model could be updated to consider the value of solar plus storage for specific types of C&I customers in the Paso Robles DPA, e.g., wineries.

E. **Evaluation of BTM Storage Growth Forecasts and Location-Specific Allocation, Using Existing and Available Data:** At the time of this analysis and report, feeder-specific forecasts for BTM storage have not yet been published by PG&E. Thus, it is not feasible to compare feeder-specific storage forecasts with the propensity for adoption results and "back out" estimates to avoid double counting. Provided that such forecasts are available in the future (e.g., in PG&E's 2020 GNA filing), this refinement to the propensity for adoption results should occur in advance of conducting a targeted procurement for BTM resources.

   Currently, utilities provide annual DER growth forecasts as total MW reduction on peak, rather than by estimated customer adoption. "Backing out" future DER growth additionally requires understanding of the hours in which DERs are contributing to net load, and their impact on feeder-specific peak load—in short, the "shape" of hourly DER generation. Providing only the total MW reduction on peak does not allow for scenario-based evaluation of changing DER behavior, such as the impact of promoting workplace charging, changing retail rate structures, or offering capacity payments for grid services.

   Understanding where current DER adoption has occurred can be very informative to disaggregation and allocation efforts, from the system level down to the feeder-specific level. Where this location-specific data can be made available, such as SGIP program data, California Solar Initiative program data, Demand Response participation data, or state-incentivized Energy Efficiency adoption data, it can be used to further identify DER growth allocation and likely participating customers.

F. **Evaluation of Current Policies and Incentives:** To align with existing modeling inputs the CPUC currently uses for its IRP modeling, Kevala's model uses the performance assumptions for storage and total cost of PV + plus storage, including

the application of NEM policy and SGIP incentives as these policies and incentives are currently administered. In advance of conducting a targeted procurement, these inputs may need to be adjusted to reflect the most current policies and costs.

G. Carefully Consider RFP Requirements: To ensure operational needs and performance requirements are met, a BTM resources program will require the development of some type of distribution capacity-based demand response program to ensure that resources are available when an event is called. The RFP to procure the required BTM resources should consider the following:

1. *Aggregators Available: Who might procure and aggregate resources?* The RFP should focus on aggregators capable of delivering the quantified net load impacts, including the capability to coordinate discharge, at the time of RFP issuance. At the time of this report, those capabilities are very limited. It would need to consider the methods available in the service area that could be used to coordinate the BTM DERs such that the desired responses are adequate and reliable. A potential RFP would need to consider whether commercial solutions for large-scale aggregation may be available at the time of the procurement.

2. *Incentive Structure:* The adoption propensity analysis considered a Value of Lost Load in low, medium, and high scenarios, which may be used as indicators of the incentive levels required to procure the required BTM resources. Value of Lost Load is an economic value that may be considered by a customer acting on social or emotional responses to risk, but may not translate to a direct willingness-to-pay without extrinsic factors.

3. *Timing of DER and Type of Response to Calls:* The PG&E's 2019 GNA/DDOR identifies the capacity need within the day-ahead market, meaning that participants would receive advance notice when the service is needed, unlike real-time requirements. An RFP should consider when notice would be provided, and whether the required duration for each distribution need would require the BTM storage resource to charge off-peak from the grid to meet that need. The RFP should also consider how and when aggregated resources must behave and respond to meet the full required duration.

6. Conclusions

This report uses Kevala's big data analysis capability to analyze BTM solar plus storage adoption propensity in the Paso Robles DPA in support of the CPUC's CEQA analysis of the Proposed Project. The analysis finds that up to 100 MW of solar and 175 MW / 343 MWh of storage could be efficiently adopted under the high scenario. This amount of BTM resources exceeds the overall capacity needs in the DPA, and the amount of storage that

could potentially be adopted at Paso Robles Substation and Templeton Substation would be sufficient to fully meet demand *for given period of time* during one of the critical outages identified by the CAISO (see Transmission Objective).

However, batteries can only provide power for a certain period of time before needing to recharge. As such, BTM storage could only supply power for so long (standard residential storage products can sustain maximum output for 2 hours), and therefore could not solve a transmission outage for an extended period, even when paired with FOM storage (e.g., under Alternative Battery Storage #1). PG&E indicated that an outage of the Paso Robles – Templeton 70 kV Transmission Line or Templeton Transformer Bank #1 could last for multiple days, and therefore a battery solution would need to have a recharging window to be viable, but such a window would not be available under the outage conditions. For these reasons, BTM resources, even when paired with FOM storage, are not considered a feasible option for addressing the Transmission Objective of the Proposed Project.

Similarly, BTM resources on their own could not fully meet the Distribution Objective due to the duration requirements identified in the 2019 DDOR. While BTM resources could meet the capacity needs for Paso Robles Feeder 1104 and Templeton Bank 3, they could not fully meet the need for San Miguel Bank 1. Strategically placed FOM storage facilities could address this shortfall. Thus, Alternative Battery Storage #3 deployed in tandem with Alternative Battery Storage #2 could feasibly meet the Distribution Objective of the Proposed Project. When looking strictly at overall capacity requirements, the total potential BTM resources adoption far exceeds the stated total 4.3 to 5.9 MW deficiency in the DPA, lending further support for BTM resources as a feasible alternative.

From a practical perspective, customers in the Paso Robles area DPA may want to consider their annual energy use in light of this study with the help of an industry supplier or expert. As of 2019, about 17,000 customers (residential and C&I) of the roughly 75,500 customers studied meet the criteria for economically-efficient adoption of BTM resources. BTM storage can be cost-effective for certain C&I customers with payback times as low as 4.8 years for some but on average about 6.3 years. This applies to 4 percent to 6 percent of the roughly 13,500 C&I customer meters studied, and their BTM storage adoption could reduce peak loads in the Paso Robles area by about 4.6 MW / 11 MWh (under the low scenario) if called upon. For about 20 percent of the roughly 62,000 residential customer meters studied, payback time for solar plus storage is expected to be fewer than 10 years, and these payback periods are expected to improve in the coming years as the cost of storage continues to decline.

Kevala's conservative assumption regarding Value of Lost Load, which affects BTM adoption efficiency, should also be revisited in light of the CPUC's new resiliency and microgrid proceeding (R.19-09-009) and many other associated, ongoing proceedings, including the Distribution Resources Plan proceeding (R.14-08-013) and Wildfire Mitigation Plans proceeding (R.18-10-007). Assumptions about how customers value lost load (i.e., keeping the lights on during a potential power loss event) impacts the payback

period calculations for BTM systems. In addition, this study informs the ongoing discussions about location-specific targeting of DER to meet specified grid needs.

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Appendix A.
Distribution Need Comparison

Table A-1. Comparison of Distribution Needs Identified in PG&E and HWT's 2017 Application and the 2018 and 2019 GNA / DDORs

Facility	Forecasted Overload / Distribution Need				
		2018 PG&E GNA / DDOR		2019 PG&E GNA / DDOR	
	2017 Application to CPUC and Data Responses to Energy Division	Web Portal Download, "Planned Investment" (MW)	Candidate Deferrals (MW, hours)	Estrella "Planned Investment" (MW)	Estrella Candidate Deferral (MW, hours)
Paso Robles 1102	Yes	n/a	n/a	n/a	n/a
Paso Robles 1103	n/a	1.88	0.42, 2 hours	n/a	n/a
Paso Robles 1104	n/a	n/a	n/a	1.15	1.2, 8 hours
Paso Robles 1107	Yes	0.25	0.25, 2 hours	n/a	n/a
Paso Robles 1108	Yes	0.18	0.18, 1 hour	n/a	n/a
San Miguel 1104	Yes	0.28	0.28, 2 hours	n/a	n/a
San Miguel Bank 1	n/a	1.53	1.53, 6 hours	1.68	3.6 MW, 9 hours
Templeton 2109	Yes	n/a	n/a	n/a	n/a
Templeton 2113	Yes	n/a	n/a	n/a	n/a
Templeton Bank 2	n/a	0.75	0.75, 2 hours	n/a	n/a
Templeton Bank 3	n/a	n/a	n/a	0.12	1.1, 3 hours
L/S R78 - Templeton 2109	n/a	n/a	n/a	8.5	8.5, 4 hours

Facility	Forecasted Overload / Distribution Need				
		2018 PG&E GNA / DDOR		2019 PG&E GNA / DDOR	
	2017 Application to CPUC and Data Responses to Energy Division	Web Portal Download, "Planned Investment" (MW)	Candidate Deferrals (MW, hours)	Estrella "Planned Investment" (MW)	Estrella Candidate Deferral (MW, hours)
Cholame (between X14 and R96)	n/a	n/a	n/a	1.5	1.5, 4 hours
Cholame Sub DA	n/a	n/a	n/a	3.5	3.5, 48 hours
Cholame Sub RT	n/a	n/a	n/a		3.5, 24 hours[b]
Totals	**4.3[a]**	**4.9**	**3.4 MW**	**16.5**	**19.4 MW**

Notes:

a. Only the total was provided by PG&E.

b. The 3.5 MW value is only counted once in the 19.4 MW total.

Appendix B.
Detailed BTM Adoption Propensity Results

Table B-1. BTM Adoption Propensity Results for Low, Medium, and High Scenarios – All Customer Types

Feeders	LOW SCENARIO				MEDIUM SCENARIO				HIGH SCENARIO			
	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)
Atascadero 1101	1,439	7.2	10.0	19.4	1,547	7.6	11.0	21.3	1,741	8.0	14.2	27.7
Atascadero 1102	472	2.5	3.3	6.4	502	2.5	7.1	13.7	595	3.0	4.7	9.2
Atascadero 1103	1,358	7.0	9.6	18.6	1,466	7.3	10.4	20.3	1,705	8.3	13.8	26.8
Paso Robles 1101	123	0.4	0.8	1.7	128	0.4	0.9	2.1	151	0.5	1.1	2.5
Paso Robles 1102	676	3.3	4.8	9.3	746	3.5	5.4	10.6	881	3.8	7.3	14.3
Paso Robles 1103	1,112	5.7	9.7	15.1	1,213	6.1	8.6	16.6	1,324	7.0	10.9	21.5
Paso Robles 1104	624	3.4	4.5	8.8	682	3.6	4.9	9.8	843	4.3	6.7	13.3
Paso Robles 1106	1,737	8.0	12.2	23.6	1,881	8.5	13.4	26.0	2,325	10.1	18.8	36.5
Paso Robles 1107	918	4.6	6.6	12.9	981	4.7	7.1	14.2	1,123	5.0	9.5	18.7
Paso Robles 1108	1,399	6.6	9.9	19.2	1,512	6.9	10.8	21.4	1,822	8.0	14.9	29.2
San Miguel 1104	466	2.5	3.3	6.5	495	2.6	3.7	7.8	442	2.2	4.1	8.6
San Miguel 1105	348	1.8	2.5	4.8	376	1.8	2.7	5.4	421	2.4	3.4	6.8
San Miguel 1106	53	0.3	0.4	0.7	56	0.3	0.4	0.8	58	0.4	0.5	1.0
San Miguel 1107	42	0.2	0.3	0.6	48	0.2	0.3	0.6	49	0.2	0.4	0.8

Feeders	LOW SCENARIO				MEDIUM SCENARIO				HIGH SCENARIO			
	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)
Templeton 2108	894	4.4	6.3	12.3	956	4.5	6.8	13.3	1,139	6.0	9.3	18.2
Templeton 2109	1,473	7.2	10.7	20.9	1,576	7.5	11.6	23.4	1,565	7.5	13.8	27.6
Templeton 2110	997	5.1	7.0	13.7	1,077	5.3	7.7	15.1	1,126	5.1	9.3	18.3
Templeton 2111	1,037	5.9	7.3	14.2	1,122	6.1	8.0	15.6	1,231	6.2	10.4	20.2
Templeton 2112	284	1.7	2.0	4.2	300	1.8	2.2	4.8	302	1.3	2.5	5.3
Templeton 2113	1,958	10.2	13.8	26.7	2,115	10.7	15.0	29.4	2,255	11.1	18.9	36.9
Totals	**17,410**	**88**	**125**	**240**	**18,779**	**92**	**138**	**272**	**21,098**	**100**	**175**	**343**

Table B-2. BTM Adoption Propensity Results for Residential Customers

Feeders	LOW SCENARIO				MEDIUM SCENARIO				HIGH SCENARIO			
	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)
Atascadero 1101	1,425	7.2	10.0	19.2	1,532	7.6	10.8	20.8	1,726	8.0	14.1	27.1
Atascadero 1102	463	2.5	3.2	6.2	493	2.5	7.0	13.5	586	3.0	4,7	9.0
Atascadero 1103	1,346	7.0	9.5	18.3	1,453	7.3	10.2	19.7	1,692	8.3	13.6	26.2
Paso Robles 1101	78	0.4	0.6	1.1	83	0.4	0.6	1.1	106	0.5	0.8	1.6
Paso Robles 1102	658	3.3	4.6	8.9	728	3.5	5.2	9.9	863	3.8	7.1	13.7
Paso Robles 1103	1,100	5.7	9.6	14.9	1,201	6.1	8.5	16.3	1,312	7.0	10.8	21.2

Feeders	LOW SCENARIO				MEDIUM SCENARIO				HIGH SCENARIO			
	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)	Custo-mers	Solar (MW)	Storage (MW)	Storage (MWh)
Paso Robles 1104	597	3.4	4.2	8.1	655	3.6	4.6	8.9	816	4.3	6.4	12.4
Paso Robles 1106	1,712	8.0	12.0	23.1	1,856	8.5	13.1	25.2	2,300	10.1	18.5	35.7
Paso Robles 1107	893	4.6	6.3	12.1	955	4.7	6.7	13.0	1,097	5.0	9.1	17.5
Paso Robles 1108	1,359	6.6	9.5	18.4	1,472	6.9	10.4	20.0	1,782	8.0	14.4	27.9
San Miguel 1104	416	2.5	2.9	5.6	438	2.6	3.1	6.0	385	2.2	3.5	6.8
San Miguel 1105	339	1.8	2.4	4.6	367	1.9	2.6	5.0	412	2.4	3.3	6.4
San Miguel 1106	50	0.3	0.4	0.7	53	0.3	0.4	0.7	55	0.4	0.5	0.9
San Miguel 1107	42	0.2	0.3	0.6	48	0.2	0.3	0.7	49	0.3	0.4	0.8
Templeton 2108	869	4.4	6.1	11.7	931	4.6	6.6	12.7	1,114	6.0	9.1	17.5
Templeton 2109	1,417	7.2	9.9	19.2	1,517	7.5	10.7	20.6	1,506	7.5	12.9	24.8
Templeton 2110	975	5.1	6.8	13.2	1,055	5.3	7.4	14.3	1,104	5.1	9.1	17.6
Templeton 2111	1,026	5.9	7.2	13.9	1,111	6.1	7.8	15.1	1,220	6.2	10.2	19.7
Templeton 2112	232	1.7	1.6	3.1	247	1.8	1.7	3.3	249	1.3	2.0	3.9
Templeton 2113	1,914	10.2	13.4	25.8	2,064	10.7	14.5	28.0	2,204	11.1	18.4	35.5
Totals	**16,912**	**87.9**	**120.3**	**228.5**	**18,255**	**92.0**	**132.1**	**254.8**	**20,576**	**100.2**	**168.8**	**326.0**

Table B-3. BTM Adoption Propensity Results for C&I Customers

Feeders	LOW SCENARIO			MEDIUM SCENARIO			HIGH SCENARIO		
	Custo-mers	Storage (MW)	Storage (MWh)	Custo-mers	Storage (MW)	Storage (MWh)	Custo-mers	Storage (MW)	Storage (MWh)
Atascadero 1101	*	0.02	0.12	*	0.18	0.53	*	0.18	0.53
Atascadero 1102	*	0.06	0.14	*	0.06	0.19	*	0.06	0.19
Atascadero 1103	*	0.14	0.33	*	0.20	0.61	*	0.20	0.61
Paso Robles 1101	45	0.28	0.67	45	0.32	0.96	45	0.32	0.96
Paso Robles 1102	18	0.20	0.43	18	0.22	0.67	18	0.22	0.67
Paso Robles 1103	*	0.11	0.25	*	0.12	0.35	*	0.12	0.35
Paso Robles 1104	27	0.28	0.70	27	0.30	0.91	27	0.30	0.91
Paso Robles 1106	25	0.24	0.54	25	0.27	0.81	25	0.27	0.81
Paso Robles 1107	25	0.35	0.81	26	0.40	1.21	26	0.40	1.21
Paso Robles 1108	40	0.39	0.87	40	0.45	1.36	40	0.45	1.36
San Miguel 1104	50	0.36	0.82	57	0.61	1.82	57	0.61	1.82
San Miguel 1105	*	0.11	0.26	*	0.13	0.40	*	0.13	0.40
San Miguel 1106	*	0.03	0.05	*	0.03	0.08	*	0.03	0.08
San Miguel 1107	0	0	0	0	0	0	0	0	0
Templeton 2108	25	0.21	0.53	25	0.22	0.67	25	0.22	0.67

Feeders	LOW SCENARIO			MEDIUM SCENARIO			HIGH SCENARIO		
	Custo-mers	Storage (MW)	Storage (MWh)	Custo-mers	Storage (MW)	Storage (MWh)	Custo-mers	Storage (MW)	Storage (MWh)
Templeton 2109	56	0.80	1.77	59	0.94	2.81	59	0.94	2.81
Templeton 2110	22	0.22	0.52	22	0.25	0.74	22	0.25	0.74
Templeton 2111	*	0.14	0.34	*	0.16	0.49	*	0.16	0.49
Templeton 2112	52	0.42	1.03	53	0.48	1.45	53	0.48	1.45
Templeton 2113	44	0.36	0.86	51	0.48	1.44	51	0.48	1.44
Totals	**499**	**4.69**	**11.01**	**520**	**5.83**	**17.49**	**520**	**5.83**	**17.49**

Note: *Redacted customer counts and associated data. Checking with PG&E to confirm whether this data is confidential due to low customer counts on these feeders.

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APPENDIX C

Air Quality, Greenhouse Gas Emissions, and Energy Analyses

This appendix includes complex tables that are not accessible using an assistive device such as a screen reader. For additional assistance please contact CPUC.

Energy Use Summary and Calculations

Fuel Consumption Summary

Construction Activity Fuel Consumption	Gasoline	Diesel	Jet A Fuel
Construction Activity On-Road Vehicles	6,530	15,449	
Construction Activity Off-Road Equipment		183,523	
Helicopters			180,671
Total For Construction	**6,530**	**198,972**	**180,671**

									Gasoline		Diesel	
	Phase	Vehicle Type	Construction Phase Days	Trips Per Day	Total Trips	Miles Per Trip	Total Miles	Fuel Type	Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)	Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)
Construction On-Road Vehicles	Reconductoring Site Prep	Worker	24	12	288	13	3,744	LDA,LDT1, LD	27.59571336	134.76	38.1144679	0.66
		Vendor	24	10	240	5	1,200	HHDT, MHDT			8.143187453	147
		Hauling			0	20	-	HHDT			6.547970628	-
	230kv Sub Access Road	Worker	12	20	240	13	3,120	LDA,LDT1, LD	27.59571336	112.30	38.1144679	0.55
		Vendor	12	33	396	5	1,980	HHDT, MHDT			8.143187453	243
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Transmission Site Work Prep	Worker	24	16	384	13	4,992	LDA,LDT1, LD	27.59571336	179.68	38.1144679	0.88
		Vendor	24	11	264	5	1,320	HHDT, MHDT			8.143187453	162
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Site Work Area	Worker	18	20	360	13	4,680	LDA,LDT1, LD	27.59571336	168.45	38.1144679	0.82
		Vendor	18	11	198	5	990	HHDT, MHDT			8.143187453	122
		Hauling			756	20	15,120	HHDT			6.547970628	2,309
	70kV Substation Site Work Area Prep Mobil	Worker	12	12	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	12	6	72	5	360	HHDT, MHDT			8.143187453	44
		Hauling			756	20	15,120	HHDT			6.547970628	2,309
	230kV Sub Fence Gate Install	Worker	12	10	120	13	1,560	LDA,LDT1, LD	27.59571336	56.15	38.1144679	0.27
		Vendor	12	30	360	5	1,800	HHDT, MHDT			8.143187453	221
		Hauling			0	20	-	HHDT			6.547970628	-
	Reconductoring Pole Install	Worker	144	40	5760	13	74,880	LDA,LDT1, LD	27.59571336	2,695.25	38.1144679	13.19
		Vendor	144	13	1872	5	9,360	HHDT, MHDT			8.143187453	1,149
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Transmission Foundation Tower	Worker	48	20	960	13	12,480	LDA,LDT1, LD	27.59571336	449.21	38.1144679	2.20
		Vendor	48	12	576	5	2,880	HHDT, MHDT			8.143187453	354
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Substation Foundation Construction	Worker	24	12	288	13	3,744	LDA,LDT1, LD	27.59571336	134.76	38.1144679	0.66
		Vendor	24	13	312	5	1,560	HHDT, MHDT			8.143187453	192
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Substation Ground Grid	Worker	24	8	192	13	2,496	LDA,LDT1, LD	27.59571336	89.84	38.1144679	0.44
		Vendor	24	9	216	5	1,080	HHDT, MHDT			8.143187453	133
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Foundation Construction	Worker	36	24	864	13	11,232	LDA,LDT1, LD	27.59571336	404.29	38.1144679	1.98
		Vendor	36	31	1116	5	5,580	HHDT, MHDT			8.143187453	685
		Hauling			0	20	-	HHDT			6.547970628	-
	Reconductoring Conductor Install	Worker	120	30	3600	13	46,800	LDA,LDT1, LD	27.59571336	1,684.53	38.1144679	8.24
		Vendor	120	10	1200	5	6,000	HHDT, MHDT			8.143187453	737
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Sub Steel Bus Erection	Worker	24	16	384	13	4,992	LDA,LDT1, LD	27.59571336	179.68	38.1144679	0.88
		Vendor	24	9	216	5	1,080	HHDT, MHDT			8.143187453	133
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Ground Grid	Worker	24	10	240	13	3,120	LDA,LDT1, LD	27.59571336	112.30	38.1144679	0.55
		Vendor	24	29	696	5	3,480	HHDT, MHDT			8.143187453	427
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Transmission Conductor	Worker	24	30	720	13	9,360	LDA,LDT1, LD	27.59571336	336.91	38.1144679	1.65
		Vendor	24	11	264	5	1,320	HHDT, MHDT			8.143187453	162
		Hauling			0	20	-	HHDT			6.547970628	-
	70 kV Substation Equip Delivery	Worker	18	12	216	13	2,808	LDA,LDT1, LD	27.59571336	101.07	38.1144679	0.49
		Vendor	18	12	216	5	1,080	HHDT, MHDT			8.143187453	133
		Hauling			0	20	-	HHDT			6.547970628	-

									Gasoline		Diesel	
	Phase	Vehicle Type	Construction Phase Days	Trips Per Day	Total Trips	Miles Per Trip	Total Miles	Fuel Type	Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)	Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)
	70kV Substation Control Enclosure	Worker	6	10	60	13	780	LDA,LDT1, LD	27.59571336	28.08	38.1144679	0.14
		Vendor	6	2	12	5	60	HHDT, MHDT			8.143187453	7
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Steel Bus	Worker	24	10	240	13	3,120	LDA,LDT1, LD	27.59571336	112.30	38.1144679	0.55
		Vendor	24	30	720	5	3,600	HHDT, MHDT			8.143187453	442
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Install Yard Rock	Worker	18	16	288	13	3,744	LDA,LDT1, LD	27.59571336	134.76	38.1144679	0.66
		Vendor	18	45	810	5	4,050	HHDT, MHDT			8.143187453	497
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Substation Cable Installation	Worker	18	10	180	13	2,340	LDA,LDT1, LD	27.59571336	84.23	38.1144679	0.41
		Vendor	18	3	54	5	270	HHDT, MHDT			8.143187453	33
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Transformer	Worker	30	16	480	13	6,240	LDA,LDT1, LD	27.59571336	224.60	38.1144679	1.10
		Vendor	30	30	900	5	4,500	HHDT, MHDT			8.143187453	553
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Transmission Cleanup Restore	Worker	6	10	60	13	780	LDA,LDT1, LD	27.59571336	28.08	38.1144679	0.14
		Vendor	6	9	54	5	270	HHDT, MHDT			8.143187453	33
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Control Enclosure Delivery	Worker	12	12	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	12	2	24	5	120	HHDT, MHDT			8.143187453	15
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Substation Install Yard Rock	Worker	12	12	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	12	16	192	5	960	HHDT, MHDT			8.143187453	118
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Remaining Equipment Delivery	Worker	24	10	240	13	3,120	LDA,LDT1, LD	27.59571336	112.30	38.1144679	0.55
		Vendor	24	28	672	5	3,360	HHDT, MHDT			8.143187453	413
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Substation Cleanup Restore	Worker	12	8	96	13	1,248	LDA,LDT1, LD	27.59571336	44.92	38.1144679	0.22
		Vendor	12	0	0	5	-	HHDT, MHDT			8.143187453	-
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Cable Install Termination	Worker	12	10	120	13	1,560	LDA,LDT1, LD	27.59571336	56.15	38.1144679	0.27
		Vendor	12	3	36	5	180	HHDT, MHDT			8.143187453	22
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Substation Testing Commissioning	Worker	18	8	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	18	2	36	5	180	HHDT, MHDT			8.143187453	22
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Sub Testing and Commissioning	Worker	30	10	300	13	3,900	LDA,LDT1, LD	27.59571336	140.38	38.1144679	0.69
		Vendor	30	26	780	5	3,900	HHDT, MHDT			8.143187453	479
		Hauling			0	20	-	HHDT			6.547970628	-
	230kV Substation Cleanup Restore	Worker	18	6	108	13	1,404	LDA,LDT1, LD	27.59571336	50.54	38.1144679	0.25
		Vendor	18	29	522	5	2,610	HHDT, MHDT			8.143187453	321
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Power Line Site Work Prep	Worker	24	12	288	13	3,744	LDA,LDT1, LD	27.59571336	134.76	38.1144679	0.66
		Vendor	24	10	240	5	1,200	HHDT, MHDT			8.143187453	147
		Hauling			0	20	-	HHDT			6.547970628	-
	Reconductoring Cleanup Restore	Worker	12	12	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	12	5	60	5	300	HHDT, MHDT			8.143187453	37
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Power Line Pole	Worker	196	42	8232	13	107,016	LDA,LDT1, LD	27.59571336	3,851.96	38.1144679	18.85
		Vendor	196	15	2940	5	14,700	HHDT, MHDT			8.143187453	1,805

									Gasoline		Diesel	
	Phase	Vehicle Type	Construction Phase Days	Trips Per Day	Total Trips	Miles Per Trip	Total Miles	Fuel Type	Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)	Weighted Fuel Economy (miles/gallon)	Fuel Consumption (gallons)
	Tower Install	Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Facilities Mobilization	Worker	12	12	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	12	6	72	5	360	HHDT, MHDT			8.143187453	44
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Foundation Construction	Worker	24	24	576	13	7,488	LDA,LDT1, LD	27.59571336	269.52	38.1144679	1.32
		Vendor	24	6	144	5	720	HHDT, MHDT			8.143187453	88
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Ground Grid	Worker	24	20	480	13	6,240	LDA,LDT1, LD	27.59571336	224.60	38.1144679	1.10
		Vendor	24	4	96	5	480	HHDT, MHDT			8.143187453	59
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Steel Bus Erection	Worker	24	10	240	13	3,120	LDA,LDT1, LD	27.59571336	112.30	38.1144679	0.55
		Vendor	24	3	72	5	360	HHDT, MHDT			8.143187453	44
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Bank Breaker	Worker	18	10	180	13	2,340	LDA,LDT1, LD	27.59571336	84.23	38.1144679	0.41
		Vendor	18	2	36	5	180	HHDT, MHDT			8.143187453	22
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Feeder Conduit	Worker	36	16	576	13	7,488	LDA,LDT1, LD	27.59571336	269.52	38.1144679	1.32
		Vendor	36	3	108	5	540	HHDT, MHDT			8.143187453	66
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Cable Install	Worker	24	10	240	13	3,120	LDA,LDT1, LD	27.59571336	112.30	38.1144679	0.55
		Vendor	24	3	72	5	360	HHDT, MHDT			8.143187453	44
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Testing	Worker	24	6	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	24	1	24	5	120	HHDT, MHDT			8.143187453	15
		Hauling			0	20	-	HHDT			6.547970628	-
	Distribution Cleanup Restore	Worker	12	6	72	13	936	LDA,LDT1, LD	27.59571336	33.69	38.1144679	0.16
		Vendor	12	6	72	5	360	HHDT, MHDT			8.143187453	44
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Power Line Conductor Install	Worker	48	36	1728	13	22,464	LDA,LDT1, LD	27.59571336	808.57	38.1144679	3.96
		Vendor	48	10	480	5	2,400	HHDT, MHDT			8.143187453	295
		Hauling			0	20	-	HHDT			6.547970628	-
	70kV Power Line Cleanup Restore	Worker	12	12	144	13	1,872	LDA,LDT1, LD	27.59571336	67.38	38.1144679	0.33
		Vendor	12	7	84	5	420	HHDT, MHDT			8.143187453	52
		Hauling			0	20	-	HHDT			6.547970628	-
								Total Fuel Consumption (Gallons)		6,530.37		15,449.32

Notes:

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

	LDA,LDT1,LDT2	MHDT	HHDT
Gasoline %	99.33%	0	0
Diesel %	0.67%	1	1

	Offroad Equipment Type	Amount	Days in Phase	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate lb/hp-hr	Diesel Fuel Consumption (gallons)
230kv Sub Access Road	Tractors/Loaders/Backhoes	2	12	8	97	0.37	0.408	395
230kV Sub Cable Install Termination	Aerial Lifts	1	12	8	63	0.31	0.408	108
230kV Sub Control Enclosure Delivery	Cranes	1	12	6	231	0.29	0.367	249
230kV Sub Fence Gate Install	Skid Steer Loaders	1	12	4	65	0.37	0.408	66
230kV Sub Foundation Construction	Bore/Drill Rigs	1	36	8	221	0.5	0.367	1,643
230kV Sub Foundation Construction	Cranes	1	36	5	231	0.29	0.367	623
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	1	36	5	97	0.37	0.408	371
230kV Sub Ground Grid	Trenchers	1	24	8	78	0.5	0.408	430
230kV Sub Install Yard Rock	Skid Steer Loaders	1	18	10	65	0.37	0.408	248
230kV Sub Remaining Equipment Delivery	Off-Highway Trucks	1	24	6	402	0.38	0.367	1,136
230kV Sub Site Work Area	Graders	1	18	8	187	0.41	0.367	570
230kV Sub Site Work Area	Off-Highway Trucks	4	18	10	402	0.38	0.367	5,678
230kV Sub Site Work Area	Rollers	2	18	8	80	0.38	0.408	502
230kV Sub Site Work Area	Rubber Tired Dozers	1	18	8	247	0.4	0.367	734
230kV Sub Site Work Area	Scrapers	1	18	8	367	0.48	0.367	1,310
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	1	18	8	97	0.37	0.408	297
230kV Sub Steel Bus	Aerial Lifts	1	24	6	63	0.31	0.408	161
230kV Sub Steel Bus	Off-Highway Trucks	1	24	8	402	0.38	0.367	1,514
230kV Sub Transformer	Cranes	1	30	6	231	0.29	0.367	623
230kV Sub Transformer	Generator Sets	1	30	5	84	0.74	0.408	535
230kV Sub Transformer	Off-Highway Trucks	2	30	10	402	0.38	0.367	4,732
230kV Sub Transformer	Off-Highway Trucks	1	30	4.8	402	0.38	0.367	1,136
230kV Sub Transformer	Tractors/Loaders/Backhoes	1	30	4	97	0.37	0.408	247
230kV Substation Cleanup Restore	Other General Industrial Equi	1	18	6	88	0.34	0.408	185
230kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	1	18	6	97	0.37	0.408	222
230kV Transmission Cleanup Restore	Graders	1	6	8	187	0.41	0.367	190
230kV Transmission Cleanup Restore	Tractors/Loaders/Backhoes	1	6	4	97	0.37	0.408	49
230kV Transmission Conductor	Cranes	3	24	6	231	0.29	0.367	1,494
230kV Transmission Conductor	Off-Highway Trucks	2	24	4	402	0.38	0.367	1,514
230kV Transmission Conductor	Off-Highway Trucks	2	24	4	402	0.38	0.367	1,514
230kV Transmission Foundation Tower	Bore/Drill Rigs	1	48	1	221	0.5	0.367	274
230kV Transmission Foundation Tower	Cranes	3	48	5.3	231	0.29	0.367	2,639
230kV Transmission Foundation Tower	Forklifts	3	48	2.6	89	0.2	0.408	382
230kV Transmission Foundation Tower	Off-Highway Trucks	2	48	3.5	402	0.38	0.367	2,650
230kV Transmission Foundation Tower	Off-Highway Trucks	2	48	2.6	402	0.38	0.367	1,968
230kV Transmission Foundation Tower	Tractors/Loaders/Backhoes	1	48	0.5	97	0.37	0.408	49
230kV Transmission Site Work Prep	Graders	1	24	6	187	0.41	0.367	570
230kV Transmission Site Work Prep	Tractors/Loaders/Backhoes	1	24	6	97	0.37	0.408	297
70 kV Substation Equip Delivery	Aerial Lifts	2	18	4	63	0.31	0.408	161
70 kV Substation Equip Delivery	Off-Highway Trucks	1	18	5.3	402	0.38	0.367	752
70kV Power Line Cleanup Restore	Graders	1	12	6	187	0.41	0.367	285
70kV Power Line Cleanup Restore	Tractors/Loaders/Backhoes	1	12	4	97	0.37	0.408	99

	Offroad Equipment Type	Amount	Days in Phase	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate lb/hp-hr	Diesel Fuel Consumption (gallons)
70kV Power Line Conductor Install	Cranes	3	48	6	231	0.29	0.367	2,988
70kV Power Line Conductor Install	Forklifts	1	48	3	89	0.2	0.408	147
70kV Power Line Conductor Install	Off-Highway Trucks	3	48	4	402	0.38	0.367	4,543
70kV Power Line Conductor Install	Off-Highway Trucks	1	48	6	402	0.38	0.367	2,271
70kV Power Line Conductor Install	Off-Highway Trucks	2	48	2	402	0.38	0.367	1,514
70kV Power Line Conductor Install	Other General Industrial Equi	1	48	6	88	0.34	0.408	495
70kV Power Line Conductor Install	Other General Industrial Equi	1	48	6	88	0.34	0.408	495
70kV Power Line Pole Tower Install	Cranes	1	196	4	231	0.29	0.367	2,711
70kV Power Line Pole Tower Install	Off-Highway Trucks	7	196	4	402	0.38	0.367	43,280
70kV Power Line Pole Tower Install	Tractors/Loaders/Backhoes	2	196	4	97	0.37	0.408	3,230
70kV Power Line Site Work Prep	Graders	2	24	6	187	0.41	0.367	1,140
70kV Power Line Site Work Prep	Tractors/Loaders/Backhoes	1	24	4	97	0.37	0.408	198
70kV Sub Steel Bus Erection	Aerial Lifts	2	24	8	63	0.31	0.408	430
70kV Sub Steel Bus Erection	Off-Highway Trucks	2	24	6	402	0.38	0.367	2,271
70kV Substation Foundation Construction	Bore/Drill Rigs	1	24	8	221	0.5	0.367	1,095
70kV Substation Foundation Construction	Tractors/Loaders/Backhoes	1	24	8	97	0.37	0.408	395
70kV Substation Foundation Construction	Trenchers	1	24	8	78	0.5	0.408	430
70kV Substation Ground Grid	Tractors/Loaders/Backhoes	1	24	6	97	0.37	0.408	297
70kV Substation Ground Grid	Trenchers	1	24	6	78	0.5	0.408	322
70kV Substation Install Yard Rock	Skid Steer Loaders	1	12	8	231	0.29	0.367	332
70kV Substation Install Yard Rock	Tractors/Loaders/Backhoes	1	12	8	97	0.37	0.408	198
70kV Substation Site Work Area Prep Mobi	Graders	1	12	4	187	0.41	0.367	190
70kV Substation Site Work Area Prep Mobi	Tractors/Loaders/Backhoes	1	12	4	97	0.37	0.408	99
Distribution Bank Breaker	Cranes	1	18	2	231	0.29	0.367	125
Distribution Cable Install	Tractors/Loaders/Backhoes	1	24	8	97	0.37	0.408	395
Distribution Cleanup Restore	Tractors/Loaders/Backhoes	1	12	4	97	0.37	0.408	99
Distribution Facilities Mobilization	Tractors/Loaders/Backhoes	1	12	8	97	0.37	0.408	198
Distribution Feeder Conduit	Off-Highway Trucks	2	36	4	402	0.38	0.367	2,271
Distribution Feeder Conduit	Tractors/Loaders/Backhoes	1	36	1.3	97	0.37	0.408	96
Distribution Foundation Construction	Tractors/Loaders/Backhoes	1	24	4	97	0.37	0.408	198
Distribution Ground Grid	Cranes	1	24	1.5	231	0.29	0.367	125
Reconductoring Cleanup Restore	Graders	1	12	6	187	0.41	0.367	285
Reconductoring Cleanup Restore	Tractors/Loaders/Backhoes	1	12	4	97	0.37	0.408	99
Reconductoring Conductor Install	Cranes	2	120	8	231	0.29	0.367	6,640
Reconductoring Conductor Install	Forklifts	1	120	3	89	0.2	0.408	368
Reconductoring Conductor Install	Off-Highway Trucks	2	120	6	402	0.38	0.367	11,356
Reconductoring Conductor Install	Off-Highway Trucks	2	120	6	402	0.38	0.367	11,356
Reconductoring Conductor Install	Off-Highway Trucks	2	120	4	402	0.38	0.367	7,571
Reconductoring Conductor Install	Off-Highway Trucks	1	120	6	402	0.38	0.367	5,678
Reconductoring Conductor Install	Other General Industrial Equi	2	120	6	88	0.34	0.408	2,473
Reconductoring Pole Install	Bore/Drill Rigs	1	144	6	221	0.5	0.367	4,929
Reconductoring Pole Install	Cranes	3	144	6	231	0.29	0.367	8,964
Reconductoring Pole Install	Cranes	1	144	1	231	0.29	0.367	498

	Offroad Equipment Type	Amount	Days in Phase	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate lb/hp-hr	Diesel Fuel Consumption (gallons)
Reconductoring Pole Install	Off-Highway Trucks	2	144	3	402	0.38	0.367	6,814
Reconductoring Pole Install	Off-Highway Trucks	2	144	2	402	0.38	0.367	4,543
Reconductoring Site Prep	Graders	1	24	6	187	0.41	0.367	570
Reconductoring Site Prep	Tractors/Loaders/Backhoes	1	24	4	97	0.37	0.408	198
Total Diesel Fuel Use from Construction Off-Road								183,523

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

			Weighting					Fuel Economy					Weighted Fuel Economy
			LDA	LDT1	LDT2	MHDT	HHDT	LDA	LDT1	LDT2	MHDT	HHDT	Miles per Gallon
	Worker	LDA, LDT1,LDT2	0.5	0.25	0.25	0	0	30.3369	25.90543	23.80362			27.59571336
	Vendor	HHDT,MHDT	0	0	0	0.5	0.5						0
Gasoline	Hauling	HHDT	0	0	0	0	1						0
	Worker	LDA, LDT1,LDT2	0.5	0.25	0.25	0	0	47.3773	22.82111	34.88216	9.738404	6.547971	38.1144679
	Vendor	HHDT,MHDT	0	0	0	0.5	0.5				9.738404	6.547971	8.143187453
Diesel	Hauling	HHDT	0	0	0	0	1				9.738404	6.547971	6.547970628

Notes:
1. It was assumed all MHDT and HHDT are diesel. LDA, LDT1, and LDT2 were assumed to be a mix of gasoline and diesel as ratioed by their VMT.
2. EMFAC 2014 was used to estimate fuel economy based on VMT and fuel consumption.

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	182.21957	17379.44227	3645.84913
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	324251.19	42254554.85	3555521.57
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	15248077	587444749.5	71747206.2
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	149938.61	5892042.775	705029.117
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	268429.21	10611344.15	1337523.91
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	1720217.5	61717689.97	7846467.95
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	1455.1729	27326.53817	4951.42408
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	7914.5068	318547.2808	39565.4429
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	5425739.1	199749398	25208441.8
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	30763.92	1316610.094	151261.995
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	48777.51	2660499.946	975940.429
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	291204.45	17942665.98	2799629.42

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	NOx_RUNEX	NOx_IDLEX	NOx_STREX	NOx_TOTEX	PM2.5_RUNEX
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	0.095019	0	0.003175	0.098194	2.68053E-05
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	171.8617	26.80876	7.599321	206.2698	2.499696858
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	29.76387	0	16.47058	46.23444	0.975120488
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0.676449	0	0	0.676449	0.062043527
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	9.142474	0	2.633991	11.77647	0.154300578
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0.036002	0	0	0.036002	0.004461029
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	22.67346	0	9.545717	32.21917	0.347662766
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0.077832	0	0	0.077832	0.008791641
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	1.674478	0.004768	0.401923	2.081169	0.003298603
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	57.82931	2.806638	4.391645	65.0276	1.488723258

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	PM2.5_IDLEX	PM2.5_STREX	PM2.5_TOTEX	PM2.5_PMTW	PM2.5_PMBW	PM2.5_TOTAL
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	0	3.99501E-06	3.08003E-05	9.57878E-05	0.000506909	0.000633497
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	0.038749	0	2.538445872	0.414857539	1.219681165	4.172984577
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	0	0.146584588	1.121705076	1.295093984	10.19886512	12.61566418
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0	0	0.062043527	0.012989731	0.10229413	0.177327388
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0	0	0	0.023394009	0.184227824	0.207621833
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	0	0.022997279	0.177297858	0.136064215	1.071505697	1.38486777
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0	0	0.004461029	6.02447E-05	0.000474427	0.0049957
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0.000702277	0.005530428	0.006232704
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	0	0.051563372	0.399226138	0.440372041	3.467929826	4.307528006
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0	0	0.008791641	0.002902628	0.022858199	0.034552468
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	0	0.000493527	0.00379213	0.008798098	0.163820576	0.176410804
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	0.008515	0	1.497238018	0.059335211	1.104821628	2.661394857

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	2.91532E-05	0	4.34493E-06	3.35E-05	0.000383151	0.001182787
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	2.612722057	0.040501073	0	2.653223	1.659430157	2.845922719
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	1.06051038	0	0.15941358	1.219924	5.180375936	23.79735195
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0.06484886	0	0	0.064849	0.051958923	0.238686303
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0.093576037	0.429864922
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	0.167802563	0	0.025008819	0.192811	0.544256862	2.500179959
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0.004662736	0	0	0.004663	0.000240979	0.001106996
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0.002809106	0.012904331
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	0.378098899	0	0.056076351	0.434175	1.761488166	8.091836262
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0.00918916	0	0	0.009189	0.011610514	0.053335797
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	0.003587532	0	0.000536755	0.004124	0.03519239	0.382248012
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	1.556036718	0.008899759	0	1.564936	0.237340844	2.577917132

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	PM10_TOTAL	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	CH4_TOTEX
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	0.001599	40.47614	0	0.190494	40.66664	0.002472	0	1.09E-06	0.002473
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	7.158576	67371.85	5034.533	0	72406.38	0.229199	0.096005	0	0.325204
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	30.19765	178960.9	0	4491.949	183452.8	1.998324	0	4.581801	6.580125
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0.355494	1395.422	0	0	1395.422	0.005972	0	0	0.005972
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0.523441	0	0	0	0	0	0	0	0
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	3.237248	21990.33	0	580.5002	22570.83	0.529893	0	0.744327	1.27422
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0.006011	13.43563	0	0	13.43563	0.000282	0	0	0.000282
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0.015713	0	0	0	0	0	0	0	0
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	10.2875	77447.09	0	2053.636	79500.73	1.122308	0	2.234606	3.356914
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0.074135	423.5101	0	0	423.5101	0.001276	0	0	0.001276
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	0.421565	5067.766	29.45151	42.90451	5140.122	0.052162	0.013996	0.044249	0.110407
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	4.380194	20378.04	295.2294	0	20673.27	0.150248	0.001859	0	0.152106

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	N2O_RUNEX	N2O_IDLEX	N2O_STREX	N2O_TOTEX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	0.003154	0	7.04E-05	0.003224	0.013346	0	5.7E-06	0.013351	2.09184E-05
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	10.58992	0.791358	0	11.38128	4.93459	2.066972	0	7.001562	0
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	3.230025	0	2.166921	5.396946	7.893061	0	21.02939	28.92245	4.660910915
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0.219341	0	0	0.219341	0.128578	0	0	0.128578	0
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0	0	0.006281641
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	0.661611	0	0.271646	0.933257	2.365559	0	3.839847	6.205405	1.332757619
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0.002112	0	0	0.002112	0.006079	0	0	0.006079	0
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0	0	0.000188267
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	1.755154	0	0.998073	2.753227	4.694524	0	10.74712	15.44164	2.450799634
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0.06657	0	0	0.06657	0.027463	0	0	0.027463	0
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	0.080033	0.000399	0.030868	0.1113	0.25921	0.05394	0.240456	0.553606	0.00278181
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	3.203145	0.046406	0	3.249551	3.23479	0.040014	0	3.274804	0

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_TOTAL	TOG_RUNEX	TOG_IDLEX
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	0.00076618	0.004809	1.2533E-05	0.018960074	0.019474037	0
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	0	0	0	7.001561827	5.617654796	2.353090376
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	9.088606422	18.63679	4.05691795	65.36567755	11.51054076	0
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0	0	0	0.128578429	0.146377992	0
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0.007206746	0	0.00209646	0.015584851	0	0
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	2.137992818	7.4792234	1.0259408	18.18132011	3.448617374	0
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0	0	0	0.006079354	0.00692094	0
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0.000213184	0	6.3083E-05	0.000464534	0	0
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	4.262668316	14.233308	2.22307769	38.6114974	6.845997078	0
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0	0	0	0.027463321	0.031265165	0
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	0.104942264	0.5901301	0.00151112	1.252970845	0.378238326	0.078708983
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	0	0	0	3.274803859	3.682562357	0.045552554

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	TOG_STREX	TOG_TOTEX	TOG_DIURN	TOG_HOTSOAK	TOG_RUNLOSS	TOG_RESTLOSS	TOG_TOTAL
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	6.23983E-06	0.01948	2.09E-05	0.000766	0.004809	1.25325E-05	0.025088936
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	0	7.970745	0	0	0	0	7.970745172
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	23.02435701	34.5349	4.660911	9.088606	18.63679	4.05691795	70.97812348
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0	0.146378	0	0	0	0	0.146377992
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0	0	0.006282	0.007207	0	0.002096464	0.015584851
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	4.204113289	7.652731	1.332758	2.137993	7.479223	1.025940796	19.62864532
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0	0.006921	0	0	0	0	0.00692094
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0	0	0.000188	0.000213	0	6.30833E-05	0.000464534
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	11.76669441	18.61269	2.4508	4.262668	14.23331	2.223077691	41.78254463
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0	0.031265	0	0	0	0	0.031265165
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	0.263268843	0.720216	0.002782	0.104942	0.59013	0.001511123	1.419581488
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	0	3.728115	0	0	0	0	3.728114911

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	0.77139675	0	0.019022763	0.790419509	0.000400544	0	1.88509E-06
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	20.1198021	26.72457	0	46.84437231	0.636495848	0.04756377	0
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	475.121841	0	183.7260554	658.8478966	1.770962782	0	0.044451474
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	1.71749871	0	0	1.717498711	0.013191759	0	0
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	102.166103	0	22.01728918	124.1833918	0.217612104	0	0.00574452
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0.03756016	0	0	0.037560163	0.000127015	0	0
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	234.963649	0	82.43175082	317.3954001	0.76640174	0	0.020322393
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0.22647608	0	0	0.226476084	0.004003694	0	0
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	6.27736284	0.7871104	5.322707638	12.38718089	0.050149651	0.00029145	0.000424575
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	9.85070608	0.8196179	0	10.67032403	0.192521646	0.00278918	0

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	SOx_TOTEX	Fuel Consumption
Statewide	2021	HHDT	Aggregate	Aggregate	Gasoline	0.000402429	4.292493735
Statewide	2021	HHDT	Aggregate	Aggregate	Diesel	0.684059619	6453.076419
Statewide	2021	LDA	Aggregate	Aggregate	Gasoline	1.815414256	19364.03145
Statewide	2021	LDA	Aggregate	Aggregate	Diesel	0.013191759	124.3642615
Statewide	2021	LDA	Aggregate	Aggregate	Electricity	0	0
Statewide	2021	LDT1	Aggregate	Aggregate	Gasoline	0.223356623	2382.423001
Statewide	2021	LDT1	Aggregate	Aggregate	Diesel	0.000127015	1.197423697
Statewide	2021	LDT1	Aggregate	Aggregate	Electricity	0	0
Statewide	2021	LDT2	Aggregate	Aggregate	Gasoline	0.786724133	8391.556255
Statewide	2021	LDT2	Aggregate	Aggregate	Diesel	0.004003694	37.74450754
Statewide	2021	MHDT	Aggregate	Aggregate	Gasoline	0.050865673	542.5563227
Statewide	2021	MHDT	Aggregate	Aggregate	Diesel	0.195310827	1842.464685

Air Quality Emission Summary

	CO	ROG	NO_X	ROG + Nox	SO_X	Fugutive Dust PM_{10}	PM_{10}	$PM_{2.5}$	DPM
Maximum Daily Emissions (lbs/day)									
CalEEMod Sources	78.13	12.52	141.38	153.90	0.29	10.40	14.25	8.26	4.36
Helicopter	23.99	19.92	101.64	121.56	9.37	66.14	68.94	68.94	-
Total Maximum Daily	102.12	32.44	243.02	275.46	9.65	76.54	83.19	77.20	4.36
Significance Thresholds	-	-	-	137	-				7
Significant?	-	-	-	Yes	-				No
Maximum Quarterly Emissions (tons/quarter)									
CalEEMod Sources	-	-	-	3.78	-	0.06	-	-	0.12
Helicopter	-	0.9	4.57	5.47	-	2.98	-	-	-
Total Maximum Quarterly	-			9.25	-	3.04	-	-	0.12
Significance Thresholds	-	-	-	2.5/6.3	-	2.5	-	-	0.13
Significant?	-	-	-	Yes, Tier 2	-	Yes	-	-	No
Total Project Emissions (tons)									
CalEEMod Sources	6.75	1.05	10.20	11.25	0.02	0.30	0.67	0.43	0.37
Helicopter	1.58	1.31	6.71	8.02	0.62	4.37	4.55	4.55	-
Total Construction Project	8.33	2.36	16.91	19.27	0.64	4.67	5.22	4.98	0.37

Helicopter Emission Calculations

Table 1: Helicopter Combustion Emissions
Estrella Substation and Paso Robles Area Reinforcement Project

	Activity[2]				Emissions (lb/day)[3]							Emissions (tons/project or MT/project)[4]					
Helicopter Type[1]	Number of Days	Hours per Day	Number of LTOs per Day	Fuel kg/day	CO	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO_2	Fuel MT/project	CO	NO_X	ROG	PM_{10}	$PM_{2.5}$	CO_2
Sikorsky S70	132	10	20	4,248	23.99	101.64	19.92	2.80	2.80	11,673.74	560.75	1.58	6.71	1.31	0.18	0.18	#####

Notes:

1. Section 2.5.3 of the Project Description states that a light-duty and medium-duty helicopters with a maximum payload capacity of 4,000-10,000 pounds may be used. There would only be one helicopter used at any one time. A Sikorsky S70 helicopter was used to model emissions as it is a model that can handle the required payload.

2. Section 2.5.3 of the Project Description states that the helicopter would be used for a maximum of 132 days during a 7 month construction period. Hours of operations for the helicopters would be from 7:00 am to 5:30 pm. It was assumed that there could be up to two Landing and Take OFf (LTO) per hour.

3. Helicopter emission factors are described in Table 2: Helicopter Emission Factors. The LTO sequence emissions are multiplied with the number of events per day. The cruising emission factors is multiplied by the total hours per day minus takeoff and landing time.

4. Criteria pollutants are in terms of tons (CO, NO_x, ROG, PM_{10} and $PM_{2.5}$) and GHG pollutants (CO_2, CH_4, N_2O and CO_2e)are in metric tonnes (MT).

Table 2: Helicopter Fuel Consumption and Emission Factors

								Climbout Emission Factors grams pollutant per kg fuel[2,3]						Cruising Emission Factors g/hour[2]				
Helicopter Type	Engine Name	Engine Max SHP	Number of Engines	SHP Correction Factor	Climbout Engine Power Percentage[1]	Climb Out Operating Time (seconds)[1]	Climbout Fuel Consumption kg/second[2,3]	CO EF	NOX EF	HC EF	PM EF	CO2	Cruising Fuel Consumption kg/hr[2]	CO EF	NOX EF	HC EF	PM EF	CO2
Sikorsky S70	GE CT7-8A	2740	2	1622	0.85	887	0.09	2.45	11.09	2.04	0.30	3,155.00	508	1,336	5,432	1,108	150	3,155
LTO Cycle Values							84	205	928	171	25	263,956						

Notes:

1. The ADET model only uses Cimbout of the LTO sequence for helicopters. Climb out is assumed to be at 85% power and for 887 seconds. (FAA 2016).

2. Fuel consumption and emission factors were based on detailed engine values from FOCA asthis engine is not available in the ICAO database. HC emission factors were converted to ROG emission factors based on the default AEDT conversion factors for turbine engines. FOCA. 2015. Guidance on the Determination of Helicopter Emissions, Edition 2, December. https://www.bazl.admin.ch/bazl/en/home/specialists/regulations-and-guidelines/environment/pollutant-emissions/aircraft-engine-emissions/guidance-on-the-determination-of-helicopter-emissions.html.

3. The LTO emissions associated with climbout were used rather than the whole LTO cycle to be consistent with ADEC methods. The percentage of power in climbout was adjusted from the FOCA default of 66% to the ADET default of 85%.

Table 3: Fugitive Dust Emissions from Helicopters.

Number of LTOs per day	PM EF kg PM/LTO	Daily PM (lb/day)	Total Project PM
20	1.5	66.14	4.37

Notes:
1. The emission factor for fugitive dust for helicpoters is based on Gillies et al. 2007 which states that 0.5 kg per take off and 1 kg for landing.

CalEEMod Output Files for Proposed Project (No Mitigation)

Estrella Substation and Paso Robles Area Reinforcement Project

San Luis Obispo 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	119.40	5,201,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Current Temp. Disturbance Area Total from Project Description

Construction Phase - Dates entered based on the specific number of days from the PEA CALEEMOD input file, with consideration of the specific months during which construction is likely to occur as indicated in the Project Description of the EIR.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

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Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description. Helicopter emissions modeled separately and not included here.

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

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Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Distribution

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions modeled outside of CalEEMod and not included here.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions calculated separately and not included here.

Off-road Equipment - Based on values in PEA and Project Description

Trips and VMT - Values based on PEA and Project Description

Grading - Waiting on temp. disturbance area and material import/export values for some phases

Area Coating - No Architectural Coating

Water And Wastewater - No Water Use

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2600500	0
tblAreaCoating	Area_Nonresidential_Interior	7801500	0
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tblConstructionPhase	NumDays	3,100.00	36.00
tblConstructionPhase	NumDays	3,100.00	120.00
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tblConstructionPhase	NumDays	3,100.00	24.00
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tblConstructionPhase	NumDays	3,100.00	18.00
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tblConstructionPhase	NumDays	3,100.00	12.00
tblConstructionPhase	NumDays	3,100.00	12.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	12.00
tblConstructionPhase	NumDays	3,100.00	30.00
tblConstructionPhase	NumDays	3,100.00	196.00
tblConstructionPhase	NumDays	3,100.00	24.00
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tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	18.00
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tblFleetMix	UBUS	1.1630e-003	0.00
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tblGrading	AcresOfGrading	3.00	6.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	12.00

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tblVehicleTrips	CW_TTP	0.00	59.00
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.8484	8.5307	5.3609	0.0180	0.2442	0.3065	0.5508	0.0755	0.2823	0.3578	0.0000	1,597.8027	1,597.8027	0.4371	0.0000	1,608.7293
2022	0.2008	1.6737	1.3871	4.6700e-003	0.0557	0.0624	0.1181	0.0134	0.0574	0.0709	0.0000	413.0187	413.0187	0.1177	0.0000	415.9621
Maximum	**0.8484**	**8.5307**	**5.3609**	**0.0180**	**0.2442**	**0.3065**	**0.5508**	**0.0755**	**0.2823**	**0.3578**	**0.0000**	**1,597.8027**	**1,597.8027**	**0.4371**	**0.0000**	**1,608.7293**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.8484	8.5307	5.3609	0.0180	0.1944	0.3065	0.5009	0.0569	0.2823	0.3392	0.0000	1,597.8012	1,597.8012	0.4371	0.0000	1,608.7277
2022	0.2008	1.6737	1.3871	4.6700e-003	0.0504	0.0624	0.1128	0.0129	0.0574	0.0703	0.0000	413.0183	413.0183	0.1177	0.0000	415.9616
Maximum	**0.8484**	**8.5307**	**5.3609**	**0.0180**	**0.1944**	**0.3065**	**0.5009**	**0.0569**	**0.2823**	**0.3392**	**0.0000**	**1,597.8012**	**1,597.8012**	**0.4371**	**0.0000**	**1,608.7277**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**18.36**	**0.00**	**8.23**	**21.53**	**0.00**	**4.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	3.3863	3.3863
2	4-1-2021	6-30-2021	3.7899	3.7899
3	7-1-2021	9-30-2021	1.0755	1.0755
4	10-1-2021	12-31-2021	1.0668	1.0668
5	1-1-2022	3-31-2022	1.0047	1.0047
6	4-1-2022	6-30-2022	0.8678	0.8678
		Highest	3.7899	3.7899

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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
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	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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
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	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Reconductoring Site Prep	Site Preparation	1/1/2021	1/28/2021	6	24	Reconductor Site Prep
2	230kv Sub Access Road	Grading	1/1/2021	1/14/2021	6	12	230 Sub Access Road

3	230kV Transmission Site Work Prep	Site Preparation	1/5/2021	2/1/2021	6	24	230 TRANS Site Work Prep
4	230kV Sub Site Work Area	Site Preparation	1/15/2021	2/4/2021	6	18	230 Sub Site Work Area
5	70kV Substation Site Work Area Prep Mobil	Site Preparation	1/25/2021	2/6/2021	6	12	70 Sub Site Work Area
6	230kV Sub Fence Gate Install	Building Construction	2/1/2021	2/13/2021	6	12	230 Sub Fence Gate
7	Reconductoring Pole Install	Building Construction	2/1/2021	7/17/2021	6	144	Reconductor Pole Install
8	230kV Transmission Foundation Tower	Building Construction	2/2/2021	3/29/2021	6	48	230 TRANS Foundation Tower
9	70kV Substation Foundation Construction	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Foundation Construction
10	70kV Substation Ground Grid	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Ground Grid
11	230kV Sub Foundation Construction	Building Construction	2/8/2021	3/20/2021	6	36	230 Sub Foundation
12	Reconductoring Conductor Install	Building Construction	3/1/2021	7/17/2021	6	120	Reconductor Conductor Install
13	70kV Sub Steel Bus Erection	Building Construction	3/5/2021	4/1/2021	6	24	70 Sub Steel Bus
14	230kV Sub Ground Grid	Building Construction	3/10/2021	4/6/2021	6	24	230 Sub Ground Grid
15	230kV Transmission Conductor	Building Construction	4/1/2021	4/28/2021	6	24	230 TRANS Conductor
16	70 kV Substation Equip Delivery	Building Construction	4/1/2021	4/21/2021	6	18	70 Sub Equip Delivery
17	70kV Substation Control Enclosure	Building Construction	4/1/2021	4/7/2021	6	6	70 Sub Control Enclosure
18	230kV Sub Steel Bus	Building Construction	4/2/2021	4/29/2021	6	24	230 Sub Steel Bus
19	230kV Sub Install Yard Rock	Building Construction	4/16/2021	5/6/2021	6	18	230 Sub Install Yard Rock
20	70kV Substation Cable Installation	Building Construction	4/22/2021	5/12/2021	6	18	70 Sub Cable Install
21	230kV Sub Transformer	Building Construction	4/23/2021	5/27/2021	6	30	230 Sub Transformer
22	230kV Transmission Cleanup Restore	Site Preparation	5/1/2021	5/7/2021	6	6	230 TRANS Cleanup Restore
23	230kV Sub Control Enclosure Delivery	Building Construction	5/1/2021	5/14/2021	6	12	230 Sub Control Enclosure
24	70kV Substation Install Yard Rock	Building Construction	5/1/2021	5/14/2021	6	12	70 Sub Install Yard Rock
25	230kV Sub Remaining Equipment Delivery	Building Construction	5/8/2021	6/4/2021	6	24	230 Sub Remaining Equipment
26	70kV Substation Cleanup Restore	Site Preparation	5/15/2021	5/28/2021	6	12	70 Sub Cleanup Restore
27	230kV Sub Cable Install Termination	Building Construction	5/22/2021	6/4/2021	6	12	230 Sub Cable Install Term

28	70kV Substation Testing Commissioning	Site Preparation	6/1/2021	6/21/2021	6	18	70 Sub Testing Commissioning
29	230kV Sub Testing and Commissioning	Building Construction	6/1/2021	7/5/2021	6	30	230 Sub Testing
30	230kV Substation Cleanup Restore	Site Preparation	7/1/2021	7/21/2021	6	18	230 Sub Cleanup Restore
31	70kV Power Line Site Work Prep	Site Preparation	8/1/2021	8/28/2021	6	24	70 POWER Site Work Prep
32	Reconductoring Cleanup Restore	Site Preparation	8/1/2021	8/14/2021	6	12	Reconductor Cleanup Restore
33	70kV Power Line Pole Tower Install	Building Construction	9/1/2021	4/16/2022	6	196	70 POWER Pole Tower Install
34	Distribution Facilities Mobilization	Site Preparation	1/1/2022	1/14/2022	6	12	Distribution Facilities Mobilization
35	Distribution Foundation Construction	Building Construction	1/6/2022	2/2/2022	6	24	Distribution Foundation Construct
36	Distribution Ground Grid	Building Construction	1/20/2022	2/16/2022	6	24	Distribution Ground Grid
37	Distribution Steel Bus Erection	Building Construction	2/9/2022	3/8/2022	6	24	Distribution Steel Bus Erection
38	Distribution Bank Breaker	Building Construction	2/16/2022	3/8/2022	6	18	Distribution Bank Breaker
39	Distribution Feeder Conduit	Building Construction	2/23/2022	4/5/2022	6	36	Distribution Feeder Conduit
40	Distribution Cable Install	Building Construction	3/15/2022	4/11/2022	6	24	Distribution Cable Install
41	Distribution Testing	Building Construction	4/1/2022	4/28/2022	6	24	Distribution Testing
42	Distribution Cleanup Restore	Site Preparation	4/29/2022	5/12/2022	6	12	Distribution Cleanup Restore
43	70kV Power Line Conductor Install	Building Construction	5/1/2022	6/25/2022	6	48	70 POWER Conductor Install
44	70kV Power Line Cleanup Restore	Site Preparation	6/17/2022	6/30/2022	6	12	70 POWER Cleanup Restore

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Estrella Substation and Paso Robles Area Reinforcement Project - San Luis Obispo County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Reconductoring Site Prep	Graders	1	6.00	187	0.41
Reconductoring Site Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kv Sub Access Road	Concrete/Industrial Saws	0	8.00	81	0.73
230kv Sub Access Road	Rubber Tired Dozers	0	1.00	247	0.40
230kv Sub Access Road	Tractors/Loaders/Backhoes	2	8.00	97	0.37
230kV Transmission Site Work Prep	Graders	1	6.00	187	0.41
230kV Transmission Site Work Prep	Off-Highway Trucks	0	10.00	402	0.38
230kV Transmission Site Work Prep	Rollers	0	8.00	80	0.38
230kV Transmission Site Work Prep	Rubber Tired Dozers	0	8.00	247	0.40
230kV Transmission Site Work Prep	Scrapers	0	8.00	367	0.48
230kV Transmission Site Work Prep	Tractors/Loaders/Backhoes	1	6.00	97	0.37
230kV Sub Site Work Area	Graders	1	8.00	187	0.41
230kV Sub Site Work Area	Graders	0	8.00	187	0.41
230kV Sub Site Work Area	Off-Highway Trucks	4	10.00	402	0.38
230kV Sub Site Work Area	Rollers	2	8.00	80	0.38
230kV Sub Site Work Area	Rubber Tired Dozers	1	8.00	247	0.40
230kV Sub Site Work Area	Scrapers	1	8.00	367	0.48
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Site Work Area Prep Mobil	Graders	1	4.00	187	0.41
70kV Substation Site Work Area Prep Mobil	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Fence Gate Install	Cranes	0	4.00	231	0.29
230kV Sub Fence Gate Install	Forklifts	0	6.00	89	0.20

230kV Sub Fence Gate Install	Rubber Tired Dozers	0	1.00	247	0.40
230kV Sub Fence Gate Install	Skid Steer Loaders	1	4.00	65	0.37
230kV Sub Fence Gate Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Reconductoring Pole Install	Bore/Drill Rigs	1	6.00	221	0.50
Reconductoring Pole Install	Cranes	3	6.00	231	0.29
Reconductoring Pole Install	Cranes	1	1.00	231	0.29
Reconductoring Pole Install	Off-Highway Trucks	2	3.00	402	0.38
Reconductoring Pole Install	Off-Highway Trucks	2	2.00	402	0.38
230kV Transmission Foundation Tower	Bore/Drill Rigs	1	1.00	221	0.50
230kV Transmission Foundation Tower	Cranes	3	5.30	231	0.29
230kV Transmission Foundation Tower	Forklifts	3	2.60	89	0.20
230kV Transmission Foundation Tower	Off-Highway Trucks	2	3.50	402	0.38
230kV Transmission Foundation Tower	Off-Highway Trucks	2	2.60	402	0.38
230kV Transmission Foundation Tower	Tractors/Loaders/Backhoes	1	0.50	97	0.37
70kV Substation Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
70kV Substation Foundation Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
70kV Substation Foundation Construction	Trenchers	1	8.00	78	0.50
70kV Substation Ground Grid	Cranes	0	4.00	231	0.29
70kV Substation Ground Grid	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Substation Ground Grid	Trenchers	1	6.00	78	0.50
230kV Sub Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
230kV Sub Foundation Construction	Cranes	1	5.00	231	0.29
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37

Reconductoring Conductor Install	Cranes	2	8.00	231	0.29
Reconductoring Conductor Install	Forklifts	1	3.00	89	0.20
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	4.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
Reconductoring Conductor Install	Other General Industrial Equipment	2	6.00	88	0.34
70kV Sub Steel Bus Erection	Aerial Lifts	2	8.00	63	0.31
70kV Sub Steel Bus Erection	Off-Highway Trucks	2	6.00	402	0.38
70kV Sub Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Forklifts	0	6.00	89	0.20
230kV Sub Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Trenchers	1	8.00	78	0.50
230kV Transmission Conductor	Cranes	3	6.00	231	0.29
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
70 kV Substation Equip Delivery	Aerial Lifts	2	4.00	63	0.31
70 kV Substation Equip Delivery	Off-Highway Trucks	1	5.30	402	0.38
70 kV Substation Equip Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Control Enclosure	Cranes	0	4.00	231	0.29
70kV Substation Control Enclosure	Forklifts	0	6.00	89	0.20
70kV Substation Control Enclosure	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Steel Bus	Aerial Lifts	1	6.00	63	0.31
230kV Sub Steel Bus	Off-Highway Trucks	1	8.00	402	0.38
230kV Sub Steel Bus	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29

230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Skid Steer Loaders	1	10.00	65	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cable Installation	Cranes	0	4.00	231	0.29
70kV Substation Cable Installation	Forklifts	0	6.00	89	0.20
70kV Substation Cable Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Cranes	1	6.00	231	0.29
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Generator Sets	1	5.00	84	0.74
230kV Sub Transformer	Off-Highway Trucks	2	10.00	402	0.38
230kV Sub Transformer	Off-Highway Trucks	1	4.80	402	0.38
230kV Sub Transformer	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Transmission Cleanup Restore	Graders	1	8.00	187	0.41
230kV Transmission Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Control Enclosure Delivery	Cranes	1	6.00	231	0.29
230kV Sub Control Enclosure Delivery	Forklifts	0	6.00	89	0.20

230kV Sub Control Enclosure Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Install Yard Rock	Forklifts	0	6.00	89	0.20
70kV Substation Install Yard Rock	Skid Steer Loaders	1	8.00	231	0.29
70kV Substation Install Yard Rock	Tractors/Loaders/Backhoes	1	8.00	97	0.37
230kV Sub Remaining Equipment Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Remaining Equipment Delivery	Off-Highway Trucks	1	6.00	402	0.38
230kV Sub Remaining Equipment Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cleanup Restore	Graders	0	8.00	187	0.41
70kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Cable Install Termination	Aerial Lifts	1	8.00	63	0.31
230kV Sub Cable Install Termination	Forklifts	0	6.00	89	0.20
230kV Sub Cable Install Termination	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Testing Commissioning	Graders	0	8.00	187	0.41
70kV Substation Testing Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Cement and Mortar Mixers	0	6.00	9	0.56
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Pavers	0	7.00	130	0.42
230kV Sub Testing and Commissioning	Rollers	0	7.00	80	0.38
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	7.00	97	0.37

230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Substation Cleanup Restore	Other General Industrial Equipment	1	6.00	88	0.34
230kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Power Line Site Work Prep	Graders	2	6.00	187	0.41
70kV Power Line Site Work Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Reconductoring Cleanup Restore	Graders	1	6.00	187	0.41
Reconductoring Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Pole Tower Install	Cranes	1	4.00	231	0.29
70kV Power Line Pole Tower Install	Off-Highway Trucks	7	4.00	402	0.38
70kV Power Line Pole Tower Install	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Distribution Facilities Mobilization	Graders	0	8.00	187	0.41
Distribution Facilities Mobilization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Foundation Construction	Cranes	0	4.00	231	0.29
Distribution Foundation Construction	Forklifts	0	6.00	89	0.20
Distribution Foundation Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Distribution Ground Grid	Cranes	1	1.50	231	0.29
Distribution Ground Grid	Forklifts	0	6.00	89	0.20
Distribution Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Steel Bus Erection	Cranes	0	4.00	231	0.29
Distribution Steel Bus Erection	Forklifts	0	6.00	89	0.20
Distribution Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Bank Breaker	Cranes	1	2.00	231	0.29
Distribution Bank Breaker	Forklifts	0	6.00	89	0.20
Distribution Bank Breaker	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Feeder Conduit	Forklifts	0	6.00	89	0.20

Distribution Feeder Conduit	Off-Highway Trucks	2	4.00	402	0.38
Distribution Feeder Conduit	Tractors/Loaders/Backhoes	1	1.30	97	0.37
Distribution Cable Install	Cranes	0	4.00	231	0.29
Distribution Cable Install	Forklifts	0	6.00	89	0.20
Distribution Cable Install	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Testing	Cranes	0	4.00	231	0.29
Distribution Testing	Forklifts	0	6.00	89	0.20
Distribution Testing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Cleanup Restore	Graders	0	8.00	187	0.41
Distribution Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Conductor Install	Cranes	3	6.00	231	0.29
70kV Power Line Conductor Install	Forklifts	1	3.00	89	0.20
70kV Power Line Conductor Install	Off-Highway Trucks	3	4.00	402	0.38
70kV Power Line Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
70kV Power Line Conductor Install	Off-Highway Trucks	2	2.00	402	0.38
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Cleanup Restore	Graders	1	6.00	187	0.41
70kV Power Line Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37

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
Reconductoring Site Prep	2	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kv Sub Access Road	2	20.00	33.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Site Work Prep	2	16.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Site Work Area	10	20.00	11.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

70kV Substation Site Work Area Prep Mobil	2	12.00	6.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Fence Gate Install	1	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Pole Install	9	40.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Foundation Tower	12	20.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Foundation Constructi	3	12.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Ground Grid	2	8.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Foundation Constructi	3	24.00	31.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Conductor Install	12	30.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Sub Steel Bus Erection	4	16.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Ground Grid	1	10.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Conductor	7	30.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70 kV Substation Equip Delivery	3	12.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Control Enclosure	0	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Steel Bus	2	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Install Yard Rock	1	16.00	45.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cable Installation	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Transformer	6	16.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Cleanup Restore	2	10.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Control Enclosure Delivery	1	12.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Install Yard Rock	2	12.00	16.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Remaining Equipment Delivery	1	10.00	28.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cleanup Restore	0	8.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Cable Install Termination	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Testing Commissionin	0	8.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Testing and Commissioning	0	10.00	26.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Substation Cleanup Restore	2	6.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Site Work Prep	3	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

Reconductoring Cleanup Restore	2	12.00	5.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Pole Tower Install	10	42.00	15.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Facilities Mobilization	1	12.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Foundation Constructi	1	24.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Ground Grid	1	20.00	4.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Steel Bus Erection	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Bank Breaker	1	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Feeder Conduit	3	16.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cable Install	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Testing	0	6.00	1.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cleanup Restore	1	6.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Conductor Install	12	36.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Cleanup Restore	2	12.00	7.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Reconductoring Site Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.3600e-003	0.0000	6.3600e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-003	0.0647	0.0295	8.0000e-005		2.3600e-003	2.3600e-003		2.1700e-003	2.1700e-003	0.0000	6.8770	6.8770	2.2200e-003	0.0000	6.9326
Total	**5.2000e-003**	**0.0647**	**0.0295**	**8.0000e-005**	**6.3600e-003**	**2.3600e-003**	**8.7200e-003**	**6.9000e-004**	**2.1700e-003**	**2.8600e-003**	**0.0000**	**6.8770**	**6.8770**	**2.2200e-003**	**0.0000**	**6.9326**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

3.2 Reconductoring Site Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.8600e-003	0.0000	2.8600e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-003	0.0647	0.0295	8.0000e-005		2.3600e-003	2.3600e-003		2.1700e-003	2.1700e-003	0.0000	6.8770	6.8770	2.2200e-003	0.0000	6.9326
Total	**5.2000e-003**	**0.0647**	**0.0295**	**8.0000e-005**	**2.8600e-003**	**2.3600e-003**	**5.2200e-003**	**3.1000e-004**	**2.1700e-003**	**2.4800e-003**	**0.0000**	**6.8770**	**6.8770**	**2.2200e-003**	**0.0000**	**6.9326**

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	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

3.3 230kv Sub Access Road - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2500e-003	0.0228	0.0271	4.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	3.2757	3.2757	1.0600e-003	0.0000	3.3022
Total	**2.2500e-003**	**0.0228**	**0.0271**	**4.0000e-005**	**0.0000**	**1.3400e-003**	**1.3400e-003**	**0.0000**	**1.2300e-003**	**1.2300e-003**	**0.0000**	**3.2757**	**3.2757**	**1.0600e-003**	**0.0000**	**3.3022**

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	6.0000e-004	0.0189	5.5200e-003	4.0000e-005	9.0000e-004	5.0000e-005	9.5000e-004	2.6000e-004	5.0000e-005	3.1000e-004	0.0000	3.7865	3.7865	2.2000e-004	0.0000	3.7920
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.0900e-003**	**0.0193**	**9.2600e-003**	**5.0000e-005**	**2.0600e-003**	**6.0000e-005**	**2.1100e-003**	**5.7000e-004**	**6.0000e-005**	**6.2000e-004**	**0.0000**	**4.7200**	**4.7200**	**2.5000e-004**	**0.0000**	**4.7263**

3.3 230kv Sub Access Road - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2500e-003	0.0228	0.0271	4.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	3.2757	3.2757	1.0600e-003	0.0000	3.3021
Total	**2.2500e-003**	**0.0228**	**0.0271**	**4.0000e-005**	**0.0000**	**1.3400e-003**	**1.3400e-003**	**0.0000**	**1.2300e-003**	**1.2300e-003**	**0.0000**	**3.2757**	**3.2757**	**1.0600e-003**	**0.0000**	**3.3021**

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	6.0000e-004	0.0189	5.5200e-003	4.0000e-005	9.0000e-004	5.0000e-005	9.5000e-004	2.6000e-004	5.0000e-005	3.1000e-004	0.0000	3.7865	3.7865	2.2000e-004	0.0000	3.7920
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.0900e-003**	**0.0193**	**9.2600e-003**	**5.0000e-005**	**2.0600e-003**	**6.0000e-005**	**2.1100e-003**	**5.7000e-004**	**6.0000e-005**	**6.2000e-004**	**0.0000**	**4.7200**	**4.7200**	**2.5000e-004**	**0.0000**	**4.7263**

3.4 230kV Transmission Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.3600e-003	0.0000	6.3600e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7600e-003	0.0704	0.0363	9.0000e-005		2.7000e-003	2.7000e-003		2.4800e-003	2.4800e-003	0.0000	7.6959	7.6959	2.4900e-003	0.0000	7.7581
Total	**5.7600e-003**	**0.0704**	**0.0363**	**9.0000e-005**	**6.3600e-003**	**2.7000e-003**	**9.0600e-003**	**6.9000e-004**	**2.4800e-003**	**3.1700e-003**	**0.0000**	**7.6959**	**7.6959**	**2.4900e-003**	**0.0000**	**7.7581**

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	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1800e-003**	**0.0132**	**9.6700e-003**	**5.0000e-005**	**2.4500e-003**	**5.0000e-005**	**2.5000e-003**	**6.6000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**4.0180**	**4.0180**	**2.0000e-004**	**0.0000**	**4.0228**

3.4 230kV Transmission Site Work Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.8600e-003	0.0000	2.8600e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7600e-003	0.0704	0.0363	9.0000e-005		2.7000e-003	2.7000e-003		2.4800e-003	2.4800e-003	0.0000	7.6959	7.6959	2.4900e-003	0.0000	7.7581
Total	**5.7600e-003**	**0.0704**	**0.0363**	**9.0000e-005**	**2.8600e-003**	**2.7000e-003**	**5.5600e-003**	**3.1000e-004**	**2.4800e-003**	**2.7900e-003**	**0.0000**	**7.6959**	**7.6959**	**2.4900e-003**	**0.0000**	**7.7581**

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	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1800e-003**	**0.0132**	**9.6700e-003**	**5.0000e-005**	**2.4500e-003**	**5.0000e-005**	**2.5000e-003**	**6.6000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**4.0180**	**4.0180**	**2.0000e-004**	**0.0000**	**4.0228**

3.5 230kV Sub Site Work Area - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0550	0.0000	0.0550	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0542	0.5369	0.3317	9.4000e-004		0.0220	0.0220		0.0203	0.0203	0.0000	82.7786	82.7786	0.0268	0.0000	83.4479
Total	**0.0542**	**0.5369**	**0.3317**	**9.4000e-004**	**0.0550**	**0.0220**	**0.0771**	**0.0299**	**0.0203**	**0.0502**	**0.0000**	**82.7786**	**82.7786**	**0.0268**	**0.0000**	**83.4479**

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	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	3.0000e-004	9.4200e-003	2.7600e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	1.8932	1.8932	1.1000e-004	0.0000	1.8960
Worker	7.3000e-004	6.4000e-004	5.6100e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4003	1.4003	4.0000e-005	0.0000	1.4014
Total	**4.0900e-003**	**0.1213**	**0.0335**	**3.3000e-004**	**8.6300e-003**	**5.0000e-004**	**9.1300e-003**	**2.3600e-003**	**4.8000e-004**	**2.8500e-003**	**0.0000**	**32.0445**	**32.0445**	**1.8200e-003**	**0.0000**	**32.0901**

3.5 230kV Sub Site Work Area - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0248	0.0000	0.0248	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0542	0.5369	0.3317	9.4000e-004		0.0220	0.0220		0.0203	0.0203	0.0000	82.7785	82.7785	0.0268	0.0000	83.4478
Total	**0.0542**	**0.5369**	**0.3317**	**9.4000e-004**	**0.0248**	**0.0220**	**0.0468**	**0.0135**	**0.0203**	**0.0337**	**0.0000**	**82.7785**	**82.7785**	**0.0268**	**0.0000**	**83.4478**

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	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	3.0000e-004	9.4200e-003	2.7600e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	1.8932	1.8932	1.1000e-004	0.0000	1.8960
Worker	7.3000e-004	6.4000e-004	5.6100e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4003	1.4003	4.0000e-005	0.0000	1.4014
Total	**4.0900e-003**	**0.1213**	**0.0335**	**3.3000e-004**	**8.6300e-003**	**5.0000e-004**	**9.1300e-003**	**2.3600e-003**	**4.8000e-004**	**2.8500e-003**	**0.0000**	**32.0445**	**32.0445**	**1.8200e-003**	**0.0000**	**32.0901**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7400e-003	0.0000	3.7400e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0235	0.0121	3.0000e-005		9.0000e-004	9.0000e-004		8.3000e-004	8.3000e-004	0.0000	2.5653	2.5653	8.3000e-004	0.0000	2.5860
Total	**1.9200e-003**	**0.0235**	**0.0121**	**3.0000e-005**	**3.7400e-003**	**9.0000e-004**	**4.6400e-003**	**4.3000e-004**	**8.3000e-004**	**1.2600e-003**	**0.0000**	**2.5653**	**2.5653**	**8.3000e-004**	**0.0000**	**2.5860**

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	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	1.1000e-004	3.4300e-003	1.0000e-003	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6885	0.6885	4.0000e-005	0.0000	0.6895
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4600e-003**	**0.1149**	**0.0284**	**3.1000e-004**	**7.3000e-003**	**4.7000e-004**	**7.7800e-003**	**2.0000e-003**	**4.5000e-004**	**2.4700e-003**	**0.0000**	**29.9995**	**29.9995**	**1.7300e-003**	**0.0000**	**30.0427**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6800e-003	0.0000	1.6800e-003	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0235	0.0121	3.0000e-005		9.0000e-004	9.0000e-004		8.3000e-004	8.3000e-004	0.0000	2.5653	2.5653	8.3000e-004	0.0000	2.5860
Total	**1.9200e-003**	**0.0235**	**0.0121**	**3.0000e-005**	**1.6800e-003**	**9.0000e-004**	**2.5800e-003**	**1.9000e-004**	**8.3000e-004**	**1.0200e-003**	**0.0000**	**2.5653**	**2.5653**	**8.3000e-004**	**0.0000**	**2.5860**

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	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	1.1000e-004	3.4300e-003	1.0000e-003	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6885	0.6885	4.0000e-005	0.0000	0.6895
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4600e-003**	**0.1149**	**0.0284**	**3.1000e-004**	**7.3000e-003**	**4.7000e-004**	**7.7800e-003**	**2.0000e-003**	**4.5000e-004**	**2.4700e-003**	**0.0000**	**29.9995**	**29.9995**	**1.7300e-003**	**0.0000**	**30.0427**

3.7 230kV Sub Fence Gate Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-004	3.0100e-003	4.1700e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.1000e-004	1.1000e-004	0.0000	0.5449	0.5449	1.8000e-004	0.0000	0.5493
Total	**2.3000e-004**	**3.0100e-003**	**4.1700e-003**	**1.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.5449**	**0.5449**	**1.8000e-004**	**0.0000**	**0.5493**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0171	5.0200e-003	4.0000e-005	8.2000e-004	5.0000e-005	8.7000e-004	2.4000e-004	5.0000e-005	2.8000e-004	0.0000	3.4422	3.4422	2.0000e-004	0.0000	3.4473
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**7.9000e-004**	**0.0173**	**6.8900e-003**	**5.0000e-005**	**1.4000e-003**	**5.0000e-005**	**1.4500e-003**	**3.9000e-004**	**5.0000e-005**	**4.4000e-004**	**0.0000**	**3.9090**	**3.9090**	**2.1000e-004**	**0.0000**	**3.9144**

3.7 230kV Sub Fence Gate Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-004	3.0100e-003	4.1700e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.1000e-004	1.1000e-004	0.0000	0.5449	0.5449	1.8000e-004	0.0000	0.5493
Total	**2.3000e-004**	**3.0100e-003**	**4.1700e-003**	**1.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.5449**	**0.5449**	**1.8000e-004**	**0.0000**	**0.5493**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0171	5.0200e-003	4.0000e-005	8.2000e-004	5.0000e-005	8.7000e-004	2.4000e-004	5.0000e-005	2.8000e-004	0.0000	3.4422	3.4422	2.0000e-004	0.0000	3.4473
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**7.9000e-004**	**0.0173**	**6.8900e-003**	**5.0000e-005**	**1.4000e-003**	**5.0000e-005**	**1.4500e-003**	**3.9000e-004**	**5.0000e-005**	**4.4000e-004**	**0.0000**	**3.9090**	**3.9090**	**2.1000e-004**	**0.0000**	**3.9144**

3.8 Reconductoring Pole Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1391	1.4662	0.7755	2.6800e-003		0.0560	0.0560		0.0515	0.0515	0.0000	235.7435	235.7435	0.0762	0.0000	237.6496
Total	**0.1391**	**1.4662**	**0.7755**	**2.6800e-003**		**0.0560**	**0.0560**		**0.0515**	**0.0515**	**0.0000**	**235.7435**	**235.7435**	**0.0762**	**0.0000**	**237.6496**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8500e-003	0.0891	0.0261	1.9000e-004	4.2500e-003	2.5000e-004	4.5100e-003	1.2300e-003	2.4000e-004	1.4700e-003	0.0000	17.8996	17.8996	1.0600e-003	0.0000	17.9260
Worker	0.0117	0.0102	0.0898	2.5000e-004	0.0277	1.8000e-004	0.0279	7.3700e-003	1.6000e-004	7.5300e-003	0.0000	22.4052	22.4052	6.8000e-004	0.0000	22.4222
Total	**0.0146**	**0.0993**	**0.1159**	**4.4000e-004**	**0.0320**	**4.3000e-004**	**0.0324**	**8.6000e-003**	**4.0000e-004**	**9.0000e-003**	**0.0000**	**40.3048**	**40.3048**	**1.7400e-003**	**0.0000**	**40.3482**

3.8 Reconductoring Pole Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1391	1.4662	0.7755	2.6800e-003		0.0560	0.0560		0.0515	0.0515	0.0000	235.7433	235.7433	0.0762	0.0000	237.6494
Total	**0.1391**	**1.4662**	**0.7755**	**2.6800e-003**		**0.0560**	**0.0560**		**0.0515**	**0.0515**	**0.0000**	**235.7433**	**235.7433**	**0.0762**	**0.0000**	**237.6494**

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	2.8500e-003	0.0891	0.0261	1.9000e-004	4.2500e-003	2.5000e-004	4.5100e-003	1.2300e-003	2.4000e-004	1.4700e-003	0.0000	17.8996	17.8996	1.0600e-003	0.0000	17.9260
Worker	0.0117	0.0102	0.0898	2.5000e-004	0.0277	1.8000e-004	0.0279	7.3700e-003	1.6000e-004	7.5300e-003	0.0000	22.4052	22.4052	6.8000e-004	0.0000	22.4222
Total	**0.0146**	**0.0993**	**0.1159**	**4.4000e-004**	**0.0320**	**4.3000e-004**	**0.0324**	**8.6000e-003**	**4.0000e-004**	**9.0000e-003**	**0.0000**	**40.3048**	**40.3048**	**1.7400e-003**	**0.0000**	**40.3482**

3.9 230kV Transmission Foundation Tower - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0460	0.4635	0.2634	8.3000e-004		0.0189	0.0189		0.0174	0.0174	0.0000	72.6630	72.6630	0.0235	0.0000	73.2505
Total	**0.0460**	**0.4635**	**0.2634**	**8.3000e-004**		**0.0189**	**0.0189**		**0.0174**	**0.0174**	**0.0000**	**72.6630**	**72.6630**	**0.0235**	**0.0000**	**73.2505**

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	8.8000e-004	0.0274	8.0300e-003	6.0000e-005	1.3100e-003	8.0000e-005	1.3900e-003	3.8000e-004	7.0000e-005	4.5000e-004	0.0000	5.5076	5.5076	3.2000e-004	0.0000	5.5157
Worker	1.9600e-003	1.7100e-003	0.0150	4.0000e-005	4.6200e-003	3.0000e-005	4.6500e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.7342	3.7342	1.1000e-004	0.0000	3.7370
Total	**2.8400e-003**	**0.0291**	**0.0230**	**1.0000e-004**	**5.9300e-003**	**1.1000e-004**	**6.0400e-003**	**1.6100e-003**	**1.0000e-004**	**1.7100e-003**	**0.0000**	**9.2418**	**9.2418**	**4.3000e-004**	**0.0000**	**9.2527**

3.9 230kV Transmission Foundation Tower - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0460	0.4635	0.2634	8.3000e-004		0.0189	0.0189		0.0174	0.0174	0.0000	72.6629	72.6629	0.0235	0.0000	73.2504
Total	**0.0460**	**0.4635**	**0.2634**	**8.3000e-004**		**0.0189**	**0.0189**		**0.0174**	**0.0174**	**0.0000**	**72.6629**	**72.6629**	**0.0235**	**0.0000**	**73.2504**

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	8.8000e-004	0.0274	8.0300e-003	6.0000e-005	1.3100e-003	8.0000e-005	1.3900e-003	3.8000e-004	7.0000e-005	4.5000e-004	0.0000	5.5076	5.5076	3.2000e-004	0.0000	5.5157
Worker	1.9600e-003	1.7100e-003	0.0150	4.0000e-005	4.6200e-003	3.0000e-005	4.6500e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.7342	3.7342	1.1000e-004	0.0000	3.7370
Total	**2.8400e-003**	**0.0291**	**0.0230**	**1.0000e-004**	**5.9300e-003**	**1.1000e-004**	**6.0400e-003**	**1.6100e-003**	**1.0000e-004**	**1.7100e-003**	**0.0000**	**9.2418**	**9.2418**	**4.3000e-004**	**0.0000**	**9.2527**

3.10 70kV Substation Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9300e-003	0.1012	0.0833	1.9000e-004		5.5000e-003	5.5000e-003		5.0600e-003	5.0600e-003	0.0000	16.7635	16.7635	5.4200e-003	0.0000	16.8991
Total	**9.9300e-003**	**0.1012**	**0.0833**	**1.9000e-004**		**5.5000e-003**	**5.5000e-003**		**5.0600e-003**	**5.0600e-003**	**0.0000**	**16.7635**	**16.7635**	**5.4200e-003**	**0.0000**	**16.8991**

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	4.8000e-004	0.0149	4.3500e-003	3.0000e-005	7.1000e-004	4.0000e-005	7.5000e-004	2.0000e-004	4.0000e-005	2.5000e-004	0.0000	2.9833	2.9833	1.8000e-004	0.0000	2.9877
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.0700e-003**	**0.0154**	**8.8400e-003**	**4.0000e-005**	**2.1000e-003**	**5.0000e-005**	**2.1500e-003**	**5.7000e-004**	**5.0000e-005**	**6.3000e-004**	**0.0000**	**4.1035**	**4.1035**	**2.1000e-004**	**0.0000**	**4.1088**

3.10 70kV Substation Foundation Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9300e-003	0.1012	0.0833	1.9000e-004		5.5000e-003	5.5000e-003		5.0600e-003	5.0600e-003	0.0000	16.7635	16.7635	5.4200e-003	0.0000	16.8990
Total	**9.9300e-003**	**0.1012**	**0.0833**	**1.9000e-004**		**5.5000e-003**	**5.5000e-003**		**5.0600e-003**	**5.0600e-003**	**0.0000**	**16.7635**	**16.7635**	**5.4200e-003**	**0.0000**	**16.8990**

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	4.8000e-004	0.0149	4.3500e-003	3.0000e-005	7.1000e-004	4.0000e-005	7.5000e-004	2.0000e-004	4.0000e-005	2.5000e-004	0.0000	2.9833	2.9833	1.8000e-004	0.0000	2.9877
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.0700e-003**	**0.0154**	**8.8400e-003**	**4.0000e-005**	**2.1000e-003**	**5.0000e-005**	**2.1500e-003**	**5.7000e-004**	**5.0000e-005**	**6.3000e-004**	**0.0000**	**4.1035**	**4.1035**	**2.1000e-004**	**0.0000**	**4.1088**

3.11 70kV Substation Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1300e-003	0.0487	0.0438	6.0000e-005		3.3000e-003	3.3000e-003		3.0400e-003	3.0400e-003	0.0000	5.1260	5.1260	1.6600e-003	0.0000	5.1674
Total	**5.1300e-003**	**0.0487**	**0.0438**	**6.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0400e-003**	**3.0400e-003**	**0.0000**	**5.1260**	**5.1260**	**1.6600e-003**	**0.0000**	**5.1674**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	3.9000e-004	3.4000e-004	2.9900e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7468	0.7468	2.0000e-005	0.0000	0.7474
Total	**7.2000e-004**	**0.0106**	**6.0000e-003**	**3.0000e-005**	**1.4100e-003**	**4.0000e-005**	**1.4500e-003**	**3.9000e-004**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**2.8122**	**2.8122**	**1.4000e-004**	**0.0000**	**2.8158**

3.11 70kV Substation Ground Grid - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1300e-003	0.0487	0.0438	6.0000e-005		3.3000e-003	3.3000e-003		3.0400e-003	3.0400e-003	0.0000	5.1260	5.1260	1.6600e-003	0.0000	5.1674
Total	**5.1300e-003**	**0.0487**	**0.0438**	**6.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0400e-003**	**3.0400e-003**	**0.0000**	**5.1260**	**5.1260**	**1.6600e-003**	**0.0000**	**5.1674**

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	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	3.9000e-004	3.4000e-004	2.9900e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7468	0.7468	2.0000e-005	0.0000	0.7474
Total	**7.2000e-004**	**0.0106**	**6.0000e-003**	**3.0000e-005**	**1.4100e-003**	**4.0000e-005**	**1.4500e-003**	**3.9000e-004**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**2.8122**	**2.8122**	**1.4000e-004**	**0.0000**	**2.8158**

3.12 230kV Sub Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.1303	0.0851	2.7000e-004		5.1200e-003	5.1200e-003		4.7100e-003	4.7100e-003	0.0000	23.6667	23.6667	7.6500e-003	0.0000	23.8581
Total	**0.0114**	**0.1303**	**0.0851**	**2.7000e-004**		**5.1200e-003**	**5.1200e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**23.6667**	**23.6667**	**7.6500e-003**	**0.0000**	**23.8581**

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	1.7000e-003	0.0531	0.0156	1.1000e-004	2.5400e-003	1.5000e-004	2.6900e-003	7.3000e-004	1.5000e-004	8.8000e-004	0.0000	10.6709	10.6709	6.3000e-004	0.0000	10.6867
Worker	1.7600e-003	1.5300e-003	0.0135	4.0000e-005	4.1600e-003	3.0000e-005	4.1900e-003	1.1100e-003	2.0000e-005	1.1300e-003	0.0000	3.3608	3.3608	1.0000e-004	0.0000	3.3633
Total	**3.4600e-003**	**0.0547**	**0.0290**	**1.5000e-004**	**6.7000e-003**	**1.8000e-004**	**6.8800e-003**	**1.8400e-003**	**1.7000e-004**	**2.0100e-003**	**0.0000**	**14.0317**	**14.0317**	**7.3000e-004**	**0.0000**	**14.0500**

3.12 230kV Sub Foundation Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.1303	0.0851	2.7000e-004		5.1200e-003	5.1200e-003		4.7100e-003	4.7100e-003	0.0000	23.6667	23.6667	7.6500e-003	0.0000	23.8580
Total	**0.0114**	**0.1303**	**0.0851**	**2.7000e-004**		**5.1200e-003**	**5.1200e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**23.6667**	**23.6667**	**7.6500e-003**	**0.0000**	**23.8580**

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	1.7000e-003	0.0531	0.0156	1.1000e-004	2.5400e-003	1.5000e-004	2.6900e-003	7.3000e-004	1.5000e-004	8.8000e-004	0.0000	10.6709	10.6709	6.3000e-004	0.0000	10.6867
Worker	1.7600e-003	1.5300e-003	0.0135	4.0000e-005	4.1600e-003	3.0000e-005	4.1900e-003	1.1100e-003	2.0000e-005	1.1300e-003	0.0000	3.3608	3.3608	1.0000e-004	0.0000	3.3633
Total	**3.4600e-003**	**0.0547**	**0.0290**	**1.5000e-004**	**6.7000e-003**	**1.8000e-004**	**6.8800e-003**	**1.8400e-003**	**1.7000e-004**	**2.0100e-003**	**0.0000**	**14.0317**	**14.0317**	**7.3000e-004**	**0.0000**	**14.0500**

3.13 Reconductoring Conductor Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2443	2.2851	1.4691	4.7200e-003		0.0927	0.0927		0.0853	0.0853	0.0000	414.6560	414.6560	0.1341	0.0000	418.0087
Total	**0.2443**	**2.2851**	**1.4691**	**4.7200e-003**		**0.0927**	**0.0927**		**0.0853**	**0.0853**	**0.0000**	**414.6560**	**414.6560**	**0.1341**	**0.0000**	**418.0087**

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	1.8300e-003	0.0571	0.0167	1.2000e-004	2.7300e-003	1.6000e-004	2.8900e-003	7.9000e-004	1.6000e-004	9.4000e-004	0.0000	11.4741	11.4741	6.8000e-004	0.0000	11.4910
Worker	7.3400e-003	6.3900e-003	0.0561	1.5000e-004	0.0173	1.1000e-004	0.0174	4.6100e-003	1.0000e-004	4.7100e-003	0.0000	14.0033	14.0033	4.2000e-004	0.0000	14.0139
Total	**9.1700e-003**	**0.0635**	**0.0729**	**2.7000e-004**	**0.0201**	**2.7000e-004**	**0.0203**	**5.4000e-003**	**2.6000e-004**	**5.6500e-003**	**0.0000**	**25.4774**	**25.4774**	**1.1000e-003**	**0.0000**	**25.5049**

3.13 Reconductoring Conductor Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2443	2.2851	1.4691	4.7200e-003		0.0927	0.0927		0.0853	0.0853	0.0000	414.6555	414.6555	0.1341	0.0000	418.0082
Total	**0.2443**	**2.2851**	**1.4691**	**4.7200e-003**		**0.0927**	**0.0927**		**0.0853**	**0.0853**	**0.0000**	**414.6555**	**414.6555**	**0.1341**	**0.0000**	**418.0082**

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	1.8300e-003	0.0571	0.0167	1.2000e-004	2.7300e-003	1.6000e-004	2.8900e-003	7.9000e-004	1.6000e-004	9.4000e-004	0.0000	11.4741	11.4741	6.8000e-004	0.0000	11.4910
Worker	7.3400e-003	6.3900e-003	0.0561	1.5000e-004	0.0173	1.1000e-004	0.0174	4.6100e-003	1.0000e-004	4.7100e-003	0.0000	14.0033	14.0033	4.2000e-004	0.0000	14.0139
Total	**9.1700e-003**	**0.0635**	**0.0729**	**2.7000e-004**	**0.0201**	**2.7000e-004**	**0.0203**	**5.4000e-003**	**2.6000e-004**	**5.6500e-003**	**0.0000**	**25.4774**	**25.4774**	**1.1000e-003**	**0.0000**	**25.5049**

3.14 70kV Sub Steel Bus Erection - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1092	0.0911	2.8000e-004		3.7500e-003	3.7500e-003		3.4500e-003	3.4500e-003	0.0000	24.4181	24.4181	7.9000e-003	0.0000	24.6155
Total	**0.0118**	**0.1092**	**0.0911**	**2.8000e-004**		**3.7500e-003**	**3.7500e-003**		**3.4500e-003**	**3.4500e-003**	**0.0000**	**24.4181**	**24.4181**	**7.9000e-003**	**0.0000**	**24.6155**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1100e-003**	**0.0110**	**9.0000e-003**	**4.0000e-005**	**2.3400e-003**	**4.0000e-005**	**2.3800e-003**	**6.3000e-004**	**4.0000e-005**	**6.7000e-004**	**0.0000**	**3.5590**	**3.5590**	**1.7000e-004**	**0.0000**	**3.5632**

3.14 70kV Sub Steel Bus Erection - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1092	0.0911	2.8000e-004		3.7500e-003	3.7500e-003		3.4500e-003	3.4500e-003	0.0000	24.4180	24.4180	7.9000e-003	0.0000	24.6155
Total	**0.0118**	**0.1092**	**0.0911**	**2.8000e-004**		**3.7500e-003**	**3.7500e-003**		**3.4500e-003**	**3.4500e-003**	**0.0000**	**24.4180**	**24.4180**	**7.9000e-003**	**0.0000**	**24.6155**

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	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1100e-003**	**0.0110**	**9.0000e-003**	**4.0000e-005**	**2.3400e-003**	**4.0000e-005**	**2.3800e-003**	**6.3000e-004**	**4.0000e-005**	**6.7000e-004**	**0.0000**	**3.5590**	**3.5590**	**1.7000e-004**	**0.0000**	**3.5632**

3.15 230kV Sub Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5900e-003	0.0421	0.0313	4.0000e-005		3.0600e-003	3.0600e-003		2.8200e-003	2.8200e-003	0.0000	3.5590	3.5590	1.1500e-003	0.0000	3.5877
Total	**4.5900e-003**	**0.0421**	**0.0313**	**4.0000e-005**		**3.0600e-003**	**3.0600e-003**		**2.8200e-003**	**2.8200e-003**	**0.0000**	**3.5590**	**3.5590**	**1.1500e-003**	**0.0000**	**3.5877**

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	1.0600e-003	0.0331	9.7100e-003	7.0000e-005	1.5800e-003	9.0000e-005	1.6800e-003	4.6000e-004	9.0000e-005	5.5000e-004	0.0000	6.6550	6.6550	3.9000e-004	0.0000	6.6648
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5500e-003**	**0.0336**	**0.0135**	**8.0000e-005**	**2.7400e-003**	**1.0000e-004**	**2.8400e-003**	**7.7000e-004**	**1.0000e-004**	**8.6000e-004**	**0.0000**	**7.5885**	**7.5885**	**4.2000e-004**	**0.0000**	**7.5991**

3.15 230kV Sub Ground Grid - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5900e-003	0.0421	0.0313	4.0000e-005		3.0600e-003	3.0600e-003		2.8200e-003	2.8200e-003	0.0000	3.5590	3.5590	1.1500e-003	0.0000	3.5877
Total	**4.5900e-003**	**0.0421**	**0.0313**	**4.0000e-005**		**3.0600e-003**	**3.0600e-003**		**2.8200e-003**	**2.8200e-003**	**0.0000**	**3.5590**	**3.5590**	**1.1500e-003**	**0.0000**	**3.5877**

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	1.0600e-003	0.0331	9.7100e-003	7.0000e-005	1.5800e-003	9.0000e-005	1.6800e-003	4.6000e-004	9.0000e-005	5.5000e-004	0.0000	6.6550	6.6550	3.9000e-004	0.0000	6.6648
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5500e-003**	**0.0336**	**0.0135**	**8.0000e-005**	**2.7400e-003**	**1.0000e-004**	**2.8400e-003**	**7.7000e-004**	**1.0000e-004**	**8.6000e-004**	**0.0000**	**7.5885**	**7.5885**	**4.2000e-004**	**0.0000**	**7.5991**

3.16 230kV Transmission Conductor - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0257	0.2573	0.1400	4.7000e-004		9.9500e-003	9.9500e-003		9.1500e-003	9.1500e-003	0.0000	41.5223	41.5223	0.0134	0.0000	41.8580
Total	**0.0257**	**0.2573**	**0.1400**	**4.7000e-004**		**9.9500e-003**	**9.9500e-003**		**9.1500e-003**	**9.1500e-003**	**0.0000**	**41.5223**	**41.5223**	**0.0134**	**0.0000**	**41.8580**

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	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	1.4700e-003	1.2800e-003	0.0112	3.0000e-005	3.4700e-003	2.0000e-005	3.4900e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.8007	2.8007	8.0000e-005	0.0000	2.8028
Total	**1.8700e-003**	**0.0138**	**0.0149**	**6.0000e-005**	**4.0700e-003**	**6.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1500e-003**	**0.0000**	**5.3250**	**5.3250**	**2.3000e-004**	**0.0000**	**5.3308**

3.16 230kV Transmission Conductor - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0257	0.2573	0.1400	4.7000e-004		9.9500e-003	9.9500e-003		9.1500e-003	9.1500e-003	0.0000	41.5223	41.5223	0.0134	0.0000	41.8580
Total	**0.0257**	**0.2573**	**0.1400**	**4.7000e-004**		**9.9500e-003**	**9.9500e-003**		**9.1500e-003**	**9.1500e-003**	**0.0000**	**41.5223**	**41.5223**	**0.0134**	**0.0000**	**41.8580**

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	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	1.4700e-003	1.2800e-003	0.0112	3.0000e-005	3.4700e-003	2.0000e-005	3.4900e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.8007	2.8007	8.0000e-005	0.0000	2.8028
Total	**1.8700e-003**	**0.0138**	**0.0149**	**6.0000e-005**	**4.0700e-003**	**6.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1500e-003**	**0.0000**	**5.3250**	**5.3250**	**2.3000e-004**	**0.0000**	**5.3308**

3.17 70 kV Substation Equip Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9500e-003	0.0368	0.0313	9.0000e-005		1.2500e-003	1.2500e-003		1.1500e-003	1.1500e-003	0.0000	8.2434	8.2434	2.6700e-003	0.0000	8.3100
Total	**3.9500e-003**	**0.0368**	**0.0313**	**9.0000e-005**		**1.2500e-003**	**1.2500e-003**		**1.1500e-003**	**1.1500e-003**	**0.0000**	**8.2434**	**8.2434**	**2.6700e-003**	**0.0000**	**8.3100**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	4.4000e-004	3.8000e-004	3.3700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8402	0.8402	3.0000e-005	0.0000	0.8408
Total	**7.7000e-004**	**0.0107**	**6.3800e-003**	**3.0000e-005**	**1.5300e-003**	**4.0000e-005**	**1.5700e-003**	**4.2000e-004**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**2.9055**	**2.9055**	**1.5000e-004**	**0.0000**	**2.9092**

3.17 70 kV Substation Equip Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9500e-003	0.0368	0.0313	9.0000e-005		1.2500e-003	1.2500e-003		1.1500e-003	1.1500e-003	0.0000	8.2434	8.2434	2.6700e-003	0.0000	8.3100
Total	**3.9500e-003**	**0.0368**	**0.0313**	**9.0000e-005**		**1.2500e-003**	**1.2500e-003**		**1.1500e-003**	**1.1500e-003**	**0.0000**	**8.2434**	**8.2434**	**2.6700e-003**	**0.0000**	**8.3100**

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	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	4.4000e-004	3.8000e-004	3.3700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8402	0.8402	3.0000e-005	0.0000	0.8408
Total	**7.7000e-004**	**0.0107**	**6.3800e-003**	**3.0000e-005**	**1.5300e-003**	**4.0000e-005**	**1.5700e-003**	**4.2000e-004**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**2.9055**	**2.9055**	**1.5000e-004**	**0.0000**	**2.9092**

3.18 70kV Substation Control Enclosure - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1147	0.1147	1.0000e-005	0.0000	0.1149
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**1.4000e-004**	**6.8000e-004**	**1.1100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3481**	**0.3481**	**2.0000e-005**	**0.0000**	**0.3485**

3.18 70kV Substation Control Enclosure - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1147	0.1147	1.0000e-005	0.0000	0.1149
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**1.4000e-004**	**6.8000e-004**	**1.1100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3481**	**0.3481**	**2.0000e-005**	**0.0000**	**0.3485**

3.19 230kV Sub Steel Bus - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.6100e-003	0.0686	0.0531	1.7000e-004		2.4200e-003	2.4200e-003		2.2300e-003	2.2300e-003	0.0000	15.2460	15.2460	4.9300e-003	0.0000	15.3693
Total	**7.6100e-003**	**0.0686**	**0.0531**	**1.7000e-004**		**2.4200e-003**	**2.4200e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**15.2460**	**15.2460**	**4.9300e-003**	**0.0000**	**15.3693**

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	1.1000e-003	0.0343	0.0100	7.0000e-005	1.6400e-003	1.0000e-004	1.7300e-003	4.7000e-004	9.0000e-005	5.7000e-004	0.0000	6.8845	6.8845	4.1000e-004	0.0000	6.8946
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5900e-003**	**0.0347**	**0.0138**	**8.0000e-005**	**2.8000e-003**	**1.1000e-004**	**2.8900e-003**	**7.8000e-004**	**1.0000e-004**	**8.8000e-004**	**0.0000**	**7.8180**	**7.8180**	**4.4000e-004**	**0.0000**	**7.8289**

3.19 230kV Sub Steel Bus - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.6100e-003	0.0686	0.0531	1.7000e-004		2.4200e-003	2.4200e-003		2.2300e-003	2.2300e-003	0.0000	15.2460	15.2460	4.9300e-003	0.0000	15.3693
Total	**7.6100e-003**	**0.0686**	**0.0531**	**1.7000e-004**		**2.4200e-003**	**2.4200e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**15.2460**	**15.2460**	**4.9300e-003**	**0.0000**	**15.3693**

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	1.1000e-003	0.0343	0.0100	7.0000e-005	1.6400e-003	1.0000e-004	1.7300e-003	4.7000e-004	9.0000e-005	5.7000e-004	0.0000	6.8845	6.8845	4.1000e-004	0.0000	6.8946
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5900e-003**	**0.0347**	**0.0138**	**8.0000e-005**	**2.8000e-003**	**1.1000e-004**	**2.8900e-003**	**7.8000e-004**	**1.0000e-004**	**8.8000e-004**	**0.0000**	**7.8180**	**7.8180**	**4.4000e-004**	**0.0000**	**7.8289**

3.20 230kV Sub Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	0.0113	0.0156	2.0000e-005		4.6000e-004	4.6000e-004		4.2000e-004	4.2000e-004	0.0000	2.0432	2.0432	6.6000e-004	0.0000	2.0597
Total	**8.5000e-004**	**0.0113**	**0.0156**	**2.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**2.0432**	**2.0432**	**6.6000e-004**	**0.0000**	**2.0597**

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	1.2300e-003	0.0386	0.0113	8.0000e-005	1.8400e-003	1.1000e-004	1.9500e-003	5.3000e-004	1.1000e-004	6.4000e-004	0.0000	7.7450	7.7450	4.6000e-004	0.0000	7.7565
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.8200e-003**	**0.0391**	**0.0158**	**9.0000e-005**	**3.2300e-003**	**1.2000e-004**	**3.3500e-003**	**9.0000e-004**	**1.2000e-004**	**1.0200e-003**	**0.0000**	**8.8653**	**8.8653**	**4.9000e-004**	**0.0000**	**8.8776**

3.20 230kV Sub Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	0.0113	0.0156	2.0000e-005		4.6000e-004	4.6000e-004		4.2000e-004	4.2000e-004	0.0000	2.0432	2.0432	6.6000e-004	0.0000	2.0597
Total	**8.5000e-004**	**0.0113**	**0.0156**	**2.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**2.0432**	**2.0432**	**6.6000e-004**	**0.0000**	**2.0597**

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	1.2300e-003	0.0386	0.0113	8.0000e-005	1.8400e-003	1.1000e-004	1.9500e-003	5.3000e-004	1.1000e-004	6.4000e-004	0.0000	7.7450	7.7450	4.6000e-004	0.0000	7.7565
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.8200e-003**	**0.0391**	**0.0158**	**9.0000e-005**	**3.2300e-003**	**1.2000e-004**	**3.3500e-003**	**9.0000e-004**	**1.2000e-004**	**1.0200e-003**	**0.0000**	**8.8653**	**8.8653**	**4.9000e-004**	**0.0000**	**8.8776**

3.21 70kV Substation Cable Installation - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	3.7000e-004	3.2000e-004	2.8100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7002	0.7002	2.0000e-005	0.0000	0.7007
Total	**4.5000e-004**	**2.8900e-003**	**3.5600e-003**	**2.0000e-005**	**9.9000e-004**	**2.0000e-005**	**1.0000e-003**	**2.7000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.2165**	**1.2165**	**5.0000e-005**	**0.0000**	**1.2178**

3.21 70kV Substation Cable Installation - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	3.7000e-004	3.2000e-004	2.8100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7002	0.7002	2.0000e-005	0.0000	0.7007
Total	**4.5000e-004**	**2.8900e-003**	**3.5600e-003**	**2.0000e-005**	**9.9000e-004**	**2.0000e-005**	**1.0000e-003**	**2.7000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.2165**	**1.2165**	**5.0000e-005**	**0.0000**	**1.2178**

3.22 230kV Sub Transformer - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0376	0.3432	0.2414	7.6000e-004		0.0136	0.0136		0.0126	0.0126	0.0000	66.9818	66.9818	0.0202	0.0000	67.4873
Total	**0.0376**	**0.3432**	**0.2414**	**7.6000e-004**		**0.0136**	**0.0136**		**0.0126**	**0.0126**	**0.0000**	**66.9818**	**66.9818**	**0.0202**	**0.0000**	**67.4873**

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	1.3700e-003	0.0428	0.0126	9.0000e-005	2.0400e-003	1.2000e-004	2.1700e-003	5.9000e-004	1.2000e-004	7.1000e-004	0.0000	8.6056	8.6056	5.1000e-004	0.0000	8.6183
Worker	9.8000e-004	8.5000e-004	7.4800e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3300e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8671	1.8671	6.0000e-005	0.0000	1.8685
Total	**2.3500e-003**	**0.0437**	**0.0200**	**1.1000e-004**	**4.3500e-003**	**1.3000e-004**	**4.5000e-003**	**1.2000e-003**	**1.3000e-004**	**1.3400e-003**	**0.0000**	**10.4727**	**10.4727**	**5.7000e-004**	**0.0000**	**10.4868**

3.22 230kV Sub Transformer - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0376	0.3432	0.2414	7.6000e-004		0.0136	0.0136		0.0126	0.0126	0.0000	66.9818	66.9818	0.0202	0.0000	67.4873
Total	**0.0376**	**0.3432**	**0.2414**	**7.6000e-004**		**0.0136**	**0.0136**		**0.0126**	**0.0126**	**0.0000**	**66.9818**	**66.9818**	**0.0202**	**0.0000**	**67.4873**

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	1.3700e-003	0.0428	0.0126	9.0000e-005	2.0400e-003	1.2000e-004	2.1700e-003	5.9000e-004	1.2000e-004	7.1000e-004	0.0000	8.6056	8.6056	5.1000e-004	0.0000	8.6183
Worker	9.8000e-004	8.5000e-004	7.4800e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3300e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8671	1.8671	6.0000e-005	0.0000	1.8685
Total	**2.3500e-003**	**0.0437**	**0.0200**	**1.1000e-004**	**4.3500e-003**	**1.3000e-004**	**4.5000e-003**	**1.2000e-003**	**1.3000e-004**	**1.3400e-003**	**0.0000**	**10.4727**	**10.4727**	**5.7000e-004**	**0.0000**	**10.4868**

3.23 230kV Transmission Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5900e-003	0.0000	1.5900e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6400e-003	0.0206	8.6900e-003	2.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	2.1558	2.1558	7.0000e-004	0.0000	2.1733
Total	**1.6400e-003**	**0.0206**	**8.6900e-003**	**2.0000e-005**	**1.5900e-003**	**7.3000e-004**	**2.3200e-003**	**1.7000e-004**	**6.7000e-004**	**8.4000e-004**	**0.0000**	**2.1558**	**2.1558**	**7.0000e-004**	**0.0000**	**2.1733**

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	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**2.0000e-004**	**2.6800e-003**	**1.6900e-003**	**1.0000e-005**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.7497**	**0.7497**	**4.0000e-005**	**0.0000**	**0.7507**

3.23 230kV Transmission Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.2000e-004	0.0000	7.2000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6400e-003	0.0206	8.6900e-003	2.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	2.1558	2.1558	7.0000e-004	0.0000	2.1733
Total	**1.6400e-003**	**0.0206**	**8.6900e-003**	**2.0000e-005**	**7.2000e-004**	**7.3000e-004**	**1.4500e-003**	**8.0000e-005**	**6.7000e-004**	**7.5000e-004**	**0.0000**	**2.1558**	**2.1558**	**7.0000e-004**	**0.0000**	**2.1733**

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	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**2.0000e-004**	**2.6800e-003**	**1.6900e-003**	**1.0000e-005**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.7497**	**0.7497**	**4.0000e-005**	**0.0000**	**0.7507**

3.24 230kV Sub Control Enclosure Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8600e-003	0.0218	8.9200e-003	3.0000e-005		8.9000e-004	8.9000e-004		8.2000e-004	8.2000e-004	0.0000	2.2810	2.2810	7.4000e-004	0.0000	2.2994
Total	**1.8600e-003**	**0.0218**	**8.9200e-003**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.2810**	**2.2810**	**7.4000e-004**	**0.0000**	**2.2994**

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	4.0000e-005	1.1400e-003	3.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2295	0.2295	1.0000e-005	0.0000	0.2298
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.3000e-004**	**1.4000e-003**	**2.5700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7896**	**0.7896**	**3.0000e-005**	**0.0000**	**0.7904**

3.24 230kV Sub Control Enclosure Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8600e-003	0.0218	8.9200e-003	3.0000e-005		8.9000e-004	8.9000e-004		8.2000e-004	8.2000e-004	0.0000	2.2810	2.2810	7.4000e-004	0.0000	2.2994
Total	**1.8600e-003**	**0.0218**	**8.9200e-003**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.2810**	**2.2810**	**7.4000e-004**	**0.0000**	**2.2994**

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	4.0000e-005	1.1400e-003	3.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2295	0.2295	1.0000e-005	0.0000	0.2298
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.3000e-004**	**1.4000e-003**	**2.5700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7896**	**0.7896**	**3.0000e-005**	**0.0000**	**0.7904**

3.25 70kV Substation Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1200e-003	0.0114	0.0136	2.0000e-005		6.7000e-004	6.7000e-004		6.2000e-004	6.2000e-004	0.0000	1.6378	1.6378	5.3000e-004	0.0000	1.6511
Total	**1.1200e-003**	**0.0114**	**0.0136**	**2.0000e-005**		**6.7000e-004**	**6.7000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.6378**	**1.6378**	**5.3000e-004**	**0.0000**	**1.6511**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	9.1400e-003	2.6800e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8359	1.8359	1.1000e-004	0.0000	1.8386
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**5.8000e-004**	**9.4000e-003**	**4.9200e-003**	**3.0000e-005**	**1.1300e-003**	**3.0000e-005**	**1.1600e-003**	**3.1000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**2.3960**	**2.3960**	**1.3000e-004**	**0.0000**	**2.3991**

3.25 70kV Substation Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1200e-003	0.0114	0.0136	2.0000e-005		6.7000e-004	6.7000e-004		6.2000e-004	6.2000e-004	0.0000	1.6378	1.6378	5.3000e-004	0.0000	1.6511
Total	**1.1200e-003**	**0.0114**	**0.0136**	**2.0000e-005**		**6.7000e-004**	**6.7000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.6378**	**1.6378**	**5.3000e-004**	**0.0000**	**1.6511**

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	2.9000e-004	9.1400e-003	2.6800e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8359	1.8359	1.1000e-004	0.0000	1.8386
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**5.8000e-004**	**9.4000e-003**	**4.9200e-003**	**3.0000e-005**	**1.1300e-003**	**3.0000e-005**	**1.1600e-003**	**3.1000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**2.3960**	**2.3960**	**1.3000e-004**	**0.0000**	**2.3991**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4500e-003	0.0474	0.0324	1.2000e-004		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	10.4387	10.4387	3.3800e-003	0.0000	10.5231
Total	**5.4500e-003**	**0.0474**	**0.0324**	**1.2000e-004**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**10.4387**	**10.4387**	**3.3800e-003**	**0.0000**	**10.5231**

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	1.0200e-003	0.0320	9.3700e-003	7.0000e-005	1.5300e-003	9.0000e-005	1.6200e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4255	6.4255	3.8000e-004	0.0000	6.4350
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5100e-003**	**0.0324**	**0.0131**	**8.0000e-005**	**2.6900e-003**	**1.0000e-004**	**2.7800e-003**	**7.5000e-004**	**1.0000e-004**	**8.4000e-004**	**0.0000**	**7.3591**	**7.3591**	**4.1000e-004**	**0.0000**	**7.3692**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4500e-003	0.0474	0.0324	1.2000e-004		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	10.4387	10.4387	3.3800e-003	0.0000	10.5231
Total	**5.4500e-003**	**0.0474**	**0.0324**	**1.2000e-004**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**10.4387**	**10.4387**	**3.3800e-003**	**0.0000**	**10.5231**

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	1.0200e-003	0.0320	9.3700e-003	7.0000e-005	1.5300e-003	9.0000e-005	1.6200e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4255	6.4255	3.8000e-004	0.0000	6.4350
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5100e-003**	**0.0324**	**0.0131**	**8.0000e-005**	**2.6900e-003**	**1.0000e-004**	**2.7800e-003**	**7.5000e-004**	**1.0000e-004**	**8.4000e-004**	**0.0000**	**7.3591**	**7.3591**	**4.1000e-004**	**0.0000**	**7.3692**

3.27 70kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.1800e-003**	**0.0000**	**3.1800e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.7000e-004	1.5000e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3734	0.3734	1.0000e-005	0.0000	0.3737
Total	**2.0000e-004**	**1.7000e-004**	**1.5000e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3734**	**0.3734**	**1.0000e-005**	**0.0000**	**0.3737**

3.27 70kV Substation Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**0.0000**	**1.4300e-003**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.7000e-004	1.5000e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3734	0.3734	1.0000e-005	0.0000	0.3737
Total	**2.0000e-004**	**1.7000e-004**	**1.5000e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3734**	**0.3734**	**1.0000e-005**	**0.0000**	**0.3737**

3.28 230kV Sub Cable Install Termination - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2000e-004	3.6000e-003	6.5600e-003	1.0000e-005		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8852	0.8852	2.9000e-004	0.0000	0.8923
Total	**2.2000e-004**	**3.6000e-003**	**6.5600e-003**	**1.0000e-005**		**7.0000e-005**	**7.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.8852**	**0.8852**	**2.9000e-004**	**0.0000**	**0.8923**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**2.9000e-004**	**1.9200e-003**	**2.3700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.8110**	**0.8110**	**3.0000e-005**	**0.0000**	**0.8119**

3.28 230kV Sub Cable Install Termination - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2000e-004	3.6000e-003	6.5600e-003	1.0000e-005		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8852	0.8852	2.9000e-004	0.0000	0.8923
Total	**2.2000e-004**	**3.6000e-003**	**6.5600e-003**	**1.0000e-005**		**7.0000e-005**	**7.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.8852**	**0.8852**	**2.9000e-004**	**0.0000**	**0.8923**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**2.9000e-004**	**1.9200e-003**	**2.3700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.8110**	**0.8110**	**3.0000e-005**	**0.0000**	**0.8119**

3.29 70kV Substation Testing Commissioning - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7700e-003	0.0000	4.7700e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.7700e-003**	**0.0000**	**4.7700e-003**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4000e-004**	**1.9700e-003**	**2.7400e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.9000e-004**	**2.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.9044**	**0.9044**	**4.0000e-005**	**0.0000**	**0.9053**

3.29 70kV Substation Testing Commissioning - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1500e-003	0.0000	2.1500e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.1500e-003**	**0.0000**	**2.1500e-003**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4000e-004**	**1.9700e-003**	**2.7400e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.9000e-004**	**2.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.9044**	**0.9044**	**4.0000e-005**	**0.0000**	**0.9053**

3.30 230kV Sub Testing and Commissioning - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0371	0.0109	8.0000e-005	1.7700e-003	1.1000e-004	1.8800e-003	5.1000e-004	1.0000e-004	6.1000e-004	0.0000	7.4582	7.4582	4.4000e-004	0.0000	7.4692
Worker	6.1000e-004	5.3000e-004	4.6800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1669	1.1669	4.0000e-005	0.0000	1.1678
Total	**1.8000e-003**	**0.0377**	**0.0156**	**9.0000e-005**	**3.2100e-003**	**1.2000e-004**	**3.3300e-003**	**8.9000e-004**	**1.1000e-004**	**1.0000e-003**	**0.0000**	**8.6251**	**8.6251**	**4.8000e-004**	**0.0000**	**8.6370**

3.30 230kV Sub Testing and Commissioning - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0371	0.0109	8.0000e-005	1.7700e-003	1.1000e-004	1.8800e-003	5.1000e-004	1.0000e-004	6.1000e-004	0.0000	7.4582	7.4582	4.4000e-004	0.0000	7.4692
Worker	6.1000e-004	5.3000e-004	4.6800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1669	1.1669	4.0000e-005	0.0000	1.1678
Total	**1.8000e-003**	**0.0377**	**0.0156**	**9.0000e-005**	**3.2100e-003**	**1.2000e-004**	**3.3300e-003**	**8.9000e-004**	**1.1000e-004**	**1.0000e-003**	**0.0000**	**8.6251**	**8.6251**	**4.8000e-004**	**0.0000**	**8.6370**

3.31 230kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0260	0.0286	4.0000e-005		1.6700e-003	1.6700e-003		1.5300e-003	1.5300e-003	0.0000	3.3613	3.3613	1.0900e-003	0.0000	3.3885
Total	**2.7000e-003**	**0.0260**	**0.0286**	**4.0000e-005**	**0.0000**	**1.6700e-003**	**1.6700e-003**	**0.0000**	**1.5300e-003**	**1.5300e-003**	**0.0000**	**3.3613**	**3.3613**	**1.0900e-003**	**0.0000**	**3.3885**

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	8.0000e-004	0.0248	7.2800e-003	5.0000e-005	1.1900e-003	7.0000e-005	1.2600e-003	3.4000e-004	7.0000e-005	4.1000e-004	0.0000	4.9912	4.9912	2.9000e-004	0.0000	4.9986
Worker	2.2000e-004	1.9000e-004	1.6800e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4201	0.4201	1.0000e-005	0.0000	0.4204
Total	**1.0200e-003**	**0.0250**	**8.9600e-003**	**5.0000e-005**	**1.7100e-003**	**7.0000e-005**	**1.7800e-003**	**4.8000e-004**	**7.0000e-005**	**5.5000e-004**	**0.0000**	**5.4113**	**5.4113**	**3.0000e-004**	**0.0000**	**5.4190**

3.31 230kV Substation Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0260	0.0286	4.0000e-005		1.6700e-003	1.6700e-003		1.5300e-003	1.5300e-003	0.0000	3.3613	3.3613	1.0900e-003	0.0000	3.3885
Total	**2.7000e-003**	**0.0260**	**0.0286**	**4.0000e-005**	**0.0000**	**1.6700e-003**	**1.6700e-003**	**0.0000**	**1.5300e-003**	**1.5300e-003**	**0.0000**	**3.3613**	**3.3613**	**1.0900e-003**	**0.0000**	**3.3885**

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	8.0000e-004	0.0248	7.2800e-003	5.0000e-005	1.1900e-003	7.0000e-005	1.2600e-003	3.4000e-004	7.0000e-005	4.1000e-004	0.0000	4.9912	4.9912	2.9000e-004	0.0000	4.9986
Worker	2.2000e-004	1.9000e-004	1.6800e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4201	0.4201	1.0000e-005	0.0000	0.4204
Total	**1.0200e-003**	**0.0250**	**8.9600e-003**	**5.0000e-005**	**1.7100e-003**	**7.0000e-005**	**1.7800e-003**	**4.8000e-004**	**7.0000e-005**	**5.5000e-004**	**0.0000**	**5.4113**	**5.4113**	**3.0000e-004**	**0.0000**	**5.4190**

3.32 70kV Power Line Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.3600e-003	0.0000	6.3600e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2800e-003	0.1180	0.0454	1.4000e-004		4.0500e-003	4.0500e-003		3.7300e-003	3.7300e-003	0.0000	12.1161	12.1161	3.9200e-003	0.0000	12.2141
Total	**9.2800e-003**	**0.1180**	**0.0454**	**1.4000e-004**	**6.3600e-003**	**4.0500e-003**	**0.0104**	**6.9000e-004**	**3.7300e-003**	**4.4200e-003**	**0.0000**	**12.1161**	**12.1161**	**3.9200e-003**	**0.0000**	**12.2141**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

3.32 70kV Power Line Site Work Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.8600e-003	0.0000	2.8600e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2800e-003	0.1180	0.0454	1.4000e-004		4.0500e-003	4.0500e-003		3.7300e-003	3.7300e-003	0.0000	12.1161	12.1161	3.9200e-003	0.0000	12.2141
Total	**9.2800e-003**	**0.1180**	**0.0454**	**1.4000e-004**	**2.8600e-003**	**4.0500e-003**	**6.9100e-003**	**3.1000e-004**	**3.7300e-003**	**4.0400e-003**	**0.0000**	**12.1161**	**12.1161**	**3.9200e-003**	**0.0000**	**12.2141**

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	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

3.33 Reconductoring Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-003	0.0324	0.0147	4.0000e-005		1.1800e-003	1.1800e-003		1.0900e-003	1.0900e-003	0.0000	3.4385	3.4385	1.1100e-003	0.0000	3.4663
Total	**2.6000e-003**	**0.0324**	**0.0147**	**4.0000e-005**	**3.1800e-003**	**1.1800e-003**	**4.3600e-003**	**3.4000e-004**	**1.0900e-003**	**1.4300e-003**	**0.0000**	**3.4385**	**3.4385**	**1.1100e-003**	**0.0000**	**3.4663**

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	9.0000e-005	2.8600e-003	8.4000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5737	0.5737	3.0000e-005	0.0000	0.5746
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.8000e-004**	**3.1200e-003**	**3.0800e-003**	**2.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**1.1338**	**1.1338**	**5.0000e-005**	**0.0000**	**1.1351**

3.33 Reconductoring Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-003	0.0324	0.0147	4.0000e-005		1.1800e-003	1.1800e-003		1.0900e-003	1.0900e-003	0.0000	3.4385	3.4385	1.1100e-003	0.0000	3.4663
Total	**2.6000e-003**	**0.0324**	**0.0147**	**4.0000e-005**	**1.4300e-003**	**1.1800e-003**	**2.6100e-003**	**1.5000e-004**	**1.0900e-003**	**1.2400e-003**	**0.0000**	**3.4385**	**3.4385**	**1.1100e-003**	**0.0000**	**3.4663**

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	9.0000e-005	2.8600e-003	8.4000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5737	0.5737	3.0000e-005	0.0000	0.5746
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.8000e-004**	**3.1200e-003**	**3.0800e-003**	**2.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**1.1338**	**1.1338**	**5.0000e-005**	**0.0000**	**1.1351**

3.34 70kV Power Line Pole Tower Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1320	1.1940	0.8330	2.7400e-003		0.0465	0.0465		0.0428	0.0428	0.0000	240.7603	240.7603	0.0779	0.0000	242.7069
Total	**0.1320**	**1.1940**	**0.8330**	**2.7400e-003**		**0.0465**	**0.0465**		**0.0428**	**0.0428**	**0.0000**	**240.7603**	**240.7603**	**0.0779**	**0.0000**	**242.7069**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-003	0.0750	0.0220	1.6000e-004	3.5800e-003	2.1000e-004	3.7900e-003	1.0300e-003	2.0000e-004	1.2400e-003	0.0000	15.0598	15.0598	8.9000e-004	0.0000	15.0820
Worker	8.9900e-003	7.8300e-003	0.0687	1.9000e-004	0.0212	1.3000e-004	0.0214	5.6400e-003	1.2000e-004	5.7700e-003	0.0000	17.1540	17.1540	5.2000e-004	0.0000	17.1670
Total	**0.0114**	**0.0828**	**0.0907**	**3.5000e-004**	**0.0248**	**3.4000e-004**	**0.0252**	**6.6700e-003**	**3.2000e-004**	**7.0100e-003**	**0.0000**	**32.2138**	**32.2138**	**1.4100e-003**	**0.0000**	**32.2490**

3.34 70kV Power Line Pole Tower Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1320	1.1940	0.8330	2.7400e-003		0.0465	0.0465		0.0428	0.0428	0.0000	240.7600	240.7600	0.0779	0.0000	242.7066
Total	**0.1320**	**1.1940**	**0.8330**	**2.7400e-003**		**0.0465**	**0.0465**		**0.0428**	**0.0428**	**0.0000**	**240.7600**	**240.7600**	**0.0779**	**0.0000**	**242.7066**

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	2.4000e-003	0.0750	0.0220	1.6000e-004	3.5800e-003	2.1000e-004	3.7900e-003	1.0300e-003	2.0000e-004	1.2400e-003	0.0000	15.0598	15.0598	8.9000e-004	0.0000	15.0820
Worker	8.9900e-003	7.8300e-003	0.0687	1.9000e-004	0.0212	1.3000e-004	0.0214	5.6400e-003	1.2000e-004	5.7700e-003	0.0000	17.1540	17.1540	5.2000e-004	0.0000	17.1670
Total	**0.0114**	**0.0828**	**0.0907**	**3.5000e-004**	**0.0248**	**3.4000e-004**	**0.0252**	**6.6700e-003**	**3.2000e-004**	**7.0100e-003**	**0.0000**	**32.2138**	**32.2138**	**1.4100e-003**	**0.0000**	**32.2490**

3.34 70kV Power Line Pole Tower Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1001	0.8106	0.6798	2.3800e-003		0.0313	0.0313		0.0288	0.0288	0.0000	208.7416	208.7416	0.0675	0.0000	210.4293
Total	**0.1001**	**0.8106**	**0.6798**	**2.3800e-003**		**0.0313**	**0.0313**		**0.0288**	**0.0288**	**0.0000**	**208.7416**	**208.7416**	**0.0675**	**0.0000**	**210.4293**

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	1.9200e-003	0.0617	0.0176	1.3000e-004	3.1000e-003	1.6000e-004	3.2600e-003	9.0000e-004	1.6000e-004	1.0500e-003	0.0000	12.9629	12.9629	7.6000e-004	0.0000	12.9819
Worker	7.3100e-003	6.1000e-003	0.0546	1.6000e-004	0.0184	1.1000e-004	0.0185	4.8900e-003	1.0000e-004	4.9900e-003	0.0000	14.3354	14.3354	4.0000e-004	0.0000	14.3455
Total	**9.2300e-003**	**0.0678**	**0.0721**	**2.9000e-004**	**0.0215**	**2.7000e-004**	**0.0218**	**5.7900e-003**	**2.6000e-004**	**6.0400e-003**	**0.0000**	**27.2983**	**27.2983**	**1.1600e-003**	**0.0000**	**27.3274**

3.34 70kV Power Line Pole Tower Install - 2022

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	0.1001	0.8106	0.6798	2.3800e-003		0.0313	0.0313		0.0288	0.0288	0.0000	208.7413	208.7413	0.0675	0.0000	210.4291
Total	**0.1001**	**0.8106**	**0.6798**	**2.3800e-003**		**0.0313**	**0.0313**		**0.0288**	**0.0288**	**0.0000**	**208.7413**	**208.7413**	**0.0675**	**0.0000**	**210.4291**

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	1.9200e-003	0.0617	0.0176	1.3000e-004	3.1000e-003	1.6000e-004	3.2600e-003	9.0000e-004	1.6000e-004	1.0500e-003	0.0000	12.9629	12.9629	7.6000e-004	0.0000	12.9819
Worker	7.3100e-003	6.1000e-003	0.0546	1.6000e-004	0.0184	1.1000e-004	0.0185	4.8900e-003	1.0000e-004	4.9900e-003	0.0000	14.3354	14.3354	4.0000e-004	0.0000	14.3455
Total	**9.2300e-003**	**0.0678**	**0.0721**	**2.9000e-004**	**0.0215**	**2.7000e-004**	**0.0218**	**5.7900e-003**	**2.6000e-004**	**6.0400e-003**	**0.0000**	**27.2983**	**27.2983**	**1.1600e-003**	**0.0000**	**27.3274**

3.35 Distribution Facilities Mobilization - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-004	0.0101	0.0134	2.0000e-005		5.4000e-004	5.4000e-004		5.0000e-004	5.0000e-004	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**9.9000e-004**	**0.0101**	**0.0134**	**2.0000e-005**	**3.1800e-003**	**5.4000e-004**	**3.7200e-003**	**3.4000e-004**	**5.0000e-004**	**8.4000e-004**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

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	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.8000e-004**	**3.4900e-003**	**2.9900e-003**	**2.0000e-005**	**8.5000e-004**	**1.0000e-005**	**8.7000e-004**	**2.3000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.2239**	**1.2239**	**6.0000e-005**	**0.0000**	**1.2253**

3.35 Distribution Facilities Mobilization - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-004	0.0101	0.0134	2.0000e-005		5.4000e-004	5.4000e-004		5.0000e-004	5.0000e-004	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**9.9000e-004**	**0.0101**	**0.0134**	**2.0000e-005**	**1.4300e-003**	**5.4000e-004**	**1.9700e-003**	**1.5000e-004**	**5.0000e-004**	**6.5000e-004**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

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	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.8000e-004**	**3.4900e-003**	**2.9900e-003**	**2.0000e-005**	**8.5000e-004**	**1.0000e-005**	**8.7000e-004**	**2.3000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.2239**	**1.2239**	**6.0000e-005**	**0.0000**	**1.2253**

3.36 Distribution Foundation Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9000e-004	0.0101	0.0134	2.0000e-005		5.4000e-004	5.4000e-004		5.0000e-004	5.0000e-004	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**9.9000e-004**	**0.0101**	**0.0134**	**2.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	6.5100e-003	1.8500e-003	1.0000e-005	3.3000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.3675	1.3675	8.0000e-005	0.0000	1.3695
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.3000e-003**	**7.4300e-003**	**0.0101**	**3.0000e-005**	**3.1000e-003**	**4.0000e-005**	**3.1300e-003**	**8.3000e-004**	**4.0000e-005**	**8.6000e-004**	**0.0000**	**3.5280**	**3.5280**	**1.4000e-004**	**0.0000**	**3.5315**

3.36 Distribution Foundation Construction - 2022

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	9.9000e-004	0.0101	0.0134	2.0000e-005		5.4000e-004	5.4000e-004		5.0000e-004	5.0000e-004	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**9.9000e-004**	**0.0101**	**0.0134**	**2.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

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	2.0000e-004	6.5100e-003	1.8500e-003	1.0000e-005	3.3000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.3675	1.3675	8.0000e-005	0.0000	1.3695
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.3000e-003**	**7.4300e-003**	**0.0101**	**3.0000e-005**	**3.1000e-003**	**4.0000e-005**	**3.1300e-003**	**8.3000e-004**	**4.0000e-005**	**8.6000e-004**	**0.0000**	**3.5280**	**3.5280**	**1.4000e-004**	**0.0000**	**3.5315**

3.37 Distribution Ground Grid - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-004	9.4100e-003	4.2600e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**8.4000e-004**	**9.4100e-003**	**4.2600e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

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	1.4000e-004	4.3400e-003	1.2400e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9117	0.9117	5.0000e-005	0.0000	0.9130
Worker	9.2000e-004	7.7000e-004	6.8500e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3200e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8004	1.8004	5.0000e-005	0.0000	1.8016
Total	**1.0600e-003**	**5.1100e-003**	**8.0900e-003**	**3.0000e-005**	**2.5300e-003**	**2.0000e-005**	**2.5500e-003**	**6.7000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.7120**	**2.7120**	**1.0000e-004**	**0.0000**	**2.7146**

3.37 Distribution Ground Grid - 2022

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	8.4000e-004	9.4100e-003	4.2600e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**8.4000e-004**	**9.4100e-003**	**4.2600e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

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	1.4000e-004	4.3400e-003	1.2400e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9117	0.9117	5.0000e-005	0.0000	0.9130
Worker	9.2000e-004	7.7000e-004	6.8500e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3200e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8004	1.8004	5.0000e-005	0.0000	1.8016
Total	**1.0600e-003**	**5.1100e-003**	**8.0900e-003**	**3.0000e-005**	**2.5300e-003**	**2.0000e-005**	**2.5500e-003**	**6.7000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.7120**	**2.7120**	**1.0000e-004**	**0.0000**	**2.7146**

3.38 Distribution Steel Bus Erection - 2022

Unmitigated Construction On-Site

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

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	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

3.38 Distribution Steel Bus Erection - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

3.39 Distribution Bank Breaker - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-004	9.4100e-003	4.2600e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**8.4000e-004**	**9.4100e-003**	**4.2600e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.6300e-003	4.6000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3419	0.3419	2.0000e-005	0.0000	0.3424
Worker	3.4000e-004	2.9000e-004	2.5700e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6751	0.6751	2.0000e-005	0.0000	0.6756
Total	**3.9000e-004**	**1.9200e-003**	**3.0300e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**1.0170**	**1.0170**	**4.0000e-005**	**0.0000**	**1.0180**

3.39 Distribution Bank Breaker - 2022

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	8.4000e-004	9.4100e-003	4.2600e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**8.4000e-004**	**9.4100e-003**	**4.2600e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.6300e-003	4.6000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3419	0.3419	2.0000e-005	0.0000	0.3424
Worker	3.4000e-004	2.9000e-004	2.5700e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6751	0.6751	2.0000e-005	0.0000	0.6756
Total	**3.9000e-004**	**1.9200e-003**	**3.0300e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**1.0170**	**1.0170**	**4.0000e-005**	**0.0000**	**1.0180**

3.40 Distribution Feeder Conduit - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9900e-003	0.0772	0.0670	2.5000e-004		2.8900e-003	2.8900e-003		2.6600e-003	2.6600e-003	0.0000	21.6843	21.6843	7.0100e-003	0.0000	21.8596
Total	**9.9900e-003**	**0.0772**	**0.0670**	**2.5000e-004**		**2.8900e-003**	**2.8900e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**21.6843**	**21.6843**	**7.0100e-003**	**0.0000**	**21.8596**

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	1.5000e-004	4.8800e-003	1.3900e-003	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0256	1.0256	6.0000e-005	0.0000	1.0271
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.2500e-003**	**5.8000e-003**	**9.6100e-003**	**3.0000e-005**	**3.0200e-003**	**3.0000e-005**	**3.0500e-003**	**8.1000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.1861**	**3.1861**	**1.2000e-004**	**0.0000**	**3.1891**

3.40 Distribution Feeder Conduit - 2022

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	9.9900e-003	0.0772	0.0670	2.5000e-004		2.8900e-003	2.8900e-003		2.6600e-003	2.6600e-003	0.0000	21.6843	21.6843	7.0100e-003	0.0000	21.8596
Total	**9.9900e-003**	**0.0772**	**0.0670**	**2.5000e-004**		**2.8900e-003**	**2.8900e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**21.6843**	**21.6843**	**7.0100e-003**	**0.0000**	**21.8596**

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	1.5000e-004	4.8800e-003	1.3900e-003	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0256	1.0256	6.0000e-005	0.0000	1.0271
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.2500e-003**	**5.8000e-003**	**9.6100e-003**	**3.0000e-005**	**3.0200e-003**	**3.0000e-005**	**3.0500e-003**	**8.1000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.1861**	**3.1861**	**1.2000e-004**	**0.0000**	**3.1891**

3.41 Distribution Cable Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0201	0.0269	4.0000e-005		1.0800e-003	1.0800e-003		9.9000e-004	9.9000e-004	0.0000	3.2794	3.2794	1.0600e-003	0.0000	3.3059
Total	**1.9800e-003**	**0.0201**	**0.0269**	**4.0000e-005**		**1.0800e-003**	**1.0800e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**3.2794**	**3.2794**	**1.0600e-003**	**0.0000**	**3.3059**

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	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

3.41 Distribution Cable Install - 2022

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	0.0201	0.0269	4.0000e-005		1.0800e-003	1.0800e-003		9.9000e-004	9.9000e-004	0.0000	3.2794	3.2794	1.0600e-003	0.0000	3.3059
Total	**1.9800e-003**	**0.0201**	**0.0269**	**4.0000e-005**		**1.0800e-003**	**1.0800e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**3.2794**	**3.2794**	**1.0600e-003**	**0.0000**	**3.3059**

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	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

3.42 Distribution Testing - 2022

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0900e-003	3.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2279	0.2279	1.0000e-005	0.0000	0.2283
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.1000e-004**	**1.3200e-003**	**2.3700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7680**	**0.7680**	**3.0000e-005**	**0.0000**	**0.7687**

3.42 Distribution Testing - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0900e-003	3.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2279	0.2279	1.0000e-005	0.0000	0.2283
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.1000e-004**	**1.3200e-003**	**2.3700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7680**	**0.7680**	**3.0000e-005**	**0.0000**	**0.7687**

3.43 Distribution Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	5.0300e-003	6.7100e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.5000e-004	2.5000e-004	0.0000	0.8198	0.8198	2.7000e-004	0.0000	0.8265
Total	**4.9000e-004**	**5.0300e-003**	**6.7100e-003**	**1.0000e-005**	**3.1800e-003**	**2.7000e-004**	**3.4500e-003**	**3.4000e-004**	**2.5000e-004**	**5.9000e-004**	**0.0000**	**0.8198**	**0.8198**	**2.7000e-004**	**0.0000**	**0.8265**

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	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	1.4000e-004	1.2000e-004	1.0300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2701	0.2701	1.0000e-005	0.0000	0.2702
Total	**2.4000e-004**	**3.3800e-003**	**1.9600e-003**	**1.0000e-005**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.9538**	**0.9538**	**5.0000e-005**	**0.0000**	**0.9550**

3.43 Distribution Cleanup Restore - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	5.0300e-003	6.7100e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.5000e-004	2.5000e-004	0.0000	0.8198	0.8198	2.7000e-004	0.0000	0.8265
Total	**4.9000e-004**	**5.0300e-003**	**6.7100e-003**	**1.0000e-005**	**1.4300e-003**	**2.7000e-004**	**1.7000e-003**	**1.5000e-004**	**2.5000e-004**	**4.0000e-004**	**0.0000**	**0.8198**	**0.8198**	**2.7000e-004**	**0.0000**	**0.8265**

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	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	1.4000e-004	1.2000e-004	1.0300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2701	0.2701	1.0000e-005	0.0000	0.2702
Total	**2.4000e-004**	**3.3800e-003**	**1.9600e-003**	**1.0000e-005**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.9538**	**0.9538**	**5.0000e-005**	**0.0000**	**0.9550**

3.44 70kV Power Line Conductor Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0625	0.5611	0.4039	1.2900e-003		0.0234	0.0234		0.0216	0.0216	0.0000	113.2627	113.2627	0.0366	0.0000	114.1785
Total	**0.0625**	**0.5611**	**0.4039**	**1.2900e-003**		**0.0234**	**0.0234**		**0.0216**	**0.0216**	**0.0000**	**113.2627**	**113.2627**	**0.0366**	**0.0000**	**114.1785**

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	6.8000e-004	0.0217	6.1800e-003	5.0000e-005	1.0900e-003	6.0000e-005	1.1500e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.5584	4.5584	2.7000e-004	0.0000	4.5651
Worker	3.3100e-003	2.7600e-003	0.0247	7.0000e-005	8.3200e-003	5.0000e-005	8.3700e-003	2.2100e-003	5.0000e-005	2.2600e-003	0.0000	6.4813	6.4813	1.8000e-004	0.0000	6.4859
Total	**3.9900e-003**	**0.0245**	**0.0309**	**1.2000e-004**	**9.4100e-003**	**1.1000e-004**	**9.5200e-003**	**2.5300e-003**	**1.0000e-004**	**2.6300e-003**	**0.0000**	**11.0397**	**11.0397**	**4.5000e-004**	**0.0000**	**11.0509**

3.44 70kV Power Line Conductor Install - 2022

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	0.0625	0.5611	0.4039	1.2900e-003		0.0234	0.0234		0.0216	0.0216	0.0000	113.2626	113.2626	0.0366	0.0000	114.1784
Total	**0.0625**	**0.5611**	**0.4039**	**1.2900e-003**		**0.0234**	**0.0234**		**0.0216**	**0.0216**	**0.0000**	**113.2626**	**113.2626**	**0.0366**	**0.0000**	**114.1784**

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	6.8000e-004	0.0217	6.1800e-003	5.0000e-005	1.0900e-003	6.0000e-005	1.1500e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.5584	4.5584	2.7000e-004	0.0000	4.5651
Worker	3.3100e-003	2.7600e-003	0.0247	7.0000e-005	8.3200e-003	5.0000e-005	8.3700e-003	2.2100e-003	5.0000e-005	2.2600e-003	0.0000	6.4813	6.4813	1.8000e-004	0.0000	6.4859
Total	**3.9900e-003**	**0.0245**	**0.0309**	**1.2000e-004**	**9.4100e-003**	**1.1000e-004**	**9.5200e-003**	**2.5300e-003**	**1.0000e-004**	**2.6300e-003**	**0.0000**	**11.0397**	**11.0397**	**4.5000e-004**	**0.0000**	**11.0509**

3.45 70kV Power Line Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3600e-003	0.0287	0.0145	4.0000e-005		1.0200e-003	1.0200e-003		9.4000e-004	9.4000e-004	0.0000	3.4378	3.4378	1.1100e-003	0.0000	3.4656
Total	**2.3600e-003**	**0.0287**	**0.0145**	**4.0000e-005**	**3.1800e-003**	**1.0200e-003**	**4.2000e-003**	**3.4000e-004**	**9.4000e-004**	**1.2800e-003**	**0.0000**	**3.4378**	**3.4378**	**1.1100e-003**	**0.0000**	**3.4656**

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	1.2000e-004	3.8000e-003	1.0800e-003	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.7977	0.7977	5.0000e-005	0.0000	0.7989
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**4.0000e-004**	**4.0300e-003**	**3.1400e-003**	**2.0000e-005**	**8.8000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.3378**	**1.3378**	**7.0000e-005**	**0.0000**	**1.3394**

3.45 70kV Power Line Cleanup Restore - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3600e-003	0.0287	0.0145	4.0000e-005		1.0200e-003	1.0200e-003		9.4000e-004	9.4000e-004	0.0000	3.4378	3.4378	1.1100e-003	0.0000	3.4655
Total	**2.3600e-003**	**0.0287**	**0.0145**	**4.0000e-005**	**1.4300e-003**	**1.0200e-003**	**2.4500e-003**	**1.5000e-004**	**9.4000e-004**	**1.0900e-003**	**0.0000**	**3.4378**	**3.4378**	**1.1100e-003**	**0.0000**	**3.4655**

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	1.2000e-004	3.8000e-003	1.0800e-003	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.7977	0.7977	5.0000e-005	0.0000	0.7989
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**4.0000e-004**	**4.0300e-003**	**3.1400e-003**	**2.0000e-005**	**8.8000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.3378**	**1.3378**	**7.0000e-005**	**0.0000**	**1.3394**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

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

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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	20.3125					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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	20.3125					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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Estrella Substation and Paso Robles Area Reinforcement Project

San Luis Obispo 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	119.40	5,201,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Current Temp. Disturbance Area Total from Project Description

Construction Phase - Dates entered based on the specific number of days from the PEA CALEEMOD input file, with consideration of the specific months during which construction is likely to occur as indicated in the Project Description of the EIR.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.
Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description. Helicopter emissions modeled separately and not included here.

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values Based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description.

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Distribution

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions modeled outside of CalEEMod and not included here.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions calculated separately and not included here.

Off-road Equipment - Based on values in PEA and Project Description

Trips and VMT - Values based on PEA and Project Description

Grading - Waiting on temp. disturbance area and material import/export values for some phases

Area Coating - No Architectural Coating

Water And Wastewater - No Water Use

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2600500	0
tblAreaCoating	Area_Nonresidential_Interior	7801500	0
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	36.00
tblConstructionPhase	NumDays	3,100.00	120.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	18.00
tblConstructionPhase	NumDays	3,100.00	6.00

tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	18.00
tblConstructionPhase	NumDays	3,100.00	18.00
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tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	18.00
tblConstructionPhase	NumDays	3,100.00	36.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	48.00
tblConstructionPhase	NumDays	3,100.00	12.00
tblConstructionPhase	NumDays	3,100.00	144.00
tblConstructionPhase	NumDays	3,100.00	48.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	310.00	12.00
tblConstructionPhase	NumDays	120.00	24.00
tblConstructionPhase	NumDays	120.00	6.00
tblConstructionPhase	NumDays	120.00	12.00
tblConstructionPhase	NumDays	120.00	18.00

tblConstructionPhase	NumDays	120.00	24.00
tblConstructionPhase	NumDays	120.00	18.00
tblConstructionPhase	NumDays	120.00	24.00
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tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7480e-003	0.00
tblFleetMix	MCY	4.7760e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	1.1920e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	2.3160e-003	0.00
tblFleetMix	SBUS	7.5800e-004	0.00
tblFleetMix	UBUS	1.1630e-003	0.00
tblGrading	AcresOfGrading	9.00	12.00
tblGrading	AcresOfGrading	0.00	6.00
tblGrading	AcresOfGrading	0.00	9.00
tblGrading	AcresOfGrading	9.00	12.00
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tblGrading	AcresOfGrading	4.50	6.00
tblGrading	AcresOfGrading	0.00	6.00
tblGrading	AcresOfGrading	27.00	0.50
tblGrading	AcresOfGrading	0.00	6.00
tblGrading	AcresOfGrading	4.50	6.00
tblGrading	AcresOfGrading	3.00	6.00
tblGrading	MaterialImported	0.00	6,050.00
tblGrading	MaterialImported	0.00	6,050.00
tblLandUse	LandUseSquareFeet	0.00	5,201,000.00
tblLandUse	LotAcreage	0.00	119.40

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tblOffRoadEquipment	UsageHours	8.00	3.00

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tblTripsAndVMT	VendorTripNumber	852.00	10.00
tblTripsAndVMT	VendorTripNumber	852.00	9.00
tblTripsAndVMT	VendorTripNumber	852.00	29.00

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tblTripsAndVMT	VendorTripNumber	852.00	26.00
tblTripsAndVMT	VendorTripNumber	0.00	11.00
tblTripsAndVMT	VendorTripNumber	0.00	29.00
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tblTripsAndVMT	VendorTripNumber	852.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	11.00

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tblTripsAndVMT	VendorTripNumber	0.00	7.00
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tblTripsAndVMT	VendorTripNumber	852.00	30.00
tblTripsAndVMT	VendorTripNumber	852.00	13.00
tblTripsAndVMT	VendorTripNumber	852.00	12.00
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tblTripsAndVMT	WorkerTripNumber	5.00	12.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	8.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	24.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	30.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	12.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
tblTripsAndVMT	WorkerTripNumber	25.00	20.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	36.00
tblTripsAndVMT	WorkerTripNumber	5.00	12.00
tblTripsAndVMT	WorkerTripNumber	5.00	12.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	40.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	20.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	12.00

tblVehicleTrips	CC_TTP	0.00	28.00
tblVehicleTrips	CNW_TTP	0.00	13.00
tblVehicleTrips	CW_TTP	0.00	59.00
tblVehicleTrips	DV_TP	0.00	19.00
tblVehicleTrips	PB_TP	0.00	2.00
tblVehicleTrips	PR_TP	0.00	79.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	12.4041	141.1988	77.7845	0.2880	10.3995	4.3580	14.2476	4.3054	4.0191	8.2541	0.0000	28,963.7749	28,963.7749	7.0961	0.0000	29,121.9885
2022	3.2574	29.8275	23.6181	0.0798	1.4267	1.1533	2.2607	0.2979	1.0612	1.2671	0.0000	7,789.7611	7,789.7611	2.2064	0.0000	7,844.9214
Maximum	**12.4041**	**141.1988**	**77.7845**	**0.2880**	**10.3995**	**4.3580**	**14.2476**	**4.3054**	**4.0191**	**8.2541**	**0.0000**	**28,963.7749**	**28,963.7749**	**7.0961**	**0.0000**	**29,121.9885**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	12.4041	141.1988	77.7845	0.2880	6.4014	4.3580	10.5426	2.4072	4.0191	6.3874	0.0000	28,963.7749	28,963.7749	7.0961	0.0000	29,121.9885
2022	3.2574	29.8275	23.6181	0.0798	1.1351	1.1533	1.9690	0.2664	1.0612	1.2356	0.0000	7,789.7611	7,789.7611	2.2064	0.0000	7,844.9214
Maximum	**12.4041**	**141.1988**	**77.7845**	**0.2880**	**6.4014**	**4.3580**	**10.5426**	**2.4072**	**4.0191**	**6.3874**	**0.0000**	**28,963.7749**	**28,963.7749**	**7.0961**	**0.0000**	**29,121.9885**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.27**	**0.00**	**24.21**	**41.92**	**0.00**	**19.94**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	111.3014	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
Total	**111.3014**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	111.3014	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
Total	**111.3014**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Reconductoring Site Prep	Site Preparation	1/1/2021	1/28/2021	6	24	Reconductor Site Prep
2	230kv Sub Access Road	Grading	1/1/2021	1/14/2021	6	12	230 Sub Access Road
3	230kV Transmission Site Work Prep	Site Preparation	1/5/2021	2/1/2021	6	24	230 TRANS Site Work Prep
4	230kV Sub Site Work Area	Site Preparation	1/15/2021	2/4/2021	6	18	230 Sub Site Work Area
5	70kV Substation Site Work Area Prep Mobil	Site Preparation	1/25/2021	2/6/2021	6	12	70 Sub Site Work Area
6	230kV Sub Fence Gate Install	Building Construction	2/1/2021	2/13/2021	6	12	230 Sub Fence Gate
7	Reconductoring Pole Install	Building Construction	2/1/2021	7/17/2021	6	144	Reconductor Pole Install
8	230kV Transmission Foundation Tower	Building Construction	2/2/2021	3/29/2021	6	48	230 TRANS Foundation Tower
9	70kV Substation Foundation Construction	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Foundation Construction
10	70kV Substation Ground Grid	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Ground Grid
11	230kV Sub Foundation Construction	Building Construction	2/8/2021	3/20/2021	6	36	230 Sub Foundation
12	Reconductoring Conductor Install	Building Construction	3/1/2021	7/17/2021	6	120	Reconductor Conductor Install
13	70kV Sub Steel Bus Erection	Building Construction	3/5/2021	4/1/2021	6	24	70 Sub Steel Bus
14	230kV Sub Ground Grid	Building Construction	3/10/2021	4/6/2021	6	24	230 Sub Ground Grid
15	230kV Transmission Conductor	Building Construction	4/1/2021	4/28/2021	6	24	230 TRANS Conductor
16	70 kV Substation Equip Delivery	Building Construction	4/1/2021	4/21/2021	6	18	70 Sub Equip Delivery
17	70kV Substation Control Enclosure	Building Construction	4/1/2021	4/7/2021	6	6	70 Sub Control Enclosure
18	230kV Sub Steel Bus	Building Construction	4/2/2021	4/29/2021	6	24	230 Sub Steel Bus

19	230kV Sub Install Yard Rock	Building Construction	4/16/2021	5/6/2021	6	18	230 Sub Install Yard Rock
20	70kV Substation Cable Installation	Building Construction	4/22/2021	5/12/2021	6	18	70 Sub Cable Install
21	230kV Sub Transformer	Building Construction	4/23/2021	5/27/2021	6	30	230 Sub Transformer
22	230kV Transmission Cleanup Restore	Site Preparation	5/1/2021	5/7/2021	6	6	230 TRANS Cleanup Restore
23	230kV Sub Control Enclosure Delivery	Building Construction	5/1/2021	5/14/2021	6	12	230 Sub Control Enclosure
24	70kV Substation Install Yard Rock	Building Construction	5/1/2021	5/14/2021	6	12	70 Sub Install Yard Rock
25	230kV Sub Remaining Equipment Delivery	Building Construction	5/8/2021	6/4/2021	6	24	230 Sub Remaining Equipment
26	70kV Substation Cleanup Restore	Site Preparation	5/15/2021	5/28/2021	6	12	70 Sub Cleanup Restore
27	230kV Sub Cable Install Termination	Building Construction	5/22/2021	6/4/2021	6	12	230 Sub Cable Install Term
28	70kV Substation Testing Commissioning	Site Preparation	6/1/2021	6/21/2021	6	18	70 Sub Testing Commissioning
29	230kV Sub Testing and Commissioning	Building Construction	6/1/2021	7/5/2021	6	30	230 Sub Testing
30	230kV Substation Cleanup Restore	Site Preparation	7/1/2021	7/21/2021	6	18	230 Sub Cleanup Restore
31	70kV Power Line Site Work Prep	Site Preparation	8/1/2021	8/28/2021	6	24	70 POWER Site Work Prep
32	Reconductoring Cleanup Restore	Site Preparation	8/1/2021	8/14/2021	6	12	Reconductor Cleanup Restore
33	70kV Power Line Pole Tower Install	Building Construction	9/1/2021	4/16/2022	6	196	70 POWER Pole Tower Install
34	Distribution Facilities Mobilization	Site Preparation	1/1/2022	1/14/2022	6	12	Distribution Facilities Mobilization
35	Distribution Foundation Construction	Building Construction	1/6/2022	2/2/2022	6	24	Distribution Foundation Construct
36	Distribution Ground Grid	Building Construction	1/20/2022	2/16/2022	6	24	Distribution Ground Grid
37	Distribution Steel Bus Erection	Building Construction	2/9/2022	3/8/2022	6	24	Distribution Steel Bus Erection
38	Distribution Bank Breaker	Building Construction	2/16/2022	3/8/2022	6	18	Distribution Bank Breaker
39	Distribution Feeder Conduit	Building Construction	2/23/2022	4/5/2022	6	36	Distribution Feeder Conduit
40	Distribution Cable Install	Building Construction	3/15/2022	4/11/2022	6	24	Distribution Cable Install
41	Distribution Testing	Building Construction	4/1/2022	4/28/2022	6	24	Distribution Testing
42	Distribution Cleanup Restore	Site Preparation	4/29/2022	5/12/2022	6	12	Distribution Cleanup Restore
43	70kV Power Line Conductor Install	Building Construction	5/1/2022	6/25/2022	6	48	70 POWER Conductor Install

44	70kV Power Line Cleanup Restore	Site Preparation	6/17/2022	6/30/2022	6	12	70 POWER Cleanup Restore

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Reconductoring Site Prep	Graders	1	6.00	187	0.41
Reconductoring Site Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kv Sub Access Road	Concrete/Industrial Saws	0	8.00	81	0.73
230kv Sub Access Road	Rubber Tired Dozers	0	1.00	247	0.40
230kv Sub Access Road	Tractors/Loaders/Backhoes	2	8.00	97	0.37
230kV Transmission Site Work Prep	Graders	1	6.00	187	0.41
230kV Transmission Site Work Prep	Off-Highway Trucks	0	10.00	402	0.38
230kV Transmission Site Work Prep	Rollers	0	8.00	80	0.38
230kV Transmission Site Work Prep	Rubber Tired Dozers	0	8.00	247	0.40
230kV Transmission Site Work Prep	Scrapers	0	8.00	367	0.48
230kV Transmission Site Work Prep	Tractors/Loaders/Backhoes	1	6.00	97	0.37
230kV Sub Site Work Area	Graders	1	8.00	187	0.41
230kV Sub Site Work Area	Graders	0	8.00	187	0.41
230kV Sub Site Work Area	Off-Highway Trucks	4	10.00	402	0.38
230kV Sub Site Work Area	Rollers	2	8.00	80	0.38
230kV Sub Site Work Area	Rubber Tired Dozers	1	8.00	247	0.40
230kV Sub Site Work Area	Scrapers	1	8.00	367	0.48

230kV Sub Site Work Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Site Work Area Prep Mobil	Graders	1	4.00	187	0.41
70kV Substation Site Work Area Prep Mobil	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Fence Gate Install	Cranes	0	4.00	231	0.29
230kV Sub Fence Gate Install	Forklifts	0	6.00	89	0.20
230kV Sub Fence Gate Install	Rubber Tired Dozers	0	1.00	247	0.40
230kV Sub Fence Gate Install	Skid Steer Loaders	1	4.00	65	0.37
230kV Sub Fence Gate Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Reconductoring Pole Install	Bore/Drill Rigs	1	6.00	221	0.50
Reconductoring Pole Install	Cranes	3	6.00	231	0.29
Reconductoring Pole Install	Cranes	1	1.00	231	0.29
Reconductoring Pole Install	Off-Highway Trucks	2	3.00	402	0.38
Reconductoring Pole Install	Off-Highway Trucks	2	2.00	402	0.38
230kV Transmission Foundation Tower	Bore/Drill Rigs	1	1.00	221	0.50
230kV Transmission Foundation Tower	Cranes	3	5.30	231	0.29
230kV Transmission Foundation Tower	Forklifts	3	2.60	89	0.20
230kV Transmission Foundation Tower	Off-Highway Trucks	2	3.50	402	0.38
230kV Transmission Foundation Tower	Off-Highway Trucks	2	2.60	402	0.38
230kV Transmission Foundation Tower	Tractors/Loaders/Backhoes	1	0.50	97	0.37
70kV Substation Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
70kV Substation Foundation Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
70kV Substation Foundation Construction	Trenchers	1	8.00	78	0.50

70kV Substation Ground Grid	Cranes	0	4.00	231	0.29
70kV Substation Ground Grid	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Substation Ground Grid	Trenchers	1	6.00	78	0.50
230kV Sub Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
230kV Sub Foundation Construction	Cranes	1	5.00	231	0.29
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Reconductoring Conductor Install	Cranes	2	8.00	231	0.29
Reconductoring Conductor Install	Forklifts	1	3.00	89	0.20
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	4.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
Reconductoring Conductor Install	Other General Industrial Equipment	2	6.00	88	0.34
70kV Sub Steel Bus Erection	Aerial Lifts	2	8.00	63	0.31
70kV Sub Steel Bus Erection	Off-Highway Trucks	2	6.00	402	0.38
70kV Sub Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Forklifts	0	6.00	89	0.20
230kV Sub Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Trenchers	1	8.00	78	0.50
230kV Transmission Conductor	Cranes	3	6.00	231	0.29
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
70 kV Substation Equip Delivery	Aerial Lifts	2	4.00	63	0.31
70 kV Substation Equip Delivery	Off-Highway Trucks	1	5.30	402	0.38

70 kV Substation Equip Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Control Enclosure	Cranes	0	4.00	231	0.29
70kV Substation Control Enclosure	Forklifts	0	6.00	89	0.20
70kV Substation Control Enclosure	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Steel Bus	Aerial Lifts	1	6.00	63	0.31
230kV Sub Steel Bus	Off-Highway Trucks	1	8.00	402	0.38
230kV Sub Steel Bus	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Skid Steer Loaders	1	10.00	65	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cable Installation	Cranes	0	4.00	231	0.29
70kV Substation Cable Installation	Forklifts	0	6.00	89	0.20
70kV Substation Cable Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Cranes	1	6.00	231	0.29
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Generator Sets	1	5.00	84	0.74
230kV Sub Transformer	Off-Highway Trucks	2	10.00	402	0.38
230kV Sub Transformer	Off-Highway Trucks	1	4.80	402	0.38

230kV Sub Transformer	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Transmission Cleanup Restore	Graders	1	8.00	187	0.41
230kV Transmission Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Control Enclosure Delivery	Cranes	1	6.00	231	0.29
230kV Sub Control Enclosure Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Control Enclosure Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Install Yard Rock	Forklifts	0	6.00	89	0.20
70kV Substation Install Yard Rock	Skid Steer Loaders	1	8.00	231	0.29
70kV Substation Install Yard Rock	Tractors/Loaders/Backhoes	1	8.00	97	0.37
230kV Sub Remaining Equipment Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Remaining Equipment Delivery	Off-Highway Trucks	1	6.00	402	0.38
230kV Sub Remaining Equipment Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cleanup Restore	Graders	0	8.00	187	0.41
70kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Cable Install Termination	Aerial Lifts	1	8.00	63	0.31
230kV Sub Cable Install Termination	Forklifts	0	6.00	89	0.20
230kV Sub Cable Install Termination	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Testing Commissioning	Graders	0	8.00	187	0.41
70kV Substation Testing Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Cement and Mortar Mixers	0	6.00	9	0.56
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29

230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Pavers	0	7.00	130	0.42
230kV Sub Testing and Commissioning	Rollers	0	7.00	80	0.38
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	7.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Substation Cleanup Restore	Other General Industrial Equipment	1	6.00	88	0.34
230kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Power Line Site Work Prep	Graders	2	6.00	187	0.41
70kV Power Line Site Work Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Reconductoring Cleanup Restore	Graders	1	6.00	187	0.41
Reconductoring Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Pole Tower Install	Cranes	1	4.00	231	0.29
70kV Power Line Pole Tower Install	Off-Highway Trucks	7	4.00	402	0.38
70kV Power Line Pole Tower Install	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Distribution Facilities Mobilization	Graders	0	8.00	187	0.41
Distribution Facilities Mobilization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Foundation Construction	Cranes	0	4.00	231	0.29
Distribution Foundation Construction	Forklifts	0	6.00	89	0.20
Distribution Foundation Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Distribution Ground Grid	Cranes	1	1.50	231	0.29

Distribution Ground Grid	Forklifts	0	6.00	89	0.20
Distribution Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Steel Bus Erection	Cranes	0	4.00	231	0.29
Distribution Steel Bus Erection	Forklifts	0	6.00	89	0.20
Distribution Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Bank Breaker	Cranes	1	2.00	231	0.29
Distribution Bank Breaker	Forklifts	0	6.00	89	0.20
Distribution Bank Breaker	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Feeder Conduit	Forklifts	0	6.00	89	0.20
Distribution Feeder Conduit	Off-Highway Trucks	2	4.00	402	0.38
Distribution Feeder Conduit	Tractors/Loaders/Backhoes	1	1.30	97	0.37
Distribution Cable Install	Cranes	0	4.00	231	0.29
Distribution Cable Install	Forklifts	0	6.00	89	0.20
Distribution Cable Install	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Testing	Cranes	0	4.00	231	0.29
Distribution Testing	Forklifts	0	6.00	89	0.20
Distribution Testing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Cleanup Restore	Graders	0	8.00	187	0.41
Distribution Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Conductor Install	Cranes	3	6.00	231	0.29
70kV Power Line Conductor Install	Forklifts	1	3.00	89	0.20
70kV Power Line Conductor Install	Off-Highway Trucks	3	4.00	402	0.38
70kV Power Line Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
70kV Power Line Conductor Install	Off-Highway Trucks	2	2.00	402	0.38
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Cleanup Restore	Graders	1	6.00	187	0.41

70kV Power Line Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37

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
Reconductoring Site Prep	2	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kv Sub Access Road	2	20.00	33.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Site Work Prep	2	16.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Site Work Area	10	20.00	11.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Site Work Area Prep Mobil	2	12.00	6.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Fence Gate Install	1	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Pole Install	9	40.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Foundation Tower	12	20.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Foundation Constructi	3	12.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Ground Grid	2	8.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Foundation Constructi	3	24.00	31.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Conductor Install	12	30.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Sub Steel Bus Erection	4	16.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Ground Grid	1	10.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Conductor	7	30.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70 kV Substation Equip Delivery	3	12.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Control Enclosure	0	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Steel Bus	2	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Install Yard Rock	1	16.00	45.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cable Installation	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Transformer	6	16.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Cleanup Restore	2	10.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

230kV Sub Control Enclosure Delivery	1	12.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Install Yard Rock	2	12.00	16.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Remaining Equipment Delivery	1	10.00	28.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cleanup Restore	0	8.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Cable Install Termination	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Testing Commissionin	0	8.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Testing and Commissioning	0	10.00	26.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Substation Cleanup Restore	2	6.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Site Work Prep	3	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Cleanup Restore	2	12.00	5.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Pole Tower Install	10	42.00	15.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Facilities Mobilization	1	12.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Foundation Constructi	1	24.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Ground Grid	1	20.00	4.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Steel Bus Erection	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Bank Breaker	1	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Feeder Conduit	3	16.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cable Install	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Testing	0	6.00	1.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cleanup Restore	1	6.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Conductor Install	12	36.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Cleanup Restore	2	12.00	7.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Reconductoring Site Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809		631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.5303**	**0.1967**	**0.7269**	**0.0573**	**0.1809**	**0.2382**		**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0296	0.9452	0.2608	2.0000e-003	0.0464	2.6500e-003	0.0491	0.0134	2.5400e-003	0.0159		213.5564	213.5564	0.0120		213.8572
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0774**	**0.9835**	**0.6476**	**3.0800e-003**	**0.1651**	**3.3800e-003**	**0.1685**	**0.0448**	**3.2200e-003**	**0.0481**		**320.6447**	**320.6447**	**0.0153**		**321.0259**

3.2 Reconductoring Site Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809	0.0000	631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.2386**	**0.1967**	**0.4353**	**0.0258**	**0.1809**	**0.2067**	**0.0000**	**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0296	0.9452	0.2608	2.0000e-003	0.0464	2.6500e-003	0.0491	0.0134	2.5400e-003	0.0159		213.5564	213.5564	0.0120		213.8572
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0774**	**0.9835**	**0.6476**	**3.0800e-003**	**0.1651**	**3.3800e-003**	**0.1685**	**0.0448**	**3.2200e-003**	**0.0481**		**320.6447**	**320.6447**	**0.0153**		**321.0259**

3.3 230kv Sub Access Road - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3746	3.7916	4.5205	6.2100e-003		0.2236	0.2236		0.2057	0.2057		601.8002	601.8002	0.1946		606.6660
Total	**0.3746**	**3.7916**	**4.5205**	**6.2100e-003**	**0.0000**	**0.2236**	**0.2236**	**0.0000**	**0.2057**	**0.2057**		**601.8002**	**601.8002**	**0.1946**		**606.6660**

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	0.0978	3.1192	0.8607	6.6100e-003	0.1532	8.7500e-003	0.1620	0.0441	8.3700e-003	0.0525		704.7362	704.7362	0.0397		705.7289
Worker	0.0797	0.0638	0.6447	1.7900e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		178.4805	178.4805	5.3600e-003		178.6144
Total	**0.1775**	**3.1830**	**1.5054**	**8.4000e-003**	**0.3509**	**9.9700e-003**	**0.3609**	**0.0966**	**9.5000e-003**	**0.1061**		**883.2166**	**883.2166**	**0.0451**		**884.3433**

3.3 230kv Sub Access Road - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3746	3.7916	4.5205	6.2100e-003		0.2236	0.2236		0.2057	0.2057	0.0000	601.8002	601.8002	0.1946		606.6660
Total	**0.3746**	**3.7916**	**4.5205**	**6.2100e-003**	**0.0000**	**0.2236**	**0.2236**	**0.0000**	**0.2057**	**0.2057**	**0.0000**	**601.8002**	**601.8002**	**0.1946**		**606.6660**

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	0.0978	3.1192	0.8607	6.6100e-003	0.1532	8.7500e-003	0.1620	0.0441	8.3700e-003	0.0525		704.7362	704.7362	0.0397		705.7289
Worker	0.0797	0.0638	0.6447	1.7900e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		178.4805	178.4805	5.3600e-003		178.6144
Total	**0.1775**	**3.1830**	**1.5054**	**8.4000e-003**	**0.3509**	**9.9700e-003**	**0.3609**	**0.0966**	**9.5000e-003**	**0.1061**		**883.2166**	**883.2166**	**0.0451**		**884.3433**

3.4 230kV Transmission Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066		706.9381	706.9381	0.2286		712.6541
Total	**0.4802**	**5.8653**	**3.0206**	**7.3000e-003**	**0.5303**	**0.2246**	**0.7549**	**0.0573**	**0.2066**	**0.2639**		**706.9381**	**706.9381**	**0.2286**		**712.6541**

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	0.0326	1.0397	0.2869	2.2000e-003	0.0511	2.9200e-003	0.0540	0.0147	2.7900e-003	0.0175		234.9121	234.9121	0.0132		235.2430
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.0963**	**1.0908**	**0.8027**	**3.6300e-003**	**0.2093**	**3.9000e-003**	**0.2132**	**0.0567**	**3.6900e-003**	**0.0604**		**377.6964**	**377.6964**	**0.0175**		**378.1345**

3.4 230kV Transmission Site Work Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066	0.0000	706.9381	706.9381	0.2286		712.6541
Total	**0.4802**	**5.8653**	**3.0206**	**7.3000e-003**	**0.2386**	**0.2246**	**0.4632**	**0.0258**	**0.2066**	**0.2324**	**0.0000**	**706.9381**	**706.9381**	**0.2286**		**712.6541**

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	0.0326	1.0397	0.2869	2.2000e-003	0.0511	2.9200e-003	0.0540	0.0147	2.7900e-003	0.0175		234.9121	234.9121	0.0132		235.2430
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.0963**	**1.0908**	**0.8027**	**3.6300e-003**	**0.2093**	**3.9000e-003**	**0.2132**	**0.0567**	**3.6900e-003**	**0.0604**		**377.6964**	**377.6964**	**0.0175**		**378.1345**

3.5 230kV Sub Site Work Area - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1134	0.0000	6.1134	3.3228	0.0000	3.3228			0.0000			0.0000
Off-Road	6.0246	59.6598	36.8525	0.1047		2.4489	2.4489		2.2530	2.2530		10,138.6407	10,138.6407	3.2790		10,220.6167
Total	**6.0246**	**59.6598**	**36.8525**	**0.1047**	**6.1134**	**2.4489**	**8.5623**	**3.3228**	**2.2530**	**5.5757**		**10,138.6407**	**10,138.6407**	**3.2790**		**10,220.6167**

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	0.3362	12.1288	2.7188	0.0328	0.7332	0.0511	0.7843	0.2009	0.0489	0.2498		3,543.7186	3,543.7186	0.2016		3,548.7592
Vendor	0.0326	1.0397	0.2869	2.2000e-003	0.0511	2.9200e-003	0.0540	0.0147	2.7900e-003	0.0175		234.9121	234.9121	0.0132		235.2430
Worker	0.0797	0.0638	0.6447	1.7900e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		178.4805	178.4805	5.3600e-003		178.6144
Total	**0.4485**	**13.2323**	**3.6504**	**0.0368**	**0.9820**	**0.0553**	**1.0372**	**0.2680**	**0.0528**	**0.3209**		**3,957.1111**	**3,957.1111**	**0.2202**		**3,962.6166**

3.5 230kV Sub Site Work Area - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7510	0.0000	2.7510	1.4953	0.0000	1.4953			0.0000			0.0000
Off-Road	6.0246	59.6598	36.8525	0.1047		2.4489	2.4489		2.2530	2.2530	0.0000	10,138.6406	10,138.6406	3.2790		10,220.6167
Total	**6.0246**	**59.6598**	**36.8525**	**0.1047**	**2.7510**	**2.4489**	**5.1999**	**1.4953**	**2.2530**	**3.7482**	**0.0000**	**10,138.6406**	**10,138.6406**	**3.2790**		**10,220.6167**

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	0.3362	12.1288	2.7188	0.0328	0.7332	0.0511	0.7843	0.2009	0.0489	0.2498		3,543.7186	3,543.7186	0.2016		3,548.7592
Vendor	0.0326	1.0397	0.2869	2.2000e-003	0.0511	2.9200e-003	0.0540	0.0147	2.7900e-003	0.0175		234.9121	234.9121	0.0132		235.2430
Worker	0.0797	0.0638	0.6447	1.7900e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		178.4805	178.4805	5.3600e-003		178.6144
Total	**0.4485**	**13.2323**	**3.6504**	**0.0368**	**0.9820**	**0.0553**	**1.0372**	**0.2680**	**0.0528**	**0.3209**		**3,957.1111**	**3,957.1111**	**0.2202**		**3,962.6166**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6231	0.0000	0.6231	0.0713	0.0000	0.0713			0.0000			0.0000
Off-Road	0.3201	3.9102	2.0137	4.8700e-003		0.1497	0.1497		0.1378	0.1378		471.2921	471.2921	0.1524		475.1027
Total	**0.3201**	**3.9102**	**2.0137**	**4.8700e-003**	**0.6231**	**0.1497**	**0.7728**	**0.0713**	**0.1378**	**0.2091**		**471.2921**	**471.2921**	**0.1524**		**475.1027**

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	0.5043	18.1932	4.0782	0.0492	1.0998	0.0767	1.1764	0.3013	0.0734	0.3747		5,315.5778	5,315.5778	0.3024		5,323.1387
Vendor	0.0178	0.5671	0.1565	1.2000e-003	0.0279	1.5900e-003	0.0295	8.0200e-003	1.5200e-003	9.5500e-003		128.1339	128.1339	7.2200e-003		128.3144
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.5699**	**18.7986**	**4.6215**	**0.0515**	**1.2462**	**0.0790**	**1.3253**	**0.3408**	**0.0756**	**0.4164**		**5,550.8000**	**5,550.8000**	**0.3129**		**5,558.6218**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2804	0.0000	0.2804	0.0321	0.0000	0.0321			0.0000			0.0000
Off-Road	0.3201	3.9102	2.0137	4.8700e-003		0.1497	0.1497		0.1378	0.1378	0.0000	471.2921	471.2921	0.1524		475.1027
Total	**0.3201**	**3.9102**	**2.0137**	**4.8700e-003**	**0.2804**	**0.1497**	**0.4301**	**0.0321**	**0.1378**	**0.1699**	**0.0000**	**471.2921**	**471.2921**	**0.1524**		**475.1027**

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	0.5043	18.1932	4.0782	0.0492	1.0998	0.0767	1.1764	0.3013	0.0734	0.3747		5,315.5778	5,315.5778	0.3024		5,323.1387
Vendor	0.0178	0.5671	0.1565	1.2000e-003	0.0279	1.5900e-003	0.0295	8.0200e-003	1.5200e-003	9.5500e-003		128.1339	128.1339	7.2200e-003		128.3144
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.5699**	**18.7986**	**4.6215**	**0.0515**	**1.2462**	**0.0790**	**1.3253**	**0.3408**	**0.0756**	**0.4164**		**5,550.8000**	**5,550.8000**	**0.3129**		**5,558.6218**

3.7 230kV Sub Fence Gate Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0378	0.5018	0.6950	1.0300e-003		0.0204	0.0204		0.0188	0.0188		100.0992	100.0992	0.0324		100.9085
Total	**0.0378**	**0.5018**	**0.6950**	**1.0300e-003**		**0.0204**	**0.0204**		**0.0188**	**0.0188**		**100.0992**	**100.0992**	**0.0324**		**100.9085**

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	0.0889	2.8357	0.7825	6.0100e-003	0.1393	7.9600e-003	0.1472	0.0401	7.6100e-003	0.0477		640.6693	640.6693	0.0361		641.5717
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1288**	**2.8676**	**1.1048**	**6.9100e-003**	**0.2381**	**8.5700e-003**	**0.2467**	**0.0663**	**8.1700e-003**	**0.0745**		**729.9095**	**729.9095**	**0.0388**		**730.8790**

3.7 230kV Sub Fence Gate Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0378	0.5018	0.6950	1.0300e-003		0.0204	0.0204		0.0188	0.0188	0.0000	100.0992	100.0992	0.0324		100.9085
Total	**0.0378**	**0.5018**	**0.6950**	**1.0300e-003**		**0.0204**	**0.0204**		**0.0188**	**0.0188**	**0.0000**	**100.0992**	**100.0992**	**0.0324**		**100.9085**

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	0.0889	2.8357	0.7825	6.0100e-003	0.1393	7.9600e-003	0.1472	0.0401	7.6100e-003	0.0477		640.6693	640.6693	0.0361		641.5717
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1288**	**2.8676**	**1.1048**	**6.9100e-003**	**0.2381**	**8.5700e-003**	**0.2467**	**0.0663**	**8.1700e-003**	**0.0745**		**729.9095**	**729.9095**	**0.0388**		**730.8790**

3.8 Reconductoring Pole Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9317	20.3635	10.7702	0.0373		0.7777	0.7777		0.7154	0.7154		3,609.2051	3,609.2051	1.1673		3,638.3874
Total	**1.9317**	**20.3635**	**10.7702**	**0.0373**		**0.7777**	**0.7777**		**0.7154**	**0.7154**		**3,609.2051**	**3,609.2051**	**1.1673**		**3,638.3874**

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	0.0385	1.2288	0.3391	2.6100e-003	0.0604	3.4500e-003	0.0638	0.0174	3.3000e-003	0.0207		277.6234	277.6234	0.0156		278.0144
Worker	0.1593	0.1276	1.2894	3.5800e-003	0.3955	2.4500e-003	0.3979	0.1049	2.2600e-003	0.1071		356.9609	356.9609	0.0107		357.2289
Total	**0.1979**	**1.3564**	**1.6285**	**6.1900e-003**	**0.4558**	**5.9000e-003**	**0.4617**	**0.1223**	**5.5600e-003**	**0.1278**		**634.5843**	**634.5843**	**0.0264**		**635.2433**

3.8 Reconductoring Pole Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9317	20.3635	10.7702	0.0373		0.7777	0.7777		0.7154	0.7154	0.0000	3,609.2051	3,609.2051	1.1673		3,638.3874
Total	**1.9317**	**20.3635**	**10.7702**	**0.0373**		**0.7777**	**0.7777**		**0.7154**	**0.7154**	**0.0000**	**3,609.2051**	**3,609.2051**	**1.1673**		**3,638.3874**

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	0.0385	1.2288	0.3391	2.6100e-003	0.0604	3.4500e-003	0.0638	0.0174	3.3000e-003	0.0207		277.6234	277.6234	0.0156		278.0144
Worker	0.1593	0.1276	1.2894	3.5800e-003	0.3955	2.4500e-003	0.3979	0.1049	2.2600e-003	0.1071		356.9609	356.9609	0.0107		357.2289
Total	**0.1979**	**1.3564**	**1.6285**	**6.1900e-003**	**0.4558**	**5.9000e-003**	**0.4617**	**0.1223**	**5.5600e-003**	**0.1278**		**634.5843**	**634.5843**	**0.0264**		**635.2433**

3.9 230kV Transmission Foundation Tower - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9147	19.3107	10.9767	0.0345		0.7858	0.7858		0.7229	0.7229		3,337.3850	3,337.3850	1.0794		3,364.3694
Total	**1.9147**	**19.3107**	**10.9767**	**0.0345**		**0.7858**	**0.7858**		**0.7229**	**0.7229**		**3,337.3850**	**3,337.3850**	**1.0794**		**3,364.3694**

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	0.0356	1.1343	0.3130	2.4100e-003	0.0557	3.1800e-003	0.0589	0.0161	3.0400e-003	0.0191		256.2677	256.2677	0.0144		256.6287
Worker	0.0797	0.0638	0.6447	1.7900e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		178.4805	178.4805	5.3600e-003		178.6144
Total	**0.1152**	**1.1981**	**0.9577**	**4.2000e-003**	**0.2534**	**4.4000e-003**	**0.2579**	**0.0685**	**4.1700e-003**	**0.0727**		**434.7482**	**434.7482**	**0.0198**		**435.2431**

3.9 230kV Transmission Foundation Tower - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9147	19.3107	10.9767	0.0345		0.7858	0.7858		0.7229	0.7229	0.0000	3,337.3850	3,337.3850	1.0794		3,364.3694
Total	**1.9147**	**19.3107**	**10.9767**	**0.0345**		**0.7858**	**0.7858**		**0.7229**	**0.7229**	**0.0000**	**3,337.3850**	**3,337.3850**	**1.0794**		**3,364.3694**

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	0.0356	1.1343	0.3130	2.4100e-003	0.0557	3.1800e-003	0.0589	0.0161	3.0400e-003	0.0191		256.2677	256.2677	0.0144		256.6287
Worker	0.0797	0.0638	0.6447	1.7900e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		178.4805	178.4805	5.3600e-003		178.6144
Total	**0.1152**	**1.1981**	**0.9577**	**4.2000e-003**	**0.2534**	**4.4000e-003**	**0.2579**	**0.0685**	**4.1700e-003**	**0.0727**		**434.7482**	**434.7482**	**0.0198**		**435.2431**

3.10 70kV Substation Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8279	8.4307	6.9405	0.0159		0.4584	0.4584		0.4217	0.4217		1,539.8850	1,539.8850	0.4980		1,552.3357
Total	**0.8279**	**8.4307**	**6.9405**	**0.0159**		**0.4584**	**0.4584**		**0.4217**	**0.4217**		**1,539.8850**	**1,539.8850**	**0.4980**		**1,552.3357**

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	0.0385	1.2288	0.3391	2.6100e-003	0.0604	3.4500e-003	0.0638	0.0174	3.3000e-003	0.0207		277.6234	277.6234	0.0156		278.0144
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0863**	**1.2671**	**0.7259**	**3.6900e-003**	**0.1790**	**4.1800e-003**	**0.1832**	**0.0488**	**3.9800e-003**	**0.0528**		**384.7116**	**384.7116**	**0.0189**		**385.1831**

3.10 70kV Substation Foundation Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8279	8.4307	6.9405	0.0159		0.4584	0.4584		0.4217	0.4217	0.0000	1,539.8850	1,539.8850	0.4980		1,552.3357
Total	**0.8279**	**8.4307**	**6.9405**	**0.0159**		**0.4584**	**0.4584**		**0.4217**	**0.4217**	**0.0000**	**1,539.8850**	**1,539.8850**	**0.4980**		**1,552.3357**

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	0.0385	1.2288	0.3391	2.6100e-003	0.0604	3.4500e-003	0.0638	0.0174	3.3000e-003	0.0207		277.6234	277.6234	0.0156		278.0144
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0863**	**1.2671**	**0.7259**	**3.6900e-003**	**0.1790**	**4.1800e-003**	**0.1832**	**0.0488**	**3.9800e-003**	**0.0528**		**384.7116**	**384.7116**	**0.0189**		**385.1831**

3.11 70kV Substation Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4273	4.0559	3.6499	4.8600e-003		0.2751	0.2751		0.2531	0.2531		470.8669	470.8669	0.1523		474.6741
Total	**0.4273**	**4.0559**	**3.6499**	**4.8600e-003**		**0.2751**	**0.2751**		**0.2531**	**0.2531**		**470.8669**	**470.8669**	**0.1523**		**474.6741**

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	0.0267	0.8507	0.2347	1.8000e-003	0.0418	2.3900e-003	0.0442	0.0120	2.2800e-003	0.0143		192.2008	192.2008	0.0108		192.4715
Worker	0.0319	0.0255	0.2579	7.2000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		71.3922	71.3922	2.1400e-003		71.4458
Total	**0.0585**	**0.8762**	**0.4926**	**2.5200e-003**	**0.1209**	**2.8800e-003**	**0.1238**	**0.0330**	**2.7300e-003**	**0.0358**		**263.5930**	**263.5930**	**0.0130**		**263.9173**

3.11 70kV Substation Ground Grid - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4273	4.0559	3.6499	4.8600e-003		0.2751	0.2751		0.2531	0.2531	0.0000	470.8669	470.8669	0.1523		474.6741
Total	**0.4273**	**4.0559**	**3.6499**	**4.8600e-003**		**0.2751**	**0.2751**		**0.2531**	**0.2531**	**0.0000**	**470.8669**	**470.8669**	**0.1523**		**474.6741**

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	0.0267	0.8507	0.2347	1.8000e-003	0.0418	2.3900e-003	0.0442	0.0120	2.2800e-003	0.0143		192.2008	192.2008	0.0108		192.4715
Worker	0.0319	0.0255	0.2579	7.2000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		71.3922	71.3922	2.1400e-003		71.4458
Total	**0.0585**	**0.8762**	**0.4926**	**2.5200e-003**	**0.1209**	**2.8800e-003**	**0.1238**	**0.0330**	**2.7300e-003**	**0.0358**		**263.5930**	**263.5930**	**0.0130**		**263.9173**

3.12 230kV Sub Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6333	7.2385	4.7259	0.0150		0.2845	0.2845		0.2618	0.2618		1,449.3367	1,449.3367	0.4687		1,461.0553
Total	**0.6333**	**7.2385**	**4.7259**	**0.0150**		**0.2845**	**0.2845**		**0.2618**	**0.2618**		**1,449.3367**	**1,449.3367**	**0.4687**		**1,461.0553**

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	0.0919	2.9302	0.8085	6.2100e-003	0.1439	8.2200e-003	0.1522	0.0415	7.8600e-003	0.0493		662.0249	662.0249	0.0373		662.9575
Worker	0.0956	0.0766	0.7736	2.1500e-003	0.2373	1.4700e-003	0.2387	0.0629	1.3600e-003	0.0643		214.1765	214.1765	6.4300e-003		214.3373
Total	**0.1875**	**3.0068**	**1.5822**	**8.3600e-003**	**0.3812**	**9.6900e-003**	**0.3909**	**0.1044**	**9.2200e-003**	**0.1136**		**876.2015**	**876.2015**	**0.0437**		**877.2948**

3.12 230kV Sub Foundation Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6333	7.2385	4.7259	0.0150		0.2845	0.2845		0.2618	0.2618	0.0000	1,449.3367	1,449.3367	0.4687		1,461.0553
Total	**0.6333**	**7.2385**	**4.7259**	**0.0150**		**0.2845**	**0.2845**		**0.2618**	**0.2618**	**0.0000**	**1,449.3367**	**1,449.3367**	**0.4687**		**1,461.0553**

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	0.0919	2.9302	0.8085	6.2100e-003	0.1439	8.2200e-003	0.1522	0.0415	7.8600e-003	0.0493		662.0249	662.0249	0.0373		662.9575
Worker	0.0956	0.0766	0.7736	2.1500e-003	0.2373	1.4700e-003	0.2387	0.0629	1.3600e-003	0.0643		214.1765	214.1765	6.4300e-003		214.3373
Total	**0.1875**	**3.0068**	**1.5822**	**8.3600e-003**	**0.3812**	**9.6900e-003**	**0.3909**	**0.1044**	**9.2200e-003**	**0.1136**		**876.2015**	**876.2015**	**0.0437**		**877.2948**

3.13 Reconductoring Conductor Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0719	38.0846	24.4849	0.0787		1.5447	1.5447		1.4211	1.4211		7,618.0006	7,618.0006	2.4638		7,679.5960
Total	**4.0719**	**38.0846**	**24.4849**	**0.0787**		**1.5447**	**1.5447**		**1.4211**	**1.4211**		**7,618.0006**	**7,618.0006**	**2.4638**		**7,679.5960**

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	0.0296	0.9452	0.2608	2.0000e-003	0.0464	2.6500e-003	0.0491	0.0134	2.5400e-003	0.0159		213.5564	213.5564	0.0120		213.8572
Worker	0.1195	0.0957	0.9670	2.6900e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		267.7207	267.7207	8.0400e-003		267.9217
Total	**0.1492**	**1.0410**	**1.2279**	**4.6900e-003**	**0.3430**	**4.4900e-003**	**0.3475**	**0.0920**	**4.2300e-003**	**0.0963**		**481.2771**	**481.2771**	**0.0201**		**481.7789**

3.13 Reconductoring Conductor Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0719	38.0846	24.4849	0.0787		1.5447	1.5447		1.4211	1.4211	0.0000	7,618.0006	7,618.0006	2.4638		7,679.5960
Total	**4.0719**	**38.0846**	**24.4849**	**0.0787**		**1.5447**	**1.5447**		**1.4211**	**1.4211**	**0.0000**	**7,618.0006**	**7,618.0006**	**2.4638**		**7,679.5960**

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	0.0296	0.9452	0.2608	2.0000e-003	0.0464	2.6500e-003	0.0491	0.0134	2.5400e-003	0.0159		213.5564	213.5564	0.0120		213.8572
Worker	0.1195	0.0957	0.9670	2.6900e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		267.7207	267.7207	8.0400e-003		267.9217
Total	**0.1492**	**1.0410**	**1.2279**	**4.6900e-003**	**0.3430**	**4.4900e-003**	**0.3475**	**0.0920**	**4.2300e-003**	**0.0963**		**481.2771**	**481.2771**	**0.0201**		**481.7789**

3.14 70kV Sub Steel Bus Erection - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9838	9.0963	7.5946	0.0232		0.3125	0.3125		0.2875	0.2875		2,243.0242	2,243.0242	0.7254		2,261.1602
Total	**0.9838**	**9.0963**	**7.5946**	**0.0232**		**0.3125**	**0.3125**		**0.2875**	**0.2875**		**2,243.0242**	**2,243.0242**	**0.7254**		**2,261.1602**

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	0.0267	0.8507	0.2347	1.8000e-003	0.0418	2.3900e-003	0.0442	0.0120	2.2800e-003	0.0143		192.2008	192.2008	0.0108		192.4715
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.0904**	**0.9018**	**0.7505**	**3.2300e-003**	**0.2000**	**3.3700e-003**	**0.2033**	**0.0540**	**3.1800e-003**	**0.0572**		**334.9851**	**334.9851**	**0.0151**		**335.3631**

3.14 70kV Sub Steel Bus Erection - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9838	9.0963	7.5946	0.0232		0.3125	0.3125		0.2875	0.2875	0.0000	2,243.0242	2,243.0242	0.7254		2,261.1602
Total	**0.9838**	**9.0963**	**7.5946**	**0.0232**		**0.3125**	**0.3125**		**0.2875**	**0.2875**	**0.0000**	**2,243.0242**	**2,243.0242**	**0.7254**		**2,261.1602**

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	0.0267	0.8507	0.2347	1.8000e-003	0.0418	2.3900e-003	0.0442	0.0120	2.2800e-003	0.0143		192.2008	192.2008	0.0108		192.4715
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.0904**	**0.9018**	**0.7505**	**3.2300e-003**	**0.2000**	**3.3700e-003**	**0.2033**	**0.0540**	**3.1800e-003**	**0.0572**		**334.9851**	**334.9851**	**0.0151**		**335.3631**

3.15 230kV Sub Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3825	3.5121	2.6063	3.3700e-003		0.2550	0.2550		0.2346	0.2346		326.9225	326.9225	0.1057		329.5658
Total	**0.3825**	**3.5121**	**2.6063**	**3.3700e-003**		**0.2550**	**0.2550**		**0.2346**	**0.2346**		**326.9225**	**326.9225**	**0.1057**		**329.5658**

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	0.0860	2.7411	0.7564	5.8100e-003	0.1346	7.6900e-003	0.1423	0.0388	7.3500e-003	0.0461		619.3136	619.3136	0.0349		620.1860
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1258**	**2.7730**	**1.0787**	**6.7100e-003**	**0.2335**	**8.3000e-003**	**0.2418**	**0.0650**	**7.9100e-003**	**0.0729**		**708.5538**	**708.5538**	**0.0376**		**709.4932**

3.15 230kV Sub Ground Grid - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3825	3.5121	2.6063	3.3700e-003		0.2550	0.2550		0.2346	0.2346	0.0000	326.9225	326.9225	0.1057		329.5658
Total	**0.3825**	**3.5121**	**2.6063**	**3.3700e-003**		**0.2550**	**0.2550**		**0.2346**	**0.2346**	**0.0000**	**326.9225**	**326.9225**	**0.1057**		**329.5658**

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	0.0860	2.7411	0.7564	5.8100e-003	0.1346	7.6900e-003	0.1423	0.0388	7.3500e-003	0.0461		619.3136	619.3136	0.0349		620.1860
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1258**	**2.7730**	**1.0787**	**6.7100e-003**	**0.2335**	**8.3000e-003**	**0.2418**	**0.0650**	**7.9100e-003**	**0.0729**		**708.5538**	**708.5538**	**0.0376**		**709.4932**

3.16 230kV Transmission Conductor - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1408	21.4378	11.6701	0.0394		0.8291	0.8291		0.7628	0.7628		3,814.2082	3,814.2082	1.2336		3,845.0480
Total	**2.1408**	**21.4378**	**11.6701**	**0.0394**		**0.8291**	**0.8291**		**0.7628**	**0.7628**		**3,814.2082**	**3,814.2082**	**1.2336**		**3,845.0480**

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	0.0326	1.0397	0.2869	2.2000e-003	0.0511	2.9200e-003	0.0540	0.0147	2.7900e-003	0.0175		234.9121	234.9121	0.0132		235.2430
Worker	0.1195	0.0957	0.9670	2.6900e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		267.7207	267.7207	8.0400e-003		267.9217
Total	**0.1521**	**1.1355**	**1.2539**	**4.8900e-003**	**0.3477**	**4.7600e-003**	**0.3524**	**0.0934**	**4.4800e-003**	**0.0979**		**502.6327**	**502.6327**	**0.0213**		**503.1646**

3.16 230kV Transmission Conductor - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1408	21.4378	11.6701	0.0394		0.8291	0.8291		0.7628	0.7628	0.0000	3,814.2082	3,814.2082	1.2336		3,845.0480
Total	**2.1408**	**21.4378**	**11.6701**	**0.0394**		**0.8291**	**0.8291**		**0.7628**	**0.7628**	**0.0000**	**3,814.2082**	**3,814.2082**	**1.2336**		**3,845.0480**

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	0.0326	1.0397	0.2869	2.2000e-003	0.0511	2.9200e-003	0.0540	0.0147	2.7900e-003	0.0175		234.9121	234.9121	0.0132		235.2430
Worker	0.1195	0.0957	0.9670	2.6900e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		267.7207	267.7207	8.0400e-003		267.9217
Total	**0.1521**	**1.1355**	**1.2539**	**4.8900e-003**	**0.3477**	**4.7600e-003**	**0.3524**	**0.0934**	**4.4800e-003**	**0.0979**		**502.6327**	**502.6327**	**0.0213**		**503.1646**

3.17 70 kV Substation Equip Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	4.0876	3.4819	0.0104		0.1394	0.1394		0.1282	0.1282		1,009.6413	1,009.6413	0.3265		1,017.8048
Total	**0.4389**	**4.0876**	**3.4819**	**0.0104**		**0.1394**	**0.1394**		**0.1282**	**0.1282**		**1,009.6413**	**1,009.6413**	**0.3265**		**1,017.8048**

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	0.0356	1.1343	0.3130	2.4100e-003	0.0557	3.1800e-003	0.0589	0.0161	3.0400e-003	0.0191		256.2677	256.2677	0.0144		256.6287
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0834**	**1.1726**	**0.6998**	**3.4900e-003**	**0.1743**	**3.9100e-003**	**0.1783**	**0.0475**	**3.7200e-003**	**0.0512**		**363.3560**	**363.3560**	**0.0177**		**363.7974**

3.17 70 kV Substation Equip Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	4.0876	3.4819	0.0104		0.1394	0.1394		0.1282	0.1282	0.0000	1,009.6413	1,009.6413	0.3265		1,017.8048
Total	**0.4389**	**4.0876**	**3.4819**	**0.0104**		**0.1394**	**0.1394**		**0.1282**	**0.1282**	**0.0000**	**1,009.6413**	**1,009.6413**	**0.3265**		**1,017.8048**

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	0.0356	1.1343	0.3130	2.4100e-003	0.0557	3.1800e-003	0.0589	0.0161	3.0400e-003	0.0191		256.2677	256.2677	0.0144		256.6287
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0834**	**1.1726**	**0.6998**	**3.4900e-003**	**0.1743**	**3.9100e-003**	**0.1783**	**0.0475**	**3.7200e-003**	**0.0512**		**363.3560**	**363.3560**	**0.0177**		**363.7974**

3.18 70kV Substation Control Enclosure - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.9300e-003	0.1890	0.0522	4.0000e-004	9.2900e-003	5.3000e-004	9.8200e-003	2.6700e-003	5.1000e-004	3.1800e-003		42.7113	42.7113	2.4100e-003		42.7715
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0458**	**0.2210**	**0.3745**	**1.3000e-003**	**0.1082**	**1.1400e-003**	**0.1093**	**0.0289**	**1.0700e-003**	**0.0300**		**131.9515**	**131.9515**	**5.0900e-003**		**132.0787**

3.18 70kV Substation Control Enclosure - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.9300e-003	0.1890	0.0522	4.0000e-004	9.2900e-003	5.3000e-004	9.8200e-003	2.6700e-003	5.1000e-004	3.1800e-003		42.7113	42.7113	2.4100e-003		42.7715
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0458**	**0.2210**	**0.3745**	**1.3000e-003**	**0.1082**	**1.1400e-003**	**0.1093**	**0.0289**	**1.0700e-003**	**0.0300**		**131.9515**	**131.9515**	**5.0900e-003**		**132.0787**

3.19 230kV Sub Steel Bus - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6340	5.7138	4.4249	0.0145		0.2017	0.2017		0.1855	0.1855		1,400.4879	1,400.4879	0.4530		1,411.8115
Total	**0.6340**	**5.7138**	**4.4249**	**0.0145**		**0.2017**	**0.2017**		**0.1855**	**0.1855**		**1,400.4879**	**1,400.4879**	**0.4530**		**1,411.8115**

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	0.0889	2.8357	0.7825	6.0100e-003	0.1393	7.9600e-003	0.1472	0.0401	7.6100e-003	0.0477		640.6693	640.6693	0.0361		641.5717
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1288**	**2.8676**	**1.1048**	**6.9100e-003**	**0.2381**	**8.5700e-003**	**0.2467**	**0.0663**	**8.1700e-003**	**0.0745**		**729.9095**	**729.9095**	**0.0388**		**730.8790**

3.19 230kV Sub Steel Bus - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6340	5.7138	4.4249	0.0145		0.2017	0.2017		0.1855	0.1855	0.0000	1,400.4879	1,400.4879	0.4530		1,411.8115
Total	**0.6340**	**5.7138**	**4.4249**	**0.0145**		**0.2017**	**0.2017**		**0.1855**	**0.1855**	**0.0000**	**1,400.4879**	**1,400.4879**	**0.4530**		**1,411.8115**

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	0.0889	2.8357	0.7825	6.0100e-003	0.1393	7.9600e-003	0.1472	0.0401	7.6100e-003	0.0477		640.6693	640.6693	0.0361		641.5717
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1288**	**2.8676**	**1.1048**	**6.9100e-003**	**0.2381**	**8.5700e-003**	**0.2467**	**0.0663**	**8.1700e-003**	**0.0745**		**729.9095**	**729.9095**	**0.0388**		**730.8790**

3.20 230kV Sub Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0944	1.2544	1.7374	2.5900e-003		0.0510	0.0510		0.0470	0.0470		250.2480	250.2480	0.0809		252.2714
Total	**0.0944**	**1.2544**	**1.7374**	**2.5900e-003**		**0.0510**	**0.0510**		**0.0470**	**0.0470**		**250.2480**	**250.2480**	**0.0809**		**252.2714**

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	0.1334	4.2535	1.1737	9.0200e-003	0.2089	0.0119	0.2209	0.0602	0.0114	0.0716		961.0039	961.0039	0.0542		962.3576
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.1971**	**4.3045**	**1.6894**	**0.0105**	**0.3671**	**0.0129**	**0.3800**	**0.1021**	**0.0123**	**0.1145**		**1,103.7883**	**1,103.7883**	**0.0584**		**1,105.2491**

3.20 230kV Sub Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0944	1.2544	1.7374	2.5900e-003		0.0510	0.0510		0.0470	0.0470	0.0000	250.2480	250.2480	0.0809		252.2714
Total	**0.0944**	**1.2544**	**1.7374**	**2.5900e-003**		**0.0510**	**0.0510**		**0.0470**	**0.0470**	**0.0000**	**250.2480**	**250.2480**	**0.0809**		**252.2714**

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	0.1334	4.2535	1.1737	9.0200e-003	0.2089	0.0119	0.2209	0.0602	0.0114	0.0716		961.0039	961.0039	0.0542		962.3576
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.1971**	**4.3045**	**1.6894**	**0.0105**	**0.3671**	**0.0129**	**0.3800**	**0.1021**	**0.0123**	**0.1145**		**1,103.7883**	**1,103.7883**	**0.0584**		**1,105.2491**

3.21 70kV Substation Cable Installation - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	8.8900e-003	0.2836	0.0782	6.0000e-004	0.0139	8.0000e-004	0.0147	4.0100e-003	7.6000e-004	4.7700e-003		64.0669	64.0669	3.6100e-003		64.1572
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0487**	**0.3155**	**0.4006**	**1.5000e-003**	**0.1128**	**1.4100e-003**	**0.1142**	**0.0302**	**1.3200e-003**	**0.0316**		**153.3072**	**153.3072**	**6.2900e-003**		**153.4644**

3.21 70kV Substation Cable Installation - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	8.8900e-003	0.2836	0.0782	6.0000e-004	0.0139	8.0000e-004	0.0147	4.0100e-003	7.6000e-004	4.7700e-003		64.0669	64.0669	3.6100e-003		64.1572
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0487**	**0.3155**	**0.4006**	**1.5000e-003**	**0.1128**	**1.4100e-003**	**0.1142**	**0.0302**	**1.3200e-003**	**0.0316**		**153.3072**	**153.3072**	**6.2900e-003**		**153.4644**

3.22 230kV Sub Transformer - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5050	22.8802	16.0937	0.0509		0.9069	0.9069		0.8427	0.8427		4,922.3220	4,922.3220	1.4859		4,959.4698
Total	**2.5050**	**22.8802**	**16.0937**	**0.0509**		**0.9069**	**0.9069**		**0.8427**	**0.8427**		**4,922.3220**	**4,922.3220**	**1.4859**		**4,959.4698**

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	0.0889	2.8357	0.7825	6.0100e-003	0.1393	7.9600e-003	0.1472	0.0401	7.6100e-003	0.0477		640.6693	640.6693	0.0361		641.5717
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.1527**	**2.8867**	**1.2982**	**7.4400e-003**	**0.2975**	**8.9400e-003**	**0.3064**	**0.0821**	**8.5100e-003**	**0.0906**		**783.4536**	**783.4536**	**0.0404**		**784.4633**

3.22 230kV Sub Transformer - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5050	22.8802	16.0937	0.0509		0.9069	0.9069		0.8427	0.8427	0.0000	4,922.3220	4,922.3220	1.4859		4,959.4698
Total	**2.5050**	**22.8802**	**16.0937**	**0.0509**		**0.9069**	**0.9069**		**0.8427**	**0.8427**	**0.0000**	**4,922.3220**	**4,922.3220**	**1.4859**		**4,959.4698**

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	0.0889	2.8357	0.7825	6.0100e-003	0.1393	7.9600e-003	0.1472	0.0401	7.6100e-003	0.0477		640.6693	640.6693	0.0361		641.5717
Worker	0.0637	0.0511	0.5158	1.4300e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		142.7844	142.7844	4.2900e-003		142.8916
Total	**0.1527**	**2.8867**	**1.2982**	**7.4400e-003**	**0.2975**	**8.9400e-003**	**0.3064**	**0.0821**	**8.5100e-003**	**0.0906**		**783.4536**	**783.4536**	**0.0404**		**784.4633**

3.23 230kV Transmission Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5466	6.8725	2.8973	8.1800e-003		0.2436	0.2436		0.2241	0.2241		792.1342	792.1342	0.2562		798.5390
Total	**0.5466**	**6.8725**	**2.8973**	**8.1800e-003**	**0.5303**	**0.2436**	**0.7738**	**0.0573**	**0.2241**	**0.2814**		**792.1342**	**792.1342**	**0.2562**		**798.5390**

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	0.0267	0.8507	0.2347	1.8000e-003	0.0418	2.3900e-003	0.0442	0.0120	2.2800e-003	0.0143		192.2008	192.2008	0.0108		192.4715
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0665**	**0.8826**	**0.5571**	**2.7000e-003**	**0.1407**	**3.0000e-003**	**0.1436**	**0.0383**	**2.8400e-003**	**0.0411**		**281.4410**	**281.4410**	**0.0135**		**281.7787**

3.23 230kV Transmission Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.5466	6.8725	2.8973	8.1800e-003		0.2436	0.2436		0.2241	0.2241	0.0000	792.1342	792.1342	0.2562		798.5390
Total	**0.5466**	**6.8725**	**2.8973**	**8.1800e-003**	**0.2386**	**0.2436**	**0.4822**	**0.0258**	**0.2241**	**0.2499**	**0.0000**	**792.1342**	**792.1342**	**0.2562**		**798.5390**

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	0.0267	0.8507	0.2347	1.8000e-003	0.0418	2.3900e-003	0.0442	0.0120	2.2800e-003	0.0143		192.2008	192.2008	0.0108		192.4715
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0665**	**0.8826**	**0.5571**	**2.7000e-003**	**0.1407**	**3.0000e-003**	**0.1436**	**0.0383**	**2.8400e-003**	**0.0411**		**281.4410**	**281.4410**	**0.0135**		**281.7787**

3.24 230kV Sub Control Enclosure Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3097	3.6370	1.4871	4.3300e-003		0.1477	0.1477		0.1359	0.1359		419.0541	419.0541	0.1355		422.4423
Total	**0.3097**	**3.6370**	**1.4871**	**4.3300e-003**		**0.1477**	**0.1477**		**0.1359**	**0.1359**		**419.0541**	**419.0541**	**0.1355**		**422.4423**

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	5.9300e-003	0.1890	0.0522	4.0000e-004	9.2900e-003	5.3000e-004	9.8200e-003	2.6700e-003	5.1000e-004	3.1800e-003		42.7113	42.7113	2.4100e-003		42.7715
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0537**	**0.2273**	**0.4390**	**1.4800e-003**	**0.1279**	**1.2600e-003**	**0.1292**	**0.0341**	**1.1900e-003**	**0.0353**		**149.7996**	**149.7996**	**5.6300e-003**		**149.9401**

3.24 230kV Sub Control Enclosure Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3097	3.6370	1.4871	4.3300e-003		0.1477	0.1477		0.1359	0.1359	0.0000	419.0541	419.0541	0.1355		422.4423
Total	**0.3097**	**3.6370**	**1.4871**	**4.3300e-003**		**0.1477**	**0.1477**		**0.1359**	**0.1359**	**0.0000**	**419.0541**	**419.0541**	**0.1355**		**422.4423**

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	5.9300e-003	0.1890	0.0522	4.0000e-004	9.2900e-003	5.3000e-004	9.8200e-003	2.6700e-003	5.1000e-004	3.1800e-003		42.7113	42.7113	2.4100e-003		42.7715
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0537**	**0.2273**	**0.4390**	**1.4800e-003**	**0.1279**	**1.2600e-003**	**0.1292**	**0.0341**	**1.1900e-003**	**0.0353**		**149.7996**	**149.7996**	**5.6300e-003**		**149.9401**

3.25 70kV Substation Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	0.0474	1.5123	0.4173	3.2100e-003	0.0743	4.2400e-003	0.0785	0.0214	4.0600e-003	0.0255		341.6903	341.6903	0.0193		342.1716
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0952**	**1.5506**	**0.8041**	**4.2900e-003**	**0.1929**	**4.9700e-003**	**0.1979**	**0.0529**	**4.7400e-003**	**0.0576**		**448.7786**	**448.7786**	**0.0225**		**449.3403**

3.25 70kV Substation Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	0.0474	1.5123	0.4173	3.2100e-003	0.0743	4.2400e-003	0.0785	0.0214	4.0600e-003	0.0255		341.6903	341.6903	0.0193		342.1716
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0952**	**1.5506**	**0.8041**	**4.2900e-003**	**0.1929**	**4.9700e-003**	**0.1979**	**0.0529**	**4.7400e-003**	**0.0576**		**448.7786**	**448.7786**	**0.0225**		**449.3403**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4544	3.9475	2.7033	9.9100e-003		0.1448	0.1448		0.1332	0.1332		958.8923	958.8923	0.3101		966.6454
Total	**0.4544**	**3.9475**	**2.7033**	**9.9100e-003**		**0.1448**	**0.1448**		**0.1332**	**0.1332**		**958.8923**	**958.8923**	**0.3101**		**966.6454**

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	0.0830	2.6466	0.7303	5.6100e-003	0.1300	7.4200e-003	0.1374	0.0374	7.1000e-003	0.0445		597.9580	597.9580	0.0337		598.8003
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1228**	**2.6785**	**1.0526**	**6.5100e-003**	**0.2289**	**8.0300e-003**	**0.2369**	**0.0637**	**7.6600e-003**	**0.0713**		**687.1982**	**687.1982**	**0.0364**		**688.1075**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4544	3.9475	2.7033	9.9100e-003		0.1448	0.1448		0.1332	0.1332	0.0000	958.8923	958.8923	0.3101		966.6454
Total	**0.4544**	**3.9475**	**2.7033**	**9.9100e-003**		**0.1448**	**0.1448**		**0.1332**	**0.1332**	**0.0000**	**958.8923**	**958.8923**	**0.3101**		**966.6454**

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	0.0830	2.6466	0.7303	5.6100e-003	0.1300	7.4200e-003	0.1374	0.0374	7.1000e-003	0.0445		597.9580	597.9580	0.0337		598.8003
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1228**	**2.6785**	**1.0526**	**6.5100e-003**	**0.2289**	**8.0300e-003**	**0.2369**	**0.0637**	**7.6600e-003**	**0.0713**		**687.1982**	**687.1982**	**0.0364**		**688.1075**

3.27 70kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	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	0.0319	0.0255	0.2579	7.2000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		71.3922	71.3922	2.1400e-003		71.4458
Total	**0.0319**	**0.0255**	**0.2579**	**7.2000e-004**	**0.0791**	**4.9000e-004**	**0.0796**	**0.0210**	**4.5000e-004**	**0.0214**		**71.3922**	**71.3922**	**2.1400e-003**		**71.4458**

3.27 70kV Substation Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2386**	**0.0000**	**0.2386**	**0.0258**	**0.0000**	**0.0258**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	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	0.0319	0.0255	0.2579	7.2000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		71.3922	71.3922	2.1400e-003		71.4458
Total	**0.0319**	**0.0255**	**0.2579**	**7.2000e-004**	**0.0791**	**4.9000e-004**	**0.0796**	**0.0210**	**4.5000e-004**	**0.0214**		**71.3922**	**71.3922**	**2.1400e-003**		**71.4458**

3.28 230kV Sub Cable Install Termination - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0375	0.6006	1.0941	1.6800e-003		0.0115	0.0115		0.0105	0.0105		162.6199	162.6199	0.0526		163.9347
Total	**0.0375**	**0.6006**	**1.0941**	**1.6800e-003**		**0.0115**	**0.0115**		**0.0105**	**0.0105**		**162.6199**	**162.6199**	**0.0526**		**163.9347**

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	8.8900e-003	0.2836	0.0782	6.0000e-004	0.0139	8.0000e-004	0.0147	4.0100e-003	7.6000e-004	4.7700e-003		64.0669	64.0669	3.6100e-003		64.1572
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0487**	**0.3155**	**0.4006**	**1.5000e-003**	**0.1128**	**1.4100e-003**	**0.1142**	**0.0302**	**1.3200e-003**	**0.0316**		**153.3072**	**153.3072**	**6.2900e-003**		**153.4644**

3.28 230kV Sub Cable Install Termination - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0375	0.6006	1.0941	1.6800e-003		0.0115	0.0115		0.0105	0.0105	0.0000	162.6199	162.6199	0.0526		163.9347
Total	**0.0375**	**0.6006**	**1.0941**	**1.6800e-003**		**0.0115**	**0.0115**		**0.0105**	**0.0105**	**0.0000**	**162.6199**	**162.6199**	**0.0526**		**163.9347**

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	8.8900e-003	0.2836	0.0782	6.0000e-004	0.0139	8.0000e-004	0.0147	4.0100e-003	7.6000e-004	4.7700e-003		64.0669	64.0669	3.6100e-003		64.1572
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.0487**	**0.3155**	**0.4006**	**1.5000e-003**	**0.1128**	**1.4100e-003**	**0.1142**	**0.0302**	**1.3200e-003**	**0.0316**		**153.3072**	**153.3072**	**6.2900e-003**		**153.4644**

3.29 70kV Substation Testing Commissioning - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.9300e-003	0.1890	0.0522	4.0000e-004	9.2900e-003	5.3000e-004	9.8200e-003	2.6700e-003	5.1000e-004	3.1800e-003		42.7113	42.7113	2.4100e-003		42.7715
Worker	0.0319	0.0255	0.2579	7.2000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		71.3922	71.3922	2.1400e-003		71.4458
Total	**0.0378**	**0.2146**	**0.3100**	**1.1200e-003**	**0.0884**	**1.0200e-003**	**0.0894**	**0.0237**	**9.6000e-004**	**0.0246**		**114.1035**	**114.1035**	**4.5500e-003**		**114.2172**

3.29 70kV Substation Testing Commissioning - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2386**	**0.0000**	**0.2386**	**0.0258**	**0.0000**	**0.0258**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	5.9300e-003	0.1890	0.0522	4.0000e-004	9.2900e-003	5.3000e-004	9.8200e-003	2.6700e-003	5.1000e-004	3.1800e-003		42.7113	42.7113	2.4100e-003		42.7715
Worker	0.0319	0.0255	0.2579	7.2000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		71.3922	71.3922	2.1400e-003		71.4458
Total	**0.0378**	**0.2146**	**0.3100**	**1.1200e-003**	**0.0884**	**1.0200e-003**	**0.0894**	**0.0237**	**9.6000e-004**	**0.0246**		**114.1035**	**114.1035**	**4.5500e-003**		**114.2172**

3.30 230kV Sub Testing and Commissioning - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0771	2.4576	0.6781	5.2100e-003	0.1207	6.8900e-003	0.1276	0.0348	6.5900e-003	0.0414		555.2467	555.2467	0.0313		556.0288
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1169**	**2.4895**	**1.0005**	**6.1100e-003**	**0.2196**	**7.5000e-003**	**0.2271**	**0.0610**	**7.1500e-003**	**0.0681**		**644.4869**	**644.4869**	**0.0340**		**645.3361**

3.30 230kV Sub Testing and Commissioning - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0771	2.4576	0.6781	5.2100e-003	0.1207	6.8900e-003	0.1276	0.0348	6.5900e-003	0.0414		555.2467	555.2467	0.0313		556.0288
Worker	0.0398	0.0319	0.3224	9.0000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		89.2402	89.2402	2.6800e-003		89.3072
Total	**0.1169**	**2.4895**	**1.0005**	**6.1100e-003**	**0.2196**	**7.5000e-003**	**0.2271**	**0.0610**	**7.1500e-003**	**0.0681**		**644.4869**	**644.4869**	**0.0340**		**645.3361**

3.31 230kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3002	2.8932	3.1755	4.2500e-003		0.1851	0.1851		0.1703	0.1703		411.6887	411.6887	0.1332		415.0174
Total	**0.3002**	**2.8932**	**3.1755**	**4.2500e-003**	**0.0000**	**0.1851**	**0.1851**	**0.0000**	**0.1703**	**0.1703**		**411.6887**	**411.6887**	**0.1332**		**415.0174**

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	0.0860	2.7411	0.7564	5.8100e-003	0.1346	7.6900e-003	0.1423	0.0388	7.3500e-003	0.0461		619.3136	619.3136	0.0349		620.1860
Worker	0.0239	0.0192	0.1934	5.4000e-004	0.0593	3.7000e-004	0.0597	0.0157	3.4000e-004	0.0161		53.5441	53.5441	1.6100e-003		53.5843
Total	**0.1099**	**2.7603**	**0.9498**	**6.3500e-003**	**0.1940**	**8.0600e-003**	**0.2020**	**0.0545**	**7.6900e-003**	**0.0622**		**672.8578**	**672.8578**	**0.0365**		**673.7703**

3.31 230kV Substation Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3002	2.8932	3.1755	4.2500e-003		0.1851	0.1851		0.1703	0.1703	0.0000	411.6887	411.6887	0.1332		415.0174
Total	**0.3002**	**2.8932**	**3.1755**	**4.2500e-003**	**0.0000**	**0.1851**	**0.1851**	**0.0000**	**0.1703**	**0.1703**	**0.0000**	**411.6887**	**411.6887**	**0.1332**		**415.0174**

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	0.0860	2.7411	0.7564	5.8100e-003	0.1346	7.6900e-003	0.1423	0.0388	7.3500e-003	0.0461		619.3136	619.3136	0.0349		620.1860
Worker	0.0239	0.0192	0.1934	5.4000e-004	0.0593	3.7000e-004	0.0597	0.0157	3.4000e-004	0.0161		53.5441	53.5441	1.6100e-003		53.5843
Total	**0.1099**	**2.7603**	**0.9498**	**6.3500e-003**	**0.1940**	**8.0600e-003**	**0.2020**	**0.0545**	**7.6900e-003**	**0.0622**		**672.8578**	**672.8578**	**0.0365**		**673.7703**

3.32 70kV Power Line Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7731	9.8348	3.7809	0.0115		0.3374	0.3374		0.3104	0.3104		1,112.9762	1,112.9762	0.3600		1,121.9752
Total	**0.7731**	**9.8348**	**3.7809**	**0.0115**	**0.5303**	**0.3374**	**0.8677**	**0.0573**	**0.3104**	**0.3677**		**1,112.9762**	**1,112.9762**	**0.3600**		**1,121.9752**

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	0.0296	0.9452	0.2608	2.0000e-003	0.0464	2.6500e-003	0.0491	0.0134	2.5400e-003	0.0159		213.5564	213.5564	0.0120		213.8572
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0774**	**0.9835**	**0.6476**	**3.0800e-003**	**0.1651**	**3.3800e-003**	**0.1685**	**0.0448**	**3.2200e-003**	**0.0481**		**320.6447**	**320.6447**	**0.0153**		**321.0259**

3.32 70kV Power Line Site Work Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.7731	9.8348	3.7809	0.0115		0.3374	0.3374		0.3104	0.3104	0.0000	1,112.9762	1,112.9762	0.3600		1,121.9752
Total	**0.7731**	**9.8348**	**3.7809**	**0.0115**	**0.2386**	**0.3374**	**0.5760**	**0.0258**	**0.3104**	**0.3362**	**0.0000**	**1,112.9762**	**1,112.9762**	**0.3600**		**1,121.9752**

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	0.0296	0.9452	0.2608	2.0000e-003	0.0464	2.6500e-003	0.0491	0.0134	2.5400e-003	0.0159		213.5564	213.5564	0.0120		213.8572
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0774**	**0.9835**	**0.6476**	**3.0800e-003**	**0.1651**	**3.3800e-003**	**0.1685**	**0.0448**	**3.2200e-003**	**0.0481**		**320.6447**	**320.6447**	**0.0153**		**321.0259**

3.33 Reconductoring Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809		631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.5303**	**0.1967**	**0.7269**	**0.0573**	**0.1809**	**0.2382**		**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0148	0.4726	0.1304	1.0000e-003	0.0232	1.3300e-003	0.0245	6.6900e-003	1.2700e-003	7.9500e-003		106.7782	106.7782	6.0200e-003		106.9286
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0626**	**0.5109**	**0.5172**	**2.0800e-003**	**0.1418**	**2.0600e-003**	**0.1439**	**0.0382**	**1.9500e-003**	**0.0401**		**213.8665**	**213.8665**	**9.2400e-003**		**214.0973**

3.33 Reconductoring Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809	0.0000	631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.2386**	**0.1967**	**0.4353**	**0.0258**	**0.1809**	**0.2067**	**0.0000**	**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0148	0.4726	0.1304	1.0000e-003	0.0232	1.3300e-003	0.0245	6.6900e-003	1.2700e-003	7.9500e-003		106.7782	106.7782	6.0200e-003		106.9286
Worker	0.0478	0.0383	0.3868	1.0800e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		107.0883	107.0883	3.2200e-003		107.1687
Total	**0.0626**	**0.5109**	**0.5172**	**2.0800e-003**	**0.1418**	**2.0600e-003**	**0.1439**	**0.0382**	**1.9500e-003**	**0.0401**		**213.8665**	**213.8665**	**9.2400e-003**		**214.0973**

3.34 70kV Power Line Pole Tower Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5144	22.7423	15.8669	0.0522		0.8859	0.8859		0.8151	0.8151		5,055.0999	5,055.0999	1.6349		5,095.9730
Total	**2.5144**	**22.7423**	**15.8669**	**0.0522**		**0.8859**	**0.8859**		**0.8151**	**0.8151**		**5,055.0999**	**5,055.0999**	**1.6349**		**5,095.9730**

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	0.0445	1.4178	0.3912	3.0100e-003	0.0696	3.9800e-003	0.0736	0.0201	3.8000e-003	0.0239		320.3346	320.3346	0.0181		320.7859
Worker	0.1673	0.1340	1.3539	3.7600e-003	0.4152	2.5700e-003	0.4178	0.1101	2.3700e-003	0.1125		374.8089	374.8089	0.0113		375.0903
Total	**0.2118**	**1.5518**	**1.7451**	**6.7700e-003**	**0.4849**	**6.5500e-003**	**0.4914**	**0.1302**	**6.1700e-003**	**0.1364**		**695.1436**	**695.1436**	**0.0293**		**695.8762**

3.34 70kV Power Line Pole Tower Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5144	22.7423	15.8669	0.0522		0.8859	0.8859		0.8151	0.8151	0.0000	5,055.0999	5,055.0999	1.6349		5,095.9730
Total	**2.5144**	**22.7423**	**15.8669**	**0.0522**		**0.8859**	**0.8859**		**0.8151**	**0.8151**	**0.0000**	**5,055.0999**	**5,055.0999**	**1.6349**		**5,095.9730**

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	0.0445	1.4178	0.3912	3.0100e-003	0.0696	3.9800e-003	0.0736	0.0201	3.8000e-003	0.0239		320.3346	320.3346	0.0181		320.7859
Worker	0.1673	0.1340	1.3539	3.7600e-003	0.4152	2.5700e-003	0.4178	0.1101	2.3700e-003	0.1125		374.8089	374.8089	0.0113		375.0903
Total	**0.2118**	**1.5518**	**1.7451**	**6.7700e-003**	**0.4849**	**6.5500e-003**	**0.4914**	**0.1302**	**6.1700e-003**	**0.1364**		**695.1436**	**695.1436**	**0.0293**		**695.8762**

3.34 70kV Power Line Pole Tower Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2007	17.8158	14.9397	0.0522		0.6878	0.6878		0.6328	0.6328		5,057.1027	5,057.1027	1.6356		5,097.9919
Total	**2.2007**	**17.8158**	**14.9397**	**0.0522**		**0.6878**	**0.6878**		**0.6328**	**0.6328**		**5,057.1027**	**5,057.1027**	**1.6356**		**5,097.9919**

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	0.0411	1.3483	0.3608	2.9800e-003	0.0697	3.4900e-003	0.0732	0.0201	3.3400e-003	0.0234		318.2166	318.2166	0.0178		318.6623
Worker	0.1570	0.1205	1.2423	3.6300e-003	0.4152	2.5000e-003	0.4177	0.1101	2.3000e-003	0.1124		361.4073	361.4073	0.0101		361.6597
Total	**0.1981**	**1.4688**	**1.6031**	**6.6100e-003**	**0.4849**	**5.9900e-003**	**0.4909**	**0.1302**	**5.6400e-003**	**0.1358**		**679.6239**	**679.6239**	**0.0279**		**680.3220**

3.34 70kV Power Line Pole Tower Install - 2022

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	2.2007	17.8158	14.9397	0.0522		0.6878	0.6878		0.6328	0.6328	0.0000	5,057.1026	5,057.1026	1.6356		5,097.9919
Total	**2.2007**	**17.8158**	**14.9397**	**0.0522**		**0.6878**	**0.6878**		**0.6328**	**0.6328**	**0.0000**	**5,057.1026**	**5,057.1026**	**1.6356**		**5,097.9919**

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	0.0411	1.3483	0.3608	2.9800e-003	0.0697	3.4900e-003	0.0732	0.0201	3.3400e-003	0.0234		318.2166	318.2166	0.0178		318.6623
Worker	0.1570	0.1205	1.2423	3.6300e-003	0.4152	2.5000e-003	0.4177	0.1101	2.3000e-003	0.1124		361.4073	361.4073	0.0101		361.6597
Total	**0.1981**	**1.4688**	**1.6031**	**6.6100e-003**	**0.4849**	**5.9900e-003**	**0.4909**	**0.1302**	**5.6400e-003**	**0.1358**		**679.6239**	**679.6239**	**0.0279**		**680.3220**

3.35 Distribution Facilities Mobilization - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.5303**	**0.0901**	**0.6204**	**0.0573**	**0.0829**	**0.1402**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	0.0164	0.5393	0.1443	1.1900e-003	0.0279	1.4000e-003	0.0293	8.0300e-003	1.3400e-003	9.3600e-003		127.2867	127.2867	7.1300e-003		127.4649
Worker	0.0448	0.0344	0.3550	1.0400e-003	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		103.2592	103.2592	2.8900e-003		103.3314
Total	**0.0613**	**0.5738**	**0.4993**	**2.2300e-003**	**0.1465**	**2.1100e-003**	**0.1486**	**0.0395**	**2.0000e-003**	**0.0415**		**230.5459**	**230.5459**	**0.0100**		**230.7963**

3.35 Distribution Facilities Mobilization - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.2386**	**0.0901**	**0.3287**	**0.0258**	**0.0829**	**0.1087**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	0.0164	0.5393	0.1443	1.1900e-003	0.0279	1.4000e-003	0.0293	8.0300e-003	1.3400e-003	9.3600e-003		127.2867	127.2867	7.1300e-003		127.4649
Worker	0.0448	0.0344	0.3550	1.0400e-003	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		103.2592	103.2592	2.8900e-003		103.3314
Total	**0.0613**	**0.5738**	**0.4993**	**2.2300e-003**	**0.1465**	**2.1100e-003**	**0.1486**	**0.0395**	**2.0000e-003**	**0.0415**		**230.5459**	**230.5459**	**0.0100**		**230.7963**

3.36 Distribution Foundation Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415		150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**		**0.0451**	**0.0451**		**0.0415**	**0.0415**		**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0164	0.5393	0.1443	1.1900e-003	0.0279	1.4000e-003	0.0293	8.0300e-003	1.3400e-003	9.3600e-003		127.2867	127.2867	7.1300e-003		127.4649
Worker	0.0897	0.0689	0.7099	2.0700e-003	0.2373	1.4300e-003	0.2387	0.0629	1.3200e-003	0.0642		206.5184	206.5184	5.7700e-003		206.6627
Total	**0.1061**	**0.6082**	**0.8542**	**3.2600e-003**	**0.2651**	**2.8300e-003**	**0.2680**	**0.0710**	**2.6600e-003**	**0.0736**		**333.8051**	**333.8051**	**0.0129**		**334.1276**

3.36 Distribution Foundation Construction - 2022

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	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415	0.0000	150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**		**0.0451**	**0.0451**		**0.0415**	**0.0415**	**0.0000**	**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0164	0.5393	0.1443	1.1900e-003	0.0279	1.4000e-003	0.0293	8.0300e-003	1.3400e-003	9.3600e-003		127.2867	127.2867	7.1300e-003		127.4649
Worker	0.0897	0.0689	0.7099	2.0700e-003	0.2373	1.4300e-003	0.2387	0.0629	1.3200e-003	0.0642		206.5184	206.5184	5.7700e-003		206.6627
Total	**0.1061**	**0.6082**	**0.8542**	**3.2600e-003**	**0.2651**	**2.8300e-003**	**0.2680**	**0.0710**	**2.6600e-003**	**0.0736**		**333.8051**	**333.8051**	**0.0129**		**334.1276**

3.37 Distribution Ground Grid - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0699	0.7846	0.3548	1.0800e-003		0.0326	0.0326		0.0300	0.0300		104.7807	104.7807	0.0339		105.6279
Total	**0.0699**	**0.7846**	**0.3548**	**1.0800e-003**		**0.0326**	**0.0326**		**0.0300**	**0.0300**		**104.7807**	**104.7807**	**0.0339**		**105.6279**

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	0.0110	0.3596	0.0962	8.0000e-004	0.0186	9.3000e-004	0.0195	5.3500e-003	8.9000e-004	6.2400e-003		84.8578	84.8578	4.7500e-003		84.9766
Worker	0.0747	0.0574	0.5916	1.7300e-003	0.1977	1.1900e-003	0.1989	0.0524	1.1000e-003	0.0535		172.0987	172.0987	4.8100e-003		172.2189
Total	**0.0857**	**0.4169**	**0.6878**	**2.5300e-003**	**0.2163**	**2.1200e-003**	**0.2184**	**0.0578**	**1.9900e-003**	**0.0598**		**256.9565**	**256.9565**	**9.5600e-003**		**257.1955**

3.37 Distribution Ground Grid - 2022

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	0.0699	0.7846	0.3548	1.0800e-003		0.0326	0.0326		0.0300	0.0300	0.0000	104.7807	104.7807	0.0339		105.6279
Total	**0.0699**	**0.7846**	**0.3548**	**1.0800e-003**		**0.0326**	**0.0326**		**0.0300**	**0.0300**	**0.0000**	**104.7807**	**104.7807**	**0.0339**		**105.6279**

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	0.0110	0.3596	0.0962	8.0000e-004	0.0186	9.3000e-004	0.0195	5.3500e-003	8.9000e-004	6.2400e-003		84.8578	84.8578	4.7500e-003		84.9766
Worker	0.0747	0.0574	0.5916	1.7300e-003	0.1977	1.1900e-003	0.1989	0.0524	1.1000e-003	0.0535		172.0987	172.0987	4.8100e-003		172.2189
Total	**0.0857**	**0.4169**	**0.6878**	**2.5300e-003**	**0.2163**	**2.1200e-003**	**0.2184**	**0.0578**	**1.9900e-003**	**0.0598**		**256.9565**	**256.9565**	**9.5600e-003**		**257.1955**

3.38 Distribution Steel Bus Erection - 2022

Unmitigated Construction On-Site

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

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	8.2200e-003	0.2697	0.0722	6.0000e-004	0.0139	7.0000e-004	0.0146	4.0100e-003	6.7000e-004	4.6800e-003		63.6433	63.6433	3.5600e-003		63.7325
Worker	0.0374	0.0287	0.2958	8.6000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		86.0494	86.0494	2.4000e-003		86.1095
Total	**0.0456**	**0.2984**	**0.3680**	**1.4600e-003**	**0.1128**	**1.2900e-003**	**0.1141**	**0.0302**	**1.2200e-003**	**0.0315**		**149.6927**	**149.6927**	**5.9600e-003**		**149.8419**

3.38 Distribution Steel Bus Erection - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	8.2200e-003	0.2697	0.0722	6.0000e-004	0.0139	7.0000e-004	0.0146	4.0100e-003	6.7000e-004	4.6800e-003		63.6433	63.6433	3.5600e-003		63.7325
Worker	0.0374	0.0287	0.2958	8.6000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		86.0494	86.0494	2.4000e-003		86.1095
Total	**0.0456**	**0.2984**	**0.3680**	**1.4600e-003**	**0.1128**	**1.2900e-003**	**0.1141**	**0.0302**	**1.2200e-003**	**0.0315**		**149.6927**	**149.6927**	**5.9600e-003**		**149.8419**

3.39 Distribution Bank Breaker - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0933	1.0461	0.4731	1.4400e-003		0.0434	0.0434		0.0400	0.0400		139.7076	139.7076	0.0452		140.8372
Total	**0.0933**	**1.0461**	**0.4731**	**1.4400e-003**		**0.0434**	**0.0434**		**0.0400**	**0.0400**		**139.7076**	**139.7076**	**0.0452**		**140.8372**

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	5.4800e-003	0.1798	0.0481	4.0000e-004	9.2900e-003	4.7000e-004	9.7500e-003	2.6800e-003	4.5000e-004	3.1200e-003		42.4289	42.4289	2.3800e-003		42.4883
Worker	0.0374	0.0287	0.2958	8.6000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		86.0494	86.0494	2.4000e-003		86.1095
Total	**0.0429**	**0.2085**	**0.3439**	**1.2600e-003**	**0.1082**	**1.0600e-003**	**0.1092**	**0.0289**	**1.0000e-003**	**0.0299**		**128.4782**	**128.4782**	**4.7800e-003**		**128.5978**

3.39 Distribution Bank Breaker - 2022

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	0.0933	1.0461	0.4731	1.4400e-003		0.0434	0.0434		0.0400	0.0400	0.0000	139.7076	139.7076	0.0452		140.8372
Total	**0.0933**	**1.0461**	**0.4731**	**1.4400e-003**		**0.0434**	**0.0434**		**0.0400**	**0.0400**	**0.0000**	**139.7076**	**139.7076**	**0.0452**		**140.8372**

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	5.4800e-003	0.1798	0.0481	4.0000e-004	9.2900e-003	4.7000e-004	9.7500e-003	2.6800e-003	4.5000e-004	3.1200e-003		42.4289	42.4289	2.3800e-003		42.4883
Worker	0.0374	0.0287	0.2958	8.6000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		86.0494	86.0494	2.4000e-003		86.1095
Total	**0.0429**	**0.2085**	**0.3439**	**1.2600e-003**	**0.1082**	**1.0600e-003**	**0.1092**	**0.0289**	**1.0000e-003**	**0.0299**		**128.4782**	**128.4782**	**4.7800e-003**		**128.5978**

3.40 Distribution Feeder Conduit - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5552	4.2860	3.7224	0.0137		0.1606	0.1606		0.1478	0.1478		1,327.9366	1,327.9366	0.4295		1,338.6737
Total	**0.5552**	**4.2860**	**3.7224**	**0.0137**		**0.1606**	**0.1606**		**0.1478**	**0.1478**		**1,327.9366**	**1,327.9366**	**0.4295**		**1,338.6737**

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	8.2200e-003	0.2697	0.0722	6.0000e-004	0.0139	7.0000e-004	0.0146	4.0100e-003	6.7000e-004	4.6800e-003		63.6433	63.6433	3.5600e-003		63.7325
Worker	0.0598	0.0459	0.4733	1.3800e-003	0.1582	9.5000e-004	0.1591	0.0420	8.8000e-004	0.0428		137.6790	137.6790	3.8500e-003		137.7751
Total	**0.0680**	**0.3156**	**0.5454**	**1.9800e-003**	**0.1721**	**1.6500e-003**	**0.1738**	**0.0460**	**1.5500e-003**	**0.0475**		**201.3223**	**201.3223**	**7.4100e-003**		**201.5076**

3.40 Distribution Feeder Conduit - 2022

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	0.5552	4.2860	3.7224	0.0137		0.1606	0.1606		0.1478	0.1478	0.0000	1,327.9366	1,327.9366	0.4295		1,338.6737
Total	**0.5552**	**4.2860**	**3.7224**	**0.0137**		**0.1606**	**0.1606**		**0.1478**	**0.1478**	**0.0000**	**1,327.9366**	**1,327.9366**	**0.4295**		**1,338.6737**

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	8.2200e-003	0.2697	0.0722	6.0000e-004	0.0139	7.0000e-004	0.0146	4.0100e-003	6.7000e-004	4.6800e-003		63.6433	63.6433	3.5600e-003		63.7325
Worker	0.0598	0.0459	0.4733	1.3800e-003	0.1582	9.5000e-004	0.1591	0.0420	8.8000e-004	0.0428		137.6790	137.6790	3.8500e-003		137.7751
Total	**0.0680**	**0.3156**	**0.5454**	**1.9800e-003**	**0.1721**	**1.6500e-003**	**0.1738**	**0.0460**	**1.5500e-003**	**0.0475**		**201.3223**	**201.3223**	**7.4100e-003**		**201.5076**

3.41 Distribution Cable Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**		**0.0901**	**0.0901**		**0.0829**	**0.0829**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	8.2200e-003	0.2697	0.0722	6.0000e-004	0.0139	7.0000e-004	0.0146	4.0100e-003	6.7000e-004	4.6800e-003		63.6433	63.6433	3.5600e-003		63.7325
Worker	0.0374	0.0287	0.2958	8.6000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		86.0494	86.0494	2.4000e-003		86.1095
Total	**0.0456**	**0.2984**	**0.3680**	**1.4600e-003**	**0.1128**	**1.2900e-003**	**0.1141**	**0.0302**	**1.2200e-003**	**0.0315**		**149.6927**	**149.6927**	**5.9600e-003**		**149.8419**

3.41 Distribution Cable Install - 2022

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	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**		**0.0901**	**0.0901**		**0.0829**	**0.0829**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	8.2200e-003	0.2697	0.0722	6.0000e-004	0.0139	7.0000e-004	0.0146	4.0100e-003	6.7000e-004	4.6800e-003		63.6433	63.6433	3.5600e-003		63.7325
Worker	0.0374	0.0287	0.2958	8.6000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		86.0494	86.0494	2.4000e-003		86.1095
Total	**0.0456**	**0.2984**	**0.3680**	**1.4600e-003**	**0.1128**	**1.2900e-003**	**0.1141**	**0.0302**	**1.2200e-003**	**0.0315**		**149.6927**	**149.6927**	**5.9600e-003**		**149.8419**

3.42 Distribution Testing - 2022

Unmitigated Construction On-Site

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

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	2.7400e-003	0.0899	0.0241	2.0000e-004	4.6400e-003	2.3000e-004	4.8800e-003	1.3400e-003	2.2000e-004	1.5600e-003		21.2144	21.2144	1.1900e-003		21.2442
Worker	0.0224	0.0172	0.1775	5.2000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		51.6296	51.6296	1.4400e-003		51.6657
Total	**0.0252**	**0.1071**	**0.2015**	**7.2000e-004**	**0.0640**	**5.9000e-004**	**0.0646**	**0.0171**	**5.5000e-004**	**0.0176**		**72.8441**	**72.8441**	**2.6300e-003**		**72.9098**

3.42 Distribution Testing - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.7400e-003	0.0899	0.0241	2.0000e-004	4.6400e-003	2.3000e-004	4.8800e-003	1.3400e-003	2.2000e-004	1.5600e-003		21.2144	21.2144	1.1900e-003		21.2442
Worker	0.0224	0.0172	0.1775	5.2000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		51.6296	51.6296	1.4400e-003		51.6657
Total	**0.0252**	**0.1071**	**0.2015**	**7.2000e-004**	**0.0640**	**5.9000e-004**	**0.0646**	**0.0171**	**5.5000e-004**	**0.0176**		**72.8441**	**72.8441**	**2.6300e-003**		**72.9098**

3.43 Distribution Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415		150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**	**0.5303**	**0.0451**	**0.5753**	**0.0573**	**0.0415**	**0.0987**		**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0164	0.5393	0.1443	1.1900e-003	0.0279	1.4000e-003	0.0293	8.0300e-003	1.3400e-003	9.3600e-003		127.2867	127.2867	7.1300e-003		127.4649
Worker	0.0224	0.0172	0.1775	5.2000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		51.6296	51.6296	1.4400e-003		51.6657
Total	**0.0389**	**0.5565**	**0.3218**	**1.7100e-003**	**0.0872**	**1.7600e-003**	**0.0889**	**0.0238**	**1.6700e-003**	**0.0254**		**178.9163**	**178.9163**	**8.5700e-003**		**179.1306**

3.43 Distribution Cleanup Restore - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415	0.0000	150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**	**0.2386**	**0.0451**	**0.2837**	**0.0258**	**0.0415**	**0.0672**	**0.0000**	**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0164	0.5393	0.1443	1.1900e-003	0.0279	1.4000e-003	0.0293	8.0300e-003	1.3400e-003	9.3600e-003		127.2867	127.2867	7.1300e-003		127.4649
Worker	0.0224	0.0172	0.1775	5.2000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		51.6296	51.6296	1.4400e-003		51.6657
Total	**0.0389**	**0.5565**	**0.3218**	**1.7100e-003**	**0.0872**	**1.7600e-003**	**0.0889**	**0.0238**	**1.6700e-003**	**0.0254**		**178.9163**	**178.9163**	**8.5700e-003**		**179.1306**

3.44 70kV Power Line Conductor Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6031	23.3806	16.8305	0.0537		0.9761	0.9761		0.8980	0.8980		5,202.1167	5,202.1167	1.6825		5,244.1784
Total	**2.6031**	**23.3806**	**16.8305**	**0.0537**		**0.9761**	**0.9761**		**0.8980**	**0.8980**		**5,202.1167**	**5,202.1167**	**1.6825**		**5,244.1784**

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	0.0274	0.8989	0.2405	1.9900e-003	0.0464	2.3300e-003	0.0488	0.0134	2.2300e-003	0.0156		212.1444	212.1444	0.0119		212.4415
Worker	0.1345	0.1033	1.0649	3.1100e-003	0.3559	2.1400e-003	0.3580	0.0944	1.9700e-003	0.0964		309.7777	309.7777	8.6600e-003		309.9941
Total	**0.1619**	**1.0022**	**1.3054**	**5.1000e-003**	**0.4023**	**4.4700e-003**	**0.4068**	**0.1078**	**4.2000e-003**	**0.1120**		**521.9221**	**521.9221**	**0.0205**		**522.4356**

3.44 70kV Power Line Conductor Install - 2022

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	2.6031	23.3806	16.8305	0.0537		0.9761	0.9761		0.8980	0.8980	0.0000	5,202.1167	5,202.1167	1.6825		5,244.1784
Total	**2.6031**	**23.3806**	**16.8305**	**0.0537**		**0.9761**	**0.9761**		**0.8980**	**0.8980**	**0.0000**	**5,202.1167**	**5,202.1167**	**1.6825**		**5,244.1784**

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	0.0274	0.8989	0.2405	1.9900e-003	0.0464	2.3300e-003	0.0488	0.0134	2.2300e-003	0.0156		212.1444	212.1444	0.0119		212.4415
Worker	0.1345	0.1033	1.0649	3.1100e-003	0.3559	2.1400e-003	0.3580	0.0944	1.9700e-003	0.0964		309.7777	309.7777	8.6600e-003		309.9941
Total	**0.1619**	**1.0022**	**1.3054**	**5.1000e-003**	**0.4023**	**4.4700e-003**	**0.4068**	**0.1078**	**4.2000e-003**	**0.1120**		**521.9221**	**521.9221**	**0.0205**		**522.4356**

3.45 70kV Power Line Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.3936	4.7810	2.4103	6.5200e-003		0.1705	0.1705		0.1568	0.1568		631.5787	631.5787	0.2043		636.6853
Total	**0.3936**	**4.7810**	**2.4103**	**6.5200e-003**	**0.5303**	**0.1705**	**0.7007**	**0.0573**	**0.1568**	**0.2141**		**631.5787**	**631.5787**	**0.2043**		**636.6853**

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	0.0192	0.6292	0.1684	1.3900e-003	0.0325	1.6300e-003	0.0341	9.3600e-003	1.5600e-003	0.0109		148.5011	148.5011	8.3200e-003		148.7091
Worker	0.0448	0.0344	0.3550	1.0400e-003	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		103.2592	103.2592	2.8900e-003		103.3314
Total	**0.0640**	**0.6637**	**0.5233**	**2.4300e-003**	**0.1511**	**2.3400e-003**	**0.1535**	**0.0408**	**2.2200e-003**	**0.0430**		**251.7603**	**251.7603**	**0.0112**		**252.0404**

3.45 70kV Power Line Cleanup Restore - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.3936	4.7810	2.4103	6.5200e-003		0.1705	0.1705		0.1568	0.1568	0.0000	631.5787	631.5787	0.2043		636.6853
Total	**0.3936**	**4.7810**	**2.4103**	**6.5200e-003**	**0.2386**	**0.1705**	**0.4091**	**0.0258**	**0.1568**	**0.1826**	**0.0000**	**631.5787**	**631.5787**	**0.2043**		**636.6853**

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	0.0192	0.6292	0.1684	1.3900e-003	0.0325	1.6300e-003	0.0341	9.3600e-003	1.5600e-003	0.0109		148.5011	148.5011	8.3200e-003		148.7091
Worker	0.0448	0.0344	0.3550	1.0400e-003	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		103.2592	103.2592	2.8900e-003		103.3314
Total	**0.0640**	**0.6637**	**0.5233**	**2.4300e-003**	**0.1511**	**2.3400e-003**	**0.1535**	**0.0408**	**2.2200e-003**	**0.0430**		**251.7603**	**251.7603**	**0.0112**		**252.0404**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	111.3014	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	111.3014	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	111.3014					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	**111.3014**	**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	111.3014					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	**111.3014**	**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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Estrella Substation and Paso Robles Area Reinforcement Project

San Luis Obispo 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	119.40	5,201,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Current Temp. Disturbance Area Total from Project Description

Construction Phase - Dates entered based on the specific number of days from the PEA CALEEMOD input file, with consideration of the specific months during which construction is likely to occur as indicated in the Project Description of the EIR.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.
Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description. Helicopter emissions modeled separately and not included here.

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values Based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description.

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Distribution

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions modeled outside of CalEEMod and not included here.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions calculated separately and not included here.

Off-road Equipment - Based on values in PEA and Project Description

Trips and VMT - Values based on PEA and Project Description

Grading - Waiting on temp. disturbance area and material import/export values for some phases

Area Coating - No Architectural Coating

Water And Wastewater - No Water Use

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2600500	0
tblAreaCoating	Area_Nonresidential_Interior	7801500	0
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	36.00
tblConstructionPhase	NumDays	3,100.00	120.00
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tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	18.00
tblConstructionPhase	NumDays	3,100.00	6.00

tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	3,100.00	18.00
tblConstructionPhase	NumDays	3,100.00	18.00
tblConstructionPhase	NumDays	3,100.00	30.00
tblConstructionPhase	NumDays	3,100.00	12.00
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tblConstructionPhase	NumDays	3,100.00	12.00
tblConstructionPhase	NumDays	3,100.00	144.00
tblConstructionPhase	NumDays	3,100.00	48.00
tblConstructionPhase	NumDays	3,100.00	24.00
tblConstructionPhase	NumDays	310.00	12.00
tblConstructionPhase	NumDays	120.00	24.00
tblConstructionPhase	NumDays	120.00	6.00
tblConstructionPhase	NumDays	120.00	12.00
tblConstructionPhase	NumDays	120.00	18.00

tblConstructionPhase	NumDays	120.00	24.00
tblConstructionPhase	NumDays	120.00	18.00
tblConstructionPhase	NumDays	120.00	24.00
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tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7480e-003	0.00
tblFleetMix	MCY	4.7760e-003	0.00
tblFleetMix	MDV	0.11	0.00
tblFleetMix	MH	1.1920e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	2.3160e-003	0.00
tblFleetMix	SBUS	7.5800e-004	0.00
tblFleetMix	UBUS	1.1630e-003	0.00
tblGrading	AcresOfGrading	9.00	12.00
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tblGrading	AcresOfGrading	0.00	9.00
tblGrading	AcresOfGrading	9.00	12.00
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tblGrading	AcresOfGrading	4.50	6.00
tblGrading	AcresOfGrading	0.00	6.00
tblGrading	AcresOfGrading	27.00	0.50
tblGrading	AcresOfGrading	0.00	6.00
tblGrading	AcresOfGrading	4.50	6.00
tblGrading	AcresOfGrading	3.00	6.00
tblGrading	MaterialImported	0.00	6,050.00
tblGrading	MaterialImported	0.00	6,050.00
tblLandUse	LandUseSquareFeet	0.00	5,201,000.00
tblLandUse	LotAcreage	0.00	119.40

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tblOffRoadEquipment	UsageHours	8.00	6.00
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tblTripsAndVMT	VendorTripNumber	852.00	31.00
tblTripsAndVMT	VendorTripNumber	852.00	10.00
tblTripsAndVMT	VendorTripNumber	852.00	9.00
tblTripsAndVMT	VendorTripNumber	852.00	29.00

tblTripsAndVMT	VendorTripNumber	852.00	11.00
tblTripsAndVMT	VendorTripNumber	852.00	12.00
tblTripsAndVMT	VendorTripNumber	852.00	2.00
tblTripsAndVMT	VendorTripNumber	852.00	30.00
tblTripsAndVMT	VendorTripNumber	852.00	45.00
tblTripsAndVMT	VendorTripNumber	0.00	33.00
tblTripsAndVMT	VendorTripNumber	852.00	3.00
tblTripsAndVMT	VendorTripNumber	852.00	30.00
tblTripsAndVMT	VendorTripNumber	0.00	9.00
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tblTripsAndVMT	VendorTripNumber	0.00	5.00
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tblTripsAndVMT	VendorTripNumber	852.00	2.00
tblTripsAndVMT	VendorTripNumber	852.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	11.00

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tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	852.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	7.00
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tblTripsAndVMT	VendorTripNumber	852.00	12.00
tblTripsAndVMT	VendorTripNumber	852.00	13.00
tblTripsAndVMT	WorkerTripNumber	5.00	12.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	8.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	24.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	30.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
tblTripsAndVMT	WorkerTripNumber	5.00	20.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	12.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	12.00

tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	5.00	16.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	8.00	12.00
tblTripsAndVMT	WorkerTripNumber	5.00	12.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	42.00
tblTripsAndVMT	WorkerTripNumber	3.00	12.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	24.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	20.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
tblTripsAndVMT	WorkerTripNumber	25.00	20.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	36.00
tblTripsAndVMT	WorkerTripNumber	5.00	12.00
tblTripsAndVMT	WorkerTripNumber	5.00	12.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	40.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	20.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	12.00

tblVehicleTrips	CC_TTP	0.00	28.00
tblVehicleTrips	CNW_TTP	0.00	13.00
tblVehicleTrips	CW_TTP	0.00	59.00
tblVehicleTrips	DV_TP	0.00	19.00
tblVehicleTrips	PB_TP	0.00	2.00
tblVehicleTrips	PR_TP	0.00	79.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	12.5174	141.3794	78.1287	0.2859	10.3995	4.3602	14.2518	4.3054	4.0212	8.2581	0.0000	28,741.0336	28,741.0336	7.1068	0.0000	28,899.7759
2022	3.3014	29.8349	23.6193	0.0794	1.4267	1.1536	2.2611	0.2979	1.0615	1.2673	0.0000	7,745.4102	7,745.4102	2.2076	0.0000	7,800.6007
Maximum	**12.5174**	**141.3794**	**78.1287**	**0.2859**	**10.3995**	**4.3602**	**14.2518**	**4.3054**	**4.0212**	**8.2581**	**0.0000**	**28,741.0336**	**28,741.0336**	**7.1068**	**0.0000**	**28,899.7759**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	12.5174	141.3794	78.1287	0.2859	6.4014	4.3602	10.5467	2.4072	4.0212	6.3913	0.0000	28,741.0335	28,741.0335	7.1068	0.0000	28,899.7759
2022	3.3014	29.8349	23.6193	0.0794	1.1351	1.1536	1.9694	0.2664	1.0615	1.2358	0.0000	7,745.4102	7,745.4102	2.2076	0.0000	7,800.6007
Maximum	**12.5174**	**141.3794**	**78.1287**	**0.2859**	**6.4014**	**4.3602**	**10.5467**	**2.4072**	**4.0212**	**6.3913**	**0.0000**	**28,741.0335**	**28,741.0335**	**7.1068**	**0.0000**	**28,899.7759**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**36.27**	**0.00**	**24.20**	**41.92**	**0.00**	**19.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	111.3014	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
Total	**111.3014**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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	111.3014	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
Total	**111.3014**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Reconductoring Site Prep	Site Preparation	1/1/2021	1/28/2021	6	24	Reconductor Site Prep
2	230kv Sub Access Road	Grading	1/1/2021	1/14/2021	6	12	230 Sub Access Road
3	230kV Transmission Site Work Prep	Site Preparation	1/5/2021	2/1/2021	6	24	230 TRANS Site Work Prep
4	230kV Sub Site Work Area	Site Preparation	1/15/2021	2/4/2021	6	18	230 Sub Site Work Area
5	70kV Substation Site Work Area Prep Mobil	Site Preparation	1/25/2021	2/6/2021	6	12	70 Sub Site Work Area
6	230kV Sub Fence Gate Install	Building Construction	2/1/2021	2/13/2021	6	12	230 Sub Fence Gate
7	Reconductoring Pole Install	Building Construction	2/1/2021	7/17/2021	6	144	Reconductor Pole Install
8	230kV Transmission Foundation Tower	Building Construction	2/2/2021	3/29/2021	6	48	230 TRANS Foundation Tower
9	70kV Substation Foundation Construction	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Foundation Construction
10	70kV Substation Ground Grid	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Ground Grid
11	230kV Sub Foundation Construction	Building Construction	2/8/2021	3/20/2021	6	36	230 Sub Foundation
12	Reconductoring Conductor Install	Building Construction	3/1/2021	7/17/2021	6	120	Reconductor Conductor Install
13	70kV Sub Steel Bus Erection	Building Construction	3/5/2021	4/1/2021	6	24	70 Sub Steel Bus
14	230kV Sub Ground Grid	Building Construction	3/10/2021	4/6/2021	6	24	230 Sub Ground Grid
15	230kV Transmission Conductor	Building Construction	4/1/2021	4/28/2021	6	24	230 TRANS Conductor
16	70 kV Substation Equip Delivery	Building Construction	4/1/2021	4/21/2021	6	18	70 Sub Equip Delivery
17	70kV Substation Control Enclosure	Building Construction	4/1/2021	4/7/2021	6	6	70 Sub Control Enclosure
18	230kV Sub Steel Bus	Building Construction	4/2/2021	4/29/2021	6	24	230 Sub Steel Bus

19	230kV Sub Install Yard Rock	Building Construction	4/16/2021	5/6/2021	6	18	230 Sub Install Yard Rock
20	70kV Substation Cable Installation	Building Construction	4/22/2021	5/12/2021	6	18	70 Sub Cable Install
21	230kV Sub Transformer	Building Construction	4/23/2021	5/27/2021	6	30	230 Sub Transformer
22	230kV Transmission Cleanup Restore	Site Preparation	5/1/2021	5/7/2021	6	6	230 TRANS Cleanup Restore
23	230kV Sub Control Enclosure Delivery	Building Construction	5/1/2021	5/14/2021	6	12	230 Sub Control Enclosure
24	70kV Substation Install Yard Rock	Building Construction	5/1/2021	5/14/2021	6	12	70 Sub Install Yard Rock
25	230kV Sub Remaining Equipment Delivery	Building Construction	5/8/2021	6/4/2021	6	24	230 Sub Remaining Equipment
26	70kV Substation Cleanup Restore	Site Preparation	5/15/2021	5/28/2021	6	12	70 Sub Cleanup Restore
27	230kV Sub Cable Install Termination	Building Construction	5/22/2021	6/4/2021	6	12	230 Sub Cable Install Term
28	70kV Substation Testing Commissioning	Site Preparation	6/1/2021	6/21/2021	6	18	70 Sub Testing Commissioning
29	230kV Sub Testing and Commissioning	Building Construction	6/1/2021	7/5/2021	6	30	230 Sub Testing
30	230kV Substation Cleanup Restore	Site Preparation	7/1/2021	7/21/2021	6	18	230 Sub Cleanup Restore
31	70kV Power Line Site Work Prep	Site Preparation	8/1/2021	8/28/2021	6	24	70 POWER Site Work Prep
32	Reconductoring Cleanup Restore	Site Preparation	8/1/2021	8/14/2021	6	12	Reconductor Cleanup Restore
33	70kV Power Line Pole Tower Install	Building Construction	9/1/2021	4/16/2022	6	196	70 POWER Pole Tower Install
34	Distribution Facilities Mobilization	Site Preparation	1/1/2022	1/14/2022	6	12	Distribution Facilities Mobilization
35	Distribution Foundation Construction	Building Construction	1/6/2022	2/2/2022	6	24	Distribution Foundation Construct
36	Distribution Ground Grid	Building Construction	1/20/2022	2/16/2022	6	24	Distribution Ground Grid
37	Distribution Steel Bus Erection	Building Construction	2/9/2022	3/8/2022	6	24	Distribution Steel Bus Erection
38	Distribution Bank Breaker	Building Construction	2/16/2022	3/8/2022	6	18	Distribution Bank Breaker
39	Distribution Feeder Conduit	Building Construction	2/23/2022	4/5/2022	6	36	Distribution Feeder Conduit
40	Distribution Cable Install	Building Construction	3/15/2022	4/11/2022	6	24	Distribution Cable Install
41	Distribution Testing	Building Construction	4/1/2022	4/28/2022	6	24	Distribution Testing
42	Distribution Cleanup Restore	Site Preparation	4/29/2022	5/12/2022	6	12	Distribution Cleanup Restore
43	70kV Power Line Conductor Install	Building Construction	5/1/2022	6/25/2022	6	48	70 POWER Conductor Install

44	70kV Power Line Cleanup Restore	Site Preparation	6/17/2022	6/30/2022	6	12	70 POWER Cleanup Restore

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Reconductoring Site Prep	Graders	1	6.00	187	0.41
Reconductoring Site Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kv Sub Access Road	Concrete/Industrial Saws	0	8.00	81	0.73
230kv Sub Access Road	Rubber Tired Dozers	0	1.00	247	0.40
230kv Sub Access Road	Tractors/Loaders/Backhoes	2	8.00	97	0.37
230kV Transmission Site Work Prep	Graders	1	6.00	187	0.41
230kV Transmission Site Work Prep	Off-Highway Trucks	0	10.00	402	0.38
230kV Transmission Site Work Prep	Rollers	0	8.00	80	0.38
230kV Transmission Site Work Prep	Rubber Tired Dozers	0	8.00	247	0.40
230kV Transmission Site Work Prep	Scrapers	0	8.00	367	0.48
230kV Transmission Site Work Prep	Tractors/Loaders/Backhoes	1	6.00	97	0.37
230kV Sub Site Work Area	Graders	1	8.00	187	0.41
230kV Sub Site Work Area	Graders	0	8.00	187	0.41
230kV Sub Site Work Area	Off-Highway Trucks	4	10.00	402	0.38
230kV Sub Site Work Area	Rollers	2	8.00	80	0.38
230kV Sub Site Work Area	Rubber Tired Dozers	1	8.00	247	0.40
230kV Sub Site Work Area	Scrapers	1	8.00	367	0.48

230kV Sub Site Work Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Site Work Area Prep Mobil	Graders	1	4.00	187	0.41
70kV Substation Site Work Area Prep Mobil	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Fence Gate Install	Cranes	0	4.00	231	0.29
230kV Sub Fence Gate Install	Forklifts	0	6.00	89	0.20
230kV Sub Fence Gate Install	Rubber Tired Dozers	0	1.00	247	0.40
230kV Sub Fence Gate Install	Skid Steer Loaders	1	4.00	65	0.37
230kV Sub Fence Gate Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Reconductoring Pole Install	Bore/Drill Rigs	1	6.00	221	0.50
Reconductoring Pole Install	Cranes	3	6.00	231	0.29
Reconductoring Pole Install	Cranes	1	1.00	231	0.29
Reconductoring Pole Install	Off-Highway Trucks	2	3.00	402	0.38
Reconductoring Pole Install	Off-Highway Trucks	2	2.00	402	0.38
230kV Transmission Foundation Tower	Bore/Drill Rigs	1	1.00	221	0.50
230kV Transmission Foundation Tower	Cranes	3	5.30	231	0.29
230kV Transmission Foundation Tower	Forklifts	3	2.60	89	0.20
230kV Transmission Foundation Tower	Off-Highway Trucks	2	3.50	402	0.38
230kV Transmission Foundation Tower	Off-Highway Trucks	2	2.60	402	0.38
230kV Transmission Foundation Tower	Tractors/Loaders/Backhoes	1	0.50	97	0.37
70kV Substation Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
70kV Substation Foundation Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
70kV Substation Foundation Construction	Trenchers	1	8.00	78	0.50

70kV Substation Ground Grid	Cranes	0	4.00	231	0.29
70kV Substation Ground Grid	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Substation Ground Grid	Trenchers	1	6.00	78	0.50
230kV Sub Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
230kV Sub Foundation Construction	Cranes	1	5.00	231	0.29
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
Reconductoring Conductor Install	Cranes	2	8.00	231	0.29
Reconductoring Conductor Install	Forklifts	1	3.00	89	0.20
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	4.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
Reconductoring Conductor Install	Other General Industrial Equipment	2	6.00	88	0.34
70kV Sub Steel Bus Erection	Aerial Lifts	2	8.00	63	0.31
70kV Sub Steel Bus Erection	Off-Highway Trucks	2	6.00	402	0.38
70kV Sub Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Forklifts	0	6.00	89	0.20
230kV Sub Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Trenchers	1	8.00	78	0.50
230kV Transmission Conductor	Cranes	3	6.00	231	0.29
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
70 kV Substation Equip Delivery	Aerial Lifts	2	4.00	63	0.31
70 kV Substation Equip Delivery	Off-Highway Trucks	1	5.30	402	0.38

70 kV Substation Equip Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Control Enclosure	Cranes	0	4.00	231	0.29
70kV Substation Control Enclosure	Forklifts	0	6.00	89	0.20
70kV Substation Control Enclosure	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Steel Bus	Aerial Lifts	1	6.00	63	0.31
230kV Sub Steel Bus	Off-Highway Trucks	1	8.00	402	0.38
230kV Sub Steel Bus	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Skid Steer Loaders	1	10.00	65	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cable Installation	Cranes	0	4.00	231	0.29
70kV Substation Cable Installation	Forklifts	0	6.00	89	0.20
70kV Substation Cable Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Cranes	1	6.00	231	0.29
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Generator Sets	1	5.00	84	0.74
230kV Sub Transformer	Off-Highway Trucks	2	10.00	402	0.38
230kV Sub Transformer	Off-Highway Trucks	1	4.80	402	0.38

230kV Sub Transformer	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Transmission Cleanup Restore	Graders	1	8.00	187	0.41
230kV Transmission Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Control Enclosure Delivery	Cranes	1	6.00	231	0.29
230kV Sub Control Enclosure Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Control Enclosure Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Install Yard Rock	Forklifts	0	6.00	89	0.20
70kV Substation Install Yard Rock	Skid Steer Loaders	1	8.00	231	0.29
70kV Substation Install Yard Rock	Tractors/Loaders/Backhoes	1	8.00	97	0.37
230kV Sub Remaining Equipment Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Remaining Equipment Delivery	Off-Highway Trucks	1	6.00	402	0.38
230kV Sub Remaining Equipment Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cleanup Restore	Graders	0	8.00	187	0.41
70kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Cable Install Termination	Aerial Lifts	1	8.00	63	0.31
230kV Sub Cable Install Termination	Forklifts	0	6.00	89	0.20
230kV Sub Cable Install Termination	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Testing Commissioning	Graders	0	8.00	187	0.41
70kV Substation Testing Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Cement and Mortar Mixers	0	6.00	9	0.56
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29

230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Pavers	0	7.00	130	0.42
230kV Sub Testing and Commissioning	Rollers	0	7.00	80	0.38
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	7.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Substation Cleanup Restore	Other General Industrial Equipment	1	6.00	88	0.34
230kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Power Line Site Work Prep	Graders	2	6.00	187	0.41
70kV Power Line Site Work Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Reconductoring Cleanup Restore	Graders	1	6.00	187	0.41
Reconductoring Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Pole Tower Install	Cranes	1	4.00	231	0.29
70kV Power Line Pole Tower Install	Off-Highway Trucks	7	4.00	402	0.38
70kV Power Line Pole Tower Install	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Distribution Facilities Mobilization	Graders	0	8.00	187	0.41
Distribution Facilities Mobilization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Foundation Construction	Cranes	0	4.00	231	0.29
Distribution Foundation Construction	Forklifts	0	6.00	89	0.20
Distribution Foundation Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Distribution Ground Grid	Cranes	1	1.50	231	0.29

Distribution Ground Grid	Forklifts	0	6.00	89	0.20
Distribution Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Steel Bus Erection	Cranes	0	4.00	231	0.29
Distribution Steel Bus Erection	Forklifts	0	6.00	89	0.20
Distribution Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Bank Breaker	Cranes	1	2.00	231	0.29
Distribution Bank Breaker	Forklifts	0	6.00	89	0.20
Distribution Bank Breaker	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Feeder Conduit	Forklifts	0	6.00	89	0.20
Distribution Feeder Conduit	Off-Highway Trucks	2	4.00	402	0.38
Distribution Feeder Conduit	Tractors/Loaders/Backhoes	1	1.30	97	0.37
Distribution Cable Install	Cranes	0	4.00	231	0.29
Distribution Cable Install	Forklifts	0	6.00	89	0.20
Distribution Cable Install	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Testing	Cranes	0	4.00	231	0.29
Distribution Testing	Forklifts	0	6.00	89	0.20
Distribution Testing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Cleanup Restore	Graders	0	8.00	187	0.41
Distribution Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Conductor Install	Cranes	3	6.00	231	0.29
70kV Power Line Conductor Install	Forklifts	1	3.00	89	0.20
70kV Power Line Conductor Install	Off-Highway Trucks	3	4.00	402	0.38
70kV Power Line Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
70kV Power Line Conductor Install	Off-Highway Trucks	2	2.00	402	0.38
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Cleanup Restore	Graders	1	6.00	187	0.41

70kV Power Line Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37

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
Reconductoring Site Prep	2	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kv Sub Access Road	2	20.00	33.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Site Work Prep	2	16.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Site Work Area	10	20.00	11.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Site Work Area Prep Mobil	2	12.00	6.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Fence Gate Install	1	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Pole Install	9	40.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Foundation Tower	12	20.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Foundation Constructi	3	12.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Ground Grid	2	8.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Foundation Constructi	3	24.00	31.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Conductor Install	12	30.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Sub Steel Bus Erection	4	16.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Ground Grid	1	10.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Conductor	7	30.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70 kV Substation Equip Delivery	3	12.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Control Enclosure	0	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Steel Bus	2	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Install Yard Rock	1	16.00	45.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cable Installation	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Transformer	6	16.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Cleanup Restore	2	10.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

230kV Sub Control Enclosure Delivery	1	12.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Install Yard Rock	2	12.00	16.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Remaining Equipment Delivery	1	10.00	28.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cleanup Restore	0	8.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Cable Install Termination	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Testing Commissionin	0	8.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Testing and Commissioning	0	10.00	26.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Substation Cleanup Restore	2	6.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Site Work Prep	3	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Cleanup Restore	2	12.00	5.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Pole Tower Install	10	42.00	15.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Facilities Mobilization	1	12.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Foundation Constructi	1	24.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Ground Grid	1	20.00	4.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Steel Bus Erection	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Bank Breaker	1	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Feeder Conduit	3	16.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cable Install	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Testing	0	6.00	1.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cleanup Restore	1	6.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Conductor Install	12	36.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Cleanup Restore	2	12.00	7.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Reconductoring Site Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809		631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.5303**	**0.1967**	**0.7269**	**0.0573**	**0.1809**	**0.2382**		**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0316	0.9390	0.2953	1.9400e-003	0.0464	2.8100e-003	0.0492	0.0134	2.6900e-003	0.0161		207.0036	207.0036	0.0129		207.3257
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0862**	**0.9825**	**0.6706**	**2.9600e-003**	**0.1651**	**3.5400e-003**	**0.1686**	**0.0448**	**3.3700e-003**	**0.0482**		**309.0772**	**309.0772**	**0.0160**		**309.4769**

3.2 Reconductoring Site Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809	0.0000	631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.2386**	**0.1967**	**0.4353**	**0.0258**	**0.1809**	**0.2067**	**0.0000**	**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0316	0.9390	0.2953	1.9400e-003	0.0464	2.8100e-003	0.0492	0.0134	2.6900e-003	0.0161		207.0036	207.0036	0.0129		207.3257
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0862**	**0.9825**	**0.6706**	**2.9600e-003**	**0.1651**	**3.5400e-003**	**0.1686**	**0.0448**	**3.3700e-003**	**0.0482**		**309.0772**	**309.0772**	**0.0160**		**309.4769**

3.3 230kv Sub Access Road - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3746	3.7916	4.5205	6.2100e-003		0.2236	0.2236		0.2057	0.2057		601.8002	601.8002	0.1946		606.6660
Total	**0.3746**	**3.7916**	**4.5205**	**6.2100e-003**	**0.0000**	**0.2236**	**0.2236**	**0.0000**	**0.2057**	**0.2057**		**601.8002**	**601.8002**	**0.1946**		**606.6660**

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	0.1041	3.0988	0.9745	6.4100e-003	0.1532	9.2700e-003	0.1625	0.0441	8.8600e-003	0.0530		683.1117	683.1117	0.0425		684.1748
Worker	0.0910	0.0724	0.6255	1.7100e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		170.1228	170.1228	5.1700e-003		170.2520
Total	**0.1951**	**3.1712**	**1.6001**	**8.1200e-003**	**0.3509**	**0.0105**	**0.3614**	**0.0966**	**9.9900e-003**	**0.1066**		**853.2345**	**853.2345**	**0.0477**		**854.4268**

3.3 230kv Sub Access Road - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3746	3.7916	4.5205	6.2100e-003		0.2236	0.2236		0.2057	0.2057	0.0000	601.8002	601.8002	0.1946		606.6660
Total	**0.3746**	**3.7916**	**4.5205**	**6.2100e-003**	**0.0000**	**0.2236**	**0.2236**	**0.0000**	**0.2057**	**0.2057**	**0.0000**	**601.8002**	**601.8002**	**0.1946**		**606.6660**

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	0.1041	3.0988	0.9745	6.4100e-003	0.1532	9.2700e-003	0.1625	0.0441	8.8600e-003	0.0530		683.1117	683.1117	0.0425		684.1748
Worker	0.0910	0.0724	0.6255	1.7100e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		170.1228	170.1228	5.1700e-003		170.2520
Total	**0.1951**	**3.1712**	**1.6001**	**8.1200e-003**	**0.3509**	**0.0105**	**0.3614**	**0.0966**	**9.9900e-003**	**0.1066**		**853.2345**	**853.2345**	**0.0477**		**854.4268**

3.4 230kV Transmission Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066		706.9381	706.9381	0.2286		712.6541
Total	**0.4802**	**5.8653**	**3.0206**	**7.3000e-003**	**0.5303**	**0.2246**	**0.7549**	**0.0573**	**0.2066**	**0.2639**		**706.9381**	**706.9381**	**0.2286**		**712.6541**

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	0.0347	1.0329	0.3248	2.1400e-003	0.0511	3.0900e-003	0.0542	0.0147	2.9500e-003	0.0177		227.7039	227.7039	0.0142		228.0583
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.1075**	**1.0909**	**0.8253**	**3.5100e-003**	**0.2093**	**4.0700e-003**	**0.2133**	**0.0567**	**3.8500e-003**	**0.0605**		**363.8021**	**363.8021**	**0.0183**		**364.2599**

3.4 230kV Transmission Site Work Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.4802	5.8653	3.0206	7.3000e-003		0.2246	0.2246		0.2066	0.2066	0.0000	706.9381	706.9381	0.2286		712.6541
Total	**0.4802**	**5.8653**	**3.0206**	**7.3000e-003**	**0.2386**	**0.2246**	**0.4632**	**0.0258**	**0.2066**	**0.2324**	**0.0000**	**706.9381**	**706.9381**	**0.2286**		**712.6541**

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	0.0347	1.0329	0.3248	2.1400e-003	0.0511	3.0900e-003	0.0542	0.0147	2.9500e-003	0.0177		227.7039	227.7039	0.0142		228.0583
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.1075**	**1.0909**	**0.8253**	**3.5100e-003**	**0.2093**	**4.0700e-003**	**0.2133**	**0.0567**	**3.8500e-003**	**0.0605**		**363.8021**	**363.8021**	**0.0183**		**364.2599**

3.5 230kV Sub Site Work Area - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1134	0.0000	6.1134	3.3228	0.0000	3.3228			0.0000			0.0000
Off-Road	6.0246	59.6598	36.8525	0.1047		2.4489	2.4489		2.2530	2.2530		10,138.6407	10,138.6407	3.2790		10,220.6167
Total	**6.0246**	**59.6598**	**36.8525**	**0.1047**	**6.1134**	**2.4489**	**8.5623**	**3.3228**	**2.2530**	**5.5757**		**10,138.6407**	**10,138.6407**	**3.2790**		**10,220.6167**

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	0.3454	12.2013	2.8854	0.0323	0.7332	0.0523	0.7855	0.2009	0.0501	0.2509		3,490.5439	3,490.5439	0.2080		3,495.7443
Vendor	0.0347	1.0329	0.3248	2.1400e-003	0.0511	3.0900e-003	0.0542	0.0147	2.9500e-003	0.0177		227.7039	227.7039	0.0142		228.0583
Worker	0.0910	0.0724	0.6255	1.7100e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		170.1228	170.1228	5.1700e-003		170.2520
Total	**0.4711**	**13.3066**	**3.8357**	**0.0362**	**0.9820**	**0.0567**	**1.0386**	**0.2680**	**0.0542**	**0.3222**		**3,888.3706**	**3,888.3706**	**0.2274**		**3,894.0546**

3.5 230kV Sub Site Work Area - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7510	0.0000	2.7510	1.4953	0.0000	1.4953			0.0000			0.0000
Off-Road	6.0246	59.6598	36.8525	0.1047		2.4489	2.4489		2.2530	2.2530	0.0000	10,138.6406	10,138.6406	3.2790		10,220.6167
Total	**6.0246**	**59.6598**	**36.8525**	**0.1047**	**2.7510**	**2.4489**	**5.1999**	**1.4953**	**2.2530**	**3.7482**	**0.0000**	**10,138.6406**	**10,138.6406**	**3.2790**		**10,220.6167**

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	0.3454	12.2013	2.8854	0.0323	0.7332	0.0523	0.7855	0.2009	0.0501	0.2509		3,490.5439	3,490.5439	0.2080		3,495.7443
Vendor	0.0347	1.0329	0.3248	2.1400e-003	0.0511	3.0900e-003	0.0542	0.0147	2.9500e-003	0.0177		227.7039	227.7039	0.0142		228.0583
Worker	0.0910	0.0724	0.6255	1.7100e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		170.1228	170.1228	5.1700e-003		170.2520
Total	**0.4711**	**13.3066**	**3.8357**	**0.0362**	**0.9820**	**0.0567**	**1.0386**	**0.2680**	**0.0542**	**0.3222**		**3,888.3706**	**3,888.3706**	**0.2274**		**3,894.0546**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.6231	0.0000	0.6231	0.0713	0.0000	0.0713			0.0000			0.0000
Off-Road	0.3201	3.9102	2.0137	4.8700e-003		0.1497	0.1497		0.1378	0.1378		471.2921	471.2921	0.1524		475.1027
Total	**0.3201**	**3.9102**	**2.0137**	**4.8700e-003**	**0.6231**	**0.1497**	**0.7728**	**0.0713**	**0.1378**	**0.2091**		**471.2921**	**471.2921**	**0.1524**		**475.1027**

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	0.5181	18.3019	4.3281	0.0485	1.0998	0.0785	1.1783	0.3013	0.0751	0.3764		5,235.8159	5,235.8159	0.3120		5,243.6164
Vendor	0.0189	0.5634	0.1772	1.1700e-003	0.0279	1.6800e-003	0.0295	8.0200e-003	1.6100e-003	9.6300e-003		124.2021	124.2021	7.7300e-003		124.3954
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.5916**	**18.9088**	**4.8806**	**0.0507**	**1.2462**	**0.0809**	**1.3272**	**0.3408**	**0.0774**	**0.4182**		**5,462.0917**	**5,462.0917**	**0.3229**		**5,470.1631**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2804	0.0000	0.2804	0.0321	0.0000	0.0321			0.0000			0.0000
Off-Road	0.3201	3.9102	2.0137	4.8700e-003		0.1497	0.1497		0.1378	0.1378	0.0000	471.2921	471.2921	0.1524		475.1027
Total	**0.3201**	**3.9102**	**2.0137**	**4.8700e-003**	**0.2804**	**0.1497**	**0.4301**	**0.0321**	**0.1378**	**0.1699**	**0.0000**	**471.2921**	**471.2921**	**0.1524**		**475.1027**

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	0.5181	18.3019	4.3281	0.0485	1.0998	0.0785	1.1783	0.3013	0.0751	0.3764		5,235.8159	5,235.8159	0.3120		5,243.6164
Vendor	0.0189	0.5634	0.1772	1.1700e-003	0.0279	1.6800e-003	0.0295	8.0200e-003	1.6100e-003	9.6300e-003		124.2021	124.2021	7.7300e-003		124.3954
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.5916**	**18.9088**	**4.8806**	**0.0507**	**1.2462**	**0.0809**	**1.3272**	**0.3408**	**0.0774**	**0.4182**		**5,462.0917**	**5,462.0917**	**0.3229**		**5,470.1631**

3.7 230kV Sub Fence Gate Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0378	0.5018	0.6950	1.0300e-003		0.0204	0.0204		0.0188	0.0188		100.0992	100.0992	0.0324		100.9085
Total	**0.0378**	**0.5018**	**0.6950**	**1.0300e-003**		**0.0204**	**0.0204**		**0.0188**	**0.0188**		**100.0992**	**100.0992**	**0.0324**		**100.9085**

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	0.0947	2.8171	0.8859	5.8300e-003	0.1393	8.4200e-003	0.1477	0.0401	8.0600e-003	0.0482		621.0107	621.0107	0.0387		621.9771
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1402**	**2.8533**	**1.1987**	**6.6800e-003**	**0.2381**	**9.0300e-003**	**0.2472**	**0.0663**	**8.6200e-003**	**0.0750**		**706.0721**	**706.0721**	**0.0413**		**707.1031**

3.7 230kV Sub Fence Gate Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0378	0.5018	0.6950	1.0300e-003		0.0204	0.0204		0.0188	0.0188	0.0000	100.0992	100.0992	0.0324		100.9085
Total	**0.0378**	**0.5018**	**0.6950**	**1.0300e-003**		**0.0204**	**0.0204**		**0.0188**	**0.0188**	**0.0000**	**100.0992**	**100.0992**	**0.0324**		**100.9085**

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	0.0947	2.8171	0.8859	5.8300e-003	0.1393	8.4200e-003	0.1477	0.0401	8.0600e-003	0.0482		621.0107	621.0107	0.0387		621.9771
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1402**	**2.8533**	**1.1987**	**6.6800e-003**	**0.2381**	**9.0300e-003**	**0.2472**	**0.0663**	**8.6200e-003**	**0.0750**		**706.0721**	**706.0721**	**0.0413**		**707.1031**

3.8 Reconductoring Pole Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9317	20.3635	10.7702	0.0373		0.7777	0.7777		0.7154	0.7154		3,609.2051	3,609.2051	1.1673		3,638.3874
Total	**1.9317**	**20.3635**	**10.7702**	**0.0373**		**0.7777**	**0.7777**		**0.7154**	**0.7154**		**3,609.2051**	**3,609.2051**	**1.1673**		**3,638.3874**

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	0.0410	1.2207	0.3839	2.5300e-003	0.0604	3.6500e-003	0.0640	0.0174	3.4900e-003	0.0209		269.1046	269.1046	0.0168		269.5234
Worker	0.1820	0.1448	1.2511	3.4200e-003	0.3955	2.4500e-003	0.3979	0.1049	2.2600e-003	0.1071		340.2456	340.2456	0.0103		340.5041
Total	**0.2230**	**1.3656**	**1.6350**	**5.9500e-003**	**0.4558**	**6.1000e-003**	**0.4619**	**0.1223**	**5.7500e-003**	**0.1280**		**609.3502**	**609.3502**	**0.0271**		**610.0275**

3.8 Reconductoring Pole Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9317	20.3635	10.7702	0.0373		0.7777	0.7777		0.7154	0.7154	0.0000	3,609.2051	3,609.2051	1.1673		3,638.3874
Total	**1.9317**	**20.3635**	**10.7702**	**0.0373**		**0.7777**	**0.7777**		**0.7154**	**0.7154**	**0.0000**	**3,609.2051**	**3,609.2051**	**1.1673**		**3,638.3874**

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	0.0410	1.2207	0.3839	2.5300e-003	0.0604	3.6500e-003	0.0640	0.0174	3.4900e-003	0.0209		269.1046	269.1046	0.0168		269.5234
Worker	0.1820	0.1448	1.2511	3.4200e-003	0.3955	2.4500e-003	0.3979	0.1049	2.2600e-003	0.1071		340.2456	340.2456	0.0103		340.5041
Total	**0.2230**	**1.3656**	**1.6350**	**5.9500e-003**	**0.4558**	**6.1000e-003**	**0.4619**	**0.1223**	**5.7500e-003**	**0.1280**		**609.3502**	**609.3502**	**0.0271**		**610.0275**

3.9 230kV Transmission Foundation Tower - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9147	19.3107	10.9767	0.0345		0.7858	0.7858		0.7229	0.7229		3,337.3850	3,337.3850	1.0794		3,364.3694
Total	**1.9147**	**19.3107**	**10.9767**	**0.0345**		**0.7858**	**0.7858**		**0.7229**	**0.7229**		**3,337.3850**	**3,337.3850**	**1.0794**		**3,364.3694**

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	0.0379	1.1268	0.3544	2.3300e-003	0.0557	3.3700e-003	0.0591	0.0161	3.2200e-003	0.0193		248.4043	248.4043	0.0155		248.7908
Worker	0.0910	0.0724	0.6255	1.7100e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		170.1228	170.1228	5.1700e-003		170.2520
Total	**0.1289**	**1.1993**	**0.9799**	**4.0400e-003**	**0.2534**	**4.5900e-003**	**0.2580**	**0.0685**	**4.3500e-003**	**0.0728**		**418.5271**	**418.5271**	**0.0206**		**419.0429**

3.9 230kV Transmission Foundation Tower - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9147	19.3107	10.9767	0.0345		0.7858	0.7858		0.7229	0.7229	0.0000	3,337.3850	3,337.3850	1.0794		3,364.3694
Total	**1.9147**	**19.3107**	**10.9767**	**0.0345**		**0.7858**	**0.7858**		**0.7229**	**0.7229**	**0.0000**	**3,337.3850**	**3,337.3850**	**1.0794**		**3,364.3694**

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	0.0379	1.1268	0.3544	2.3300e-003	0.0557	3.3700e-003	0.0591	0.0161	3.2200e-003	0.0193		248.4043	248.4043	0.0155		248.7908
Worker	0.0910	0.0724	0.6255	1.7100e-003	0.1977	1.2200e-003	0.1990	0.0524	1.1300e-003	0.0536		170.1228	170.1228	5.1700e-003		170.2520
Total	**0.1289**	**1.1993**	**0.9799**	**4.0400e-003**	**0.2534**	**4.5900e-003**	**0.2580**	**0.0685**	**4.3500e-003**	**0.0728**		**418.5271**	**418.5271**	**0.0206**		**419.0429**

3.10 70kV Substation Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8279	8.4307	6.9405	0.0159		0.4584	0.4584		0.4217	0.4217		1,539.8850	1,539.8850	0.4980		1,552.3357
Total	**0.8279**	**8.4307**	**6.9405**	**0.0159**		**0.4584**	**0.4584**		**0.4217**	**0.4217**		**1,539.8850**	**1,539.8850**	**0.4980**		**1,552.3357**

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	0.0410	1.2207	0.3839	2.5300e-003	0.0604	3.6500e-003	0.0640	0.0174	3.4900e-003	0.0209		269.1046	269.1046	0.0168		269.5234
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0956**	**1.2642**	**0.7592**	**3.5500e-003**	**0.1790**	**4.3800e-003**	**0.1834**	**0.0488**	**4.1700e-003**	**0.0530**		**371.1783**	**371.1783**	**0.0199**		**371.6746**

3.10 70kV Substation Foundation Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8279	8.4307	6.9405	0.0159		0.4584	0.4584		0.4217	0.4217	0.0000	1,539.8850	1,539.8850	0.4980		1,552.3357
Total	**0.8279**	**8.4307**	**6.9405**	**0.0159**		**0.4584**	**0.4584**		**0.4217**	**0.4217**	**0.0000**	**1,539.8850**	**1,539.8850**	**0.4980**		**1,552.3357**

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	0.0410	1.2207	0.3839	2.5300e-003	0.0604	3.6500e-003	0.0640	0.0174	3.4900e-003	0.0209		269.1046	269.1046	0.0168		269.5234
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0956**	**1.2642**	**0.7592**	**3.5500e-003**	**0.1790**	**4.3800e-003**	**0.1834**	**0.0488**	**4.1700e-003**	**0.0530**		**371.1783**	**371.1783**	**0.0199**		**371.6746**

3.11 70kV Substation Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4273	4.0559	3.6499	4.8600e-003		0.2751	0.2751		0.2531	0.2531		470.8669	470.8669	0.1523		474.6741
Total	**0.4273**	**4.0559**	**3.6499**	**4.8600e-003**		**0.2751**	**0.2751**		**0.2531**	**0.2531**		**470.8669**	**470.8669**	**0.1523**		**474.6741**

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	0.0284	0.8451	0.2658	1.7500e-003	0.0418	2.5300e-003	0.0443	0.0120	2.4200e-003	0.0145		186.3032	186.3032	0.0116		186.5931
Worker	0.0364	0.0290	0.2502	6.8000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		68.0491	68.0491	2.0700e-003		68.1008
Total	**0.0648**	**0.8741**	**0.5160**	**2.4300e-003**	**0.1209**	**3.0200e-003**	**0.1239**	**0.0330**	**2.8700e-003**	**0.0359**		**254.3523**	**254.3523**	**0.0137**		**254.6939**

3.11 70kV Substation Ground Grid - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4273	4.0559	3.6499	4.8600e-003		0.2751	0.2751		0.2531	0.2531	0.0000	470.8669	470.8669	0.1523		474.6741
Total	**0.4273**	**4.0559**	**3.6499**	**4.8600e-003**		**0.2751**	**0.2751**		**0.2531**	**0.2531**	**0.0000**	**470.8669**	**470.8669**	**0.1523**		**474.6741**

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	0.0284	0.8451	0.2658	1.7500e-003	0.0418	2.5300e-003	0.0443	0.0120	2.4200e-003	0.0145		186.3032	186.3032	0.0116		186.5931
Worker	0.0364	0.0290	0.2502	6.8000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		68.0491	68.0491	2.0700e-003		68.1008
Total	**0.0648**	**0.8741**	**0.5160**	**2.4300e-003**	**0.1209**	**3.0200e-003**	**0.1239**	**0.0330**	**2.8700e-003**	**0.0359**		**254.3523**	**254.3523**	**0.0137**		**254.6939**

3.12 230kV Sub Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6333	7.2385	4.7259	0.0150		0.2845	0.2845		0.2618	0.2618		1,449.3367	1,449.3367	0.4687		1,461.0553
Total	**0.6333**	**7.2385**	**4.7259**	**0.0150**		**0.2845**	**0.2845**		**0.2618**	**0.2618**		**1,449.3367**	**1,449.3367**	**0.4687**		**1,461.0553**

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	0.0978	2.9110	0.9155	6.0300e-003	0.1439	8.7000e-003	0.1526	0.0415	8.3200e-003	0.0498		641.7110	641.7110	0.0400		642.7097
Worker	0.1092	0.0869	0.7506	2.0500e-003	0.2373	1.4700e-003	0.2387	0.0629	1.3600e-003	0.0643		204.1473	204.1473	6.2000e-003		204.3025
Total	**0.2070**	**2.9979**	**1.6661**	**8.0800e-003**	**0.3812**	**0.0102**	**0.3914**	**0.1044**	**9.6800e-003**	**0.1141**		**845.8584**	**845.8584**	**0.0462**		**847.0121**

3.12 230kV Sub Foundation Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6333	7.2385	4.7259	0.0150		0.2845	0.2845		0.2618	0.2618	0.0000	1,449.3367	1,449.3367	0.4687		1,461.0553
Total	**0.6333**	**7.2385**	**4.7259**	**0.0150**		**0.2845**	**0.2845**		**0.2618**	**0.2618**	**0.0000**	**1,449.3367**	**1,449.3367**	**0.4687**		**1,461.0553**

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	0.0978	2.9110	0.9155	6.0300e-003	0.1439	8.7000e-003	0.1526	0.0415	8.3200e-003	0.0498		641.7110	641.7110	0.0400		642.7097
Worker	0.1092	0.0869	0.7506	2.0500e-003	0.2373	1.4700e-003	0.2387	0.0629	1.3600e-003	0.0643		204.1473	204.1473	6.2000e-003		204.3025
Total	**0.2070**	**2.9979**	**1.6661**	**8.0800e-003**	**0.3812**	**0.0102**	**0.3914**	**0.1044**	**9.6800e-003**	**0.1141**		**845.8584**	**845.8584**	**0.0462**		**847.0121**

3.13 Reconductoring Conductor Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0719	38.0846	24.4849	0.0787		1.5447	1.5447		1.4211	1.4211		7,618.0006	7,618.0006	2.4638		7,679.5960
Total	**4.0719**	**38.0846**	**24.4849**	**0.0787**		**1.5447**	**1.5447**		**1.4211**	**1.4211**		**7,618.0006**	**7,618.0006**	**2.4638**		**7,679.5960**

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	0.0316	0.9390	0.2953	1.9400e-003	0.0464	2.8100e-003	0.0492	0.0134	2.6900e-003	0.0161		207.0036	207.0036	0.0129		207.3257
Worker	0.1365	0.1086	0.9383	2.5600e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		255.1842	255.1842	7.7600e-003		255.3781
Total	**0.1681**	**1.0477**	**1.2336**	**4.5000e-003**	**0.3430**	**4.6500e-003**	**0.3477**	**0.0920**	**4.3800e-003**	**0.0964**		**462.1877**	**462.1877**	**0.0207**		**462.7038**

3.13 Reconductoring Conductor Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0719	38.0846	24.4849	0.0787		1.5447	1.5447		1.4211	1.4211	0.0000	7,618.0006	7,618.0006	2.4638		7,679.5960
Total	**4.0719**	**38.0846**	**24.4849**	**0.0787**		**1.5447**	**1.5447**		**1.4211**	**1.4211**	**0.0000**	**7,618.0006**	**7,618.0006**	**2.4638**		**7,679.5960**

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	0.0316	0.9390	0.2953	1.9400e-003	0.0464	2.8100e-003	0.0492	0.0134	2.6900e-003	0.0161		207.0036	207.0036	0.0129		207.3257
Worker	0.1365	0.1086	0.9383	2.5600e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		255.1842	255.1842	7.7600e-003		255.3781
Total	**0.1681**	**1.0477**	**1.2336**	**4.5000e-003**	**0.3430**	**4.6500e-003**	**0.3477**	**0.0920**	**4.3800e-003**	**0.0964**		**462.1877**	**462.1877**	**0.0207**		**462.7038**

3.14 70kV Sub Steel Bus Erection - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9838	9.0963	7.5946	0.0232		0.3125	0.3125		0.2875	0.2875		2,243.0242	2,243.0242	0.7254		2,261.1602
Total	**0.9838**	**9.0963**	**7.5946**	**0.0232**		**0.3125**	**0.3125**		**0.2875**	**0.2875**		**2,243.0242**	**2,243.0242**	**0.7254**		**2,261.1602**

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	0.0284	0.8451	0.2658	1.7500e-003	0.0418	2.5300e-003	0.0443	0.0120	2.4200e-003	0.0145		186.3032	186.3032	0.0116		186.5931
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.1012**	**0.9031**	**0.7662**	**3.1200e-003**	**0.2000**	**3.5100e-003**	**0.2035**	**0.0540**	**3.3200e-003**	**0.0573**		**322.4014**	**322.4014**	**0.0157**		**322.7948**

3.14 70kV Sub Steel Bus Erection - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9838	9.0963	7.5946	0.0232		0.3125	0.3125		0.2875	0.2875	0.0000	2,243.0242	2,243.0242	0.7254		2,261.1602
Total	**0.9838**	**9.0963**	**7.5946**	**0.0232**		**0.3125**	**0.3125**		**0.2875**	**0.2875**	**0.0000**	**2,243.0242**	**2,243.0242**	**0.7254**		**2,261.1602**

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	0.0284	0.8451	0.2658	1.7500e-003	0.0418	2.5300e-003	0.0443	0.0120	2.4200e-003	0.0145		186.3032	186.3032	0.0116		186.5931
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.1012**	**0.9031**	**0.7662**	**3.1200e-003**	**0.2000**	**3.5100e-003**	**0.2035**	**0.0540**	**3.3200e-003**	**0.0573**		**322.4014**	**322.4014**	**0.0157**		**322.7948**

3.15 230kV Sub Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3825	3.5121	2.6063	3.3700e-003		0.2550	0.2550		0.2346	0.2346		326.9225	326.9225	0.1057		329.5658
Total	**0.3825**	**3.5121**	**2.6063**	**3.3700e-003**		**0.2550**	**0.2550**		**0.2346**	**0.2346**		**326.9225**	**326.9225**	**0.1057**		**329.5658**

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	0.0915	2.7232	0.8564	5.6400e-003	0.1346	8.1400e-003	0.1428	0.0388	7.7900e-003	0.0466		600.3103	600.3103	0.0374		601.2445
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1370**	**2.7594**	**1.1692**	**6.4900e-003**	**0.2335**	**8.7500e-003**	**0.2423**	**0.0650**	**8.3500e-003**	**0.0734**		**685.3717**	**685.3717**	**0.0400**		**686.3705**

3.15 230kV Sub Ground Grid - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3825	3.5121	2.6063	3.3700e-003		0.2550	0.2550		0.2346	0.2346	0.0000	326.9225	326.9225	0.1057		329.5658
Total	**0.3825**	**3.5121**	**2.6063**	**3.3700e-003**		**0.2550**	**0.2550**		**0.2346**	**0.2346**	**0.0000**	**326.9225**	**326.9225**	**0.1057**		**329.5658**

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	0.0915	2.7232	0.8564	5.6400e-003	0.1346	8.1400e-003	0.1428	0.0388	7.7900e-003	0.0466		600.3103	600.3103	0.0374		601.2445
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1370**	**2.7594**	**1.1692**	**6.4900e-003**	**0.2335**	**8.7500e-003**	**0.2423**	**0.0650**	**8.3500e-003**	**0.0734**		**685.3717**	**685.3717**	**0.0400**		**686.3705**

3.16 230kV Transmission Conductor - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1408	21.4378	11.6701	0.0394		0.8291	0.8291		0.7628	0.7628		3,814.2082	3,814.2082	1.2336		3,845.0480
Total	**2.1408**	**21.4378**	**11.6701**	**0.0394**		**0.8291**	**0.8291**		**0.7628**	**0.7628**		**3,814.2082**	**3,814.2082**	**1.2336**		**3,845.0480**

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	0.0347	1.0329	0.3248	2.1400e-003	0.0511	3.0900e-003	0.0542	0.0147	2.9500e-003	0.0177		227.7039	227.7039	0.0142		228.0583
Worker	0.1365	0.1086	0.9383	2.5600e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		255.1842	255.1842	7.7600e-003		255.3781
Total	**0.1712**	**1.1416**	**1.2631**	**4.7000e-003**	**0.3477**	**4.9300e-003**	**0.3526**	**0.0934**	**4.6400e-003**	**0.0980**		**482.8881**	**482.8881**	**0.0219**		**483.4363**

3.16 230kV Transmission Conductor - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1408	21.4378	11.6701	0.0394		0.8291	0.8291		0.7628	0.7628	0.0000	3,814.2082	3,814.2082	1.2336		3,845.0480
Total	**2.1408**	**21.4378**	**11.6701**	**0.0394**		**0.8291**	**0.8291**		**0.7628**	**0.7628**	**0.0000**	**3,814.2082**	**3,814.2082**	**1.2336**		**3,845.0480**

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	0.0347	1.0329	0.3248	2.1400e-003	0.0511	3.0900e-003	0.0542	0.0147	2.9500e-003	0.0177		227.7039	227.7039	0.0142		228.0583
Worker	0.1365	0.1086	0.9383	2.5600e-003	0.2966	1.8400e-003	0.2984	0.0787	1.6900e-003	0.0804		255.1842	255.1842	7.7600e-003		255.3781
Total	**0.1712**	**1.1416**	**1.2631**	**4.7000e-003**	**0.3477**	**4.9300e-003**	**0.3526**	**0.0934**	**4.6400e-003**	**0.0980**		**482.8881**	**482.8881**	**0.0219**		**483.4363**

3.17 70 kV Substation Equip Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	4.0876	3.4819	0.0104		0.1394	0.1394		0.1282	0.1282		1,009.6413	1,009.6413	0.3265		1,017.8048
Total	**0.4389**	**4.0876**	**3.4819**	**0.0104**		**0.1394**	**0.1394**		**0.1282**	**0.1282**		**1,009.6413**	**1,009.6413**	**0.3265**		**1,017.8048**

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	0.0379	1.1268	0.3544	2.3300e-003	0.0557	3.3700e-003	0.0591	0.0161	3.2200e-003	0.0193		248.4043	248.4043	0.0155		248.7908
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0925**	**1.1703**	**0.7297**	**3.3500e-003**	**0.1743**	**4.1000e-003**	**0.1785**	**0.0475**	**3.9000e-003**	**0.0514**		**350.4779**	**350.4779**	**0.0186**		**350.9421**

3.17 70 kV Substation Equip Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4389	4.0876	3.4819	0.0104		0.1394	0.1394		0.1282	0.1282	0.0000	1,009.6413	1,009.6413	0.3265		1,017.8048
Total	**0.4389**	**4.0876**	**3.4819**	**0.0104**		**0.1394**	**0.1394**		**0.1282**	**0.1282**	**0.0000**	**1,009.6413**	**1,009.6413**	**0.3265**		**1,017.8048**

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	0.0379	1.1268	0.3544	2.3300e-003	0.0557	3.3700e-003	0.0591	0.0161	3.2200e-003	0.0193		248.4043	248.4043	0.0155		248.7908
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0925**	**1.1703**	**0.7297**	**3.3500e-003**	**0.1743**	**4.1000e-003**	**0.1785**	**0.0475**	**3.9000e-003**	**0.0514**		**350.4779**	**350.4779**	**0.0186**		**350.9421**

3.18 70kV Substation Control Enclosure - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.3100e-003	0.1878	0.0591	3.9000e-004	9.2900e-003	5.6000e-004	9.8500e-003	2.6700e-003	5.4000e-004	3.2100e-003		41.4007	41.4007	2.5800e-003		41.4651
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0518**	**0.2240**	**0.3718**	**1.2400e-003**	**0.1082**	**1.1700e-003**	**0.1093**	**0.0289**	**1.1000e-003**	**0.0300**		**126.4621**	**126.4621**	**5.1700e-003**		**126.5912**

3.18 70kV Substation Control Enclosure - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.3100e-003	0.1878	0.0591	3.9000e-004	9.2900e-003	5.6000e-004	9.8500e-003	2.6700e-003	5.4000e-004	3.2100e-003		41.4007	41.4007	2.5800e-003		41.4651
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0518**	**0.2240**	**0.3718**	**1.2400e-003**	**0.1082**	**1.1700e-003**	**0.1093**	**0.0289**	**1.1000e-003**	**0.0300**		**126.4621**	**126.4621**	**5.1700e-003**		**126.5912**

3.19 230kV Sub Steel Bus - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6340	5.7138	4.4249	0.0145		0.2017	0.2017		0.1855	0.1855		1,400.4879	1,400.4879	0.4530		1,411.8115
Total	**0.6340**	**5.7138**	**4.4249**	**0.0145**		**0.2017**	**0.2017**		**0.1855**	**0.1855**		**1,400.4879**	**1,400.4879**	**0.4530**		**1,411.8115**

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	0.0947	2.8171	0.8859	5.8300e-003	0.1393	8.4200e-003	0.1477	0.0401	8.0600e-003	0.0482		621.0107	621.0107	0.0387		621.9771
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1402**	**2.8533**	**1.1987**	**6.6800e-003**	**0.2381**	**9.0300e-003**	**0.2472**	**0.0663**	**8.6200e-003**	**0.0750**		**706.0721**	**706.0721**	**0.0413**		**707.1031**

3.19 230kV Sub Steel Bus - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6340	5.7138	4.4249	0.0145		0.2017	0.2017		0.1855	0.1855	0.0000	1,400.4879	1,400.4879	0.4530		1,411.8115
Total	**0.6340**	**5.7138**	**4.4249**	**0.0145**		**0.2017**	**0.2017**		**0.1855**	**0.1855**	**0.0000**	**1,400.4879**	**1,400.4879**	**0.4530**		**1,411.8115**

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	0.0947	2.8171	0.8859	5.8300e-003	0.1393	8.4200e-003	0.1477	0.0401	8.0600e-003	0.0482		621.0107	621.0107	0.0387		621.9771
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1402**	**2.8533**	**1.1987**	**6.6800e-003**	**0.2381**	**9.0300e-003**	**0.2472**	**0.0663**	**8.6200e-003**	**0.0750**		**706.0721**	**706.0721**	**0.0413**		**707.1031**

3.20 230kV Sub Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0944	1.2544	1.7374	2.5900e-003		0.0510	0.0510		0.0470	0.0470		250.2480	250.2480	0.0809		252.2714
Total	**0.0944**	**1.2544**	**1.7374**	**2.5900e-003**		**0.0510**	**0.0510**		**0.0470**	**0.0470**		**250.2480**	**250.2480**	**0.0809**		**252.2714**

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	0.1420	4.2257	1.3289	8.7500e-003	0.2089	0.0126	0.2216	0.0602	0.0121	0.0723		931.5160	931.5160	0.0580		932.9656
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.2148**	**4.2836**	**1.8293**	**0.0101**	**0.3671**	**0.0136**	**0.3807**	**0.1021**	**0.0130**	**0.1151**		**1,067.6142**	**1,067.6142**	**0.0621**		**1,069.1673**

3.20 230kV Sub Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0944	1.2544	1.7374	2.5900e-003		0.0510	0.0510		0.0470	0.0470	0.0000	250.2480	250.2480	0.0809		252.2714
Total	**0.0944**	**1.2544**	**1.7374**	**2.5900e-003**		**0.0510**	**0.0510**		**0.0470**	**0.0470**	**0.0000**	**250.2480**	**250.2480**	**0.0809**		**252.2714**

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	0.1420	4.2257	1.3289	8.7500e-003	0.2089	0.0126	0.2216	0.0602	0.0121	0.0723		931.5160	931.5160	0.0580		932.9656
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.2148**	**4.2836**	**1.8293**	**0.0101**	**0.3671**	**0.0136**	**0.3807**	**0.1021**	**0.0130**	**0.1151**		**1,067.6142**	**1,067.6142**	**0.0621**		**1,069.1673**

3.21 70kV Substation Cable Installation - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.4700e-003	0.2817	0.0886	5.8000e-004	0.0139	8.4000e-004	0.0148	4.0100e-003	8.1000e-004	4.8200e-003		62.1011	62.1011	3.8700e-003		62.1977
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0550**	**0.3179**	**0.4014**	**1.4300e-003**	**0.1128**	**1.4500e-003**	**0.1142**	**0.0302**	**1.3700e-003**	**0.0316**		**147.1625**	**147.1625**	**6.4600e-003**		**147.3237**

3.21 70kV Substation Cable Installation - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.4700e-003	0.2817	0.0886	5.8000e-004	0.0139	8.4000e-004	0.0148	4.0100e-003	8.1000e-004	4.8200e-003		62.1011	62.1011	3.8700e-003		62.1977
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0550**	**0.3179**	**0.4014**	**1.4300e-003**	**0.1128**	**1.4500e-003**	**0.1142**	**0.0302**	**1.3700e-003**	**0.0316**		**147.1625**	**147.1625**	**6.4600e-003**		**147.3237**

3.22 230kV Sub Transformer - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5050	22.8802	16.0937	0.0509		0.9069	0.9069		0.8427	0.8427		4,922.3220	4,922.3220	1.4859		4,959.4698
Total	**2.5050**	**22.8802**	**16.0937**	**0.0509**		**0.9069**	**0.9069**		**0.8427**	**0.8427**		**4,922.3220**	**4,922.3220**	**1.4859**		**4,959.4698**

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	0.0947	2.8171	0.8859	5.8300e-003	0.1393	8.4200e-003	0.1477	0.0401	8.0600e-003	0.0482		621.0107	621.0107	0.0387		621.9771
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.1675**	**2.8750**	**1.3864**	**7.2000e-003**	**0.2975**	**9.4000e-003**	**0.3069**	**0.0821**	**8.9600e-003**	**0.0910**		**757.1089**	**757.1089**	**0.0428**		**758.1787**

3.22 230kV Sub Transformer - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5050	22.8802	16.0937	0.0509		0.9069	0.9069		0.8427	0.8427	0.0000	4,922.3220	4,922.3220	1.4859		4,959.4698
Total	**2.5050**	**22.8802**	**16.0937**	**0.0509**		**0.9069**	**0.9069**		**0.8427**	**0.8427**	**0.0000**	**4,922.3220**	**4,922.3220**	**1.4859**		**4,959.4698**

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	0.0947	2.8171	0.8859	5.8300e-003	0.1393	8.4200e-003	0.1477	0.0401	8.0600e-003	0.0482		621.0107	621.0107	0.0387		621.9771
Worker	0.0728	0.0579	0.5004	1.3700e-003	0.1582	9.8000e-004	0.1592	0.0420	9.0000e-004	0.0429		136.0982	136.0982	4.1400e-003		136.2016
Total	**0.1675**	**2.8750**	**1.3864**	**7.2000e-003**	**0.2975**	**9.4000e-003**	**0.3069**	**0.0821**	**8.9600e-003**	**0.0910**		**757.1089**	**757.1089**	**0.0428**		**758.1787**

3.23 230kV Transmission Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5466	6.8725	2.8973	8.1800e-003		0.2436	0.2436		0.2241	0.2241		792.1342	792.1342	0.2562		798.5390
Total	**0.5466**	**6.8725**	**2.8973**	**8.1800e-003**	**0.5303**	**0.2436**	**0.7738**	**0.0573**	**0.2241**	**0.2814**		**792.1342**	**792.1342**	**0.2562**		**798.5390**

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	0.0284	0.8451	0.2658	1.7500e-003	0.0418	2.5300e-003	0.0443	0.0120	2.4200e-003	0.0145		186.3032	186.3032	0.0116		186.5931
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0739**	**0.8813**	**0.5786**	**2.6000e-003**	**0.1407**	**3.1400e-003**	**0.1438**	**0.0383**	**2.9800e-003**	**0.0412**		**271.3646**	**271.3646**	**0.0142**		**271.7191**

3.23 230kV Transmission Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.5466	6.8725	2.8973	8.1800e-003		0.2436	0.2436		0.2241	0.2241	0.0000	792.1342	792.1342	0.2562		798.5390
Total	**0.5466**	**6.8725**	**2.8973**	**8.1800e-003**	**0.2386**	**0.2436**	**0.4822**	**0.0258**	**0.2241**	**0.2499**	**0.0000**	**792.1342**	**792.1342**	**0.2562**		**798.5390**

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	0.0284	0.8451	0.2658	1.7500e-003	0.0418	2.5300e-003	0.0443	0.0120	2.4200e-003	0.0145		186.3032	186.3032	0.0116		186.5931
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0739**	**0.8813**	**0.5786**	**2.6000e-003**	**0.1407**	**3.1400e-003**	**0.1438**	**0.0383**	**2.9800e-003**	**0.0412**		**271.3646**	**271.3646**	**0.0142**		**271.7191**

3.24 230kV Sub Control Enclosure Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3097	3.6370	1.4871	4.3300e-003		0.1477	0.1477		0.1359	0.1359		419.0541	419.0541	0.1355		422.4423
Total	**0.3097**	**3.6370**	**1.4871**	**4.3300e-003**		**0.1477**	**0.1477**		**0.1359**	**0.1359**		**419.0541**	**419.0541**	**0.1355**		**422.4423**

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	6.3100e-003	0.1878	0.0591	3.9000e-004	9.2900e-003	5.6000e-004	9.8500e-003	2.6700e-003	5.4000e-004	3.2100e-003		41.4007	41.4007	2.5800e-003		41.4651
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0609**	**0.2313**	**0.4344**	**1.4100e-003**	**0.1279**	**1.2900e-003**	**0.1292**	**0.0341**	**1.2200e-003**	**0.0354**		**143.4744**	**143.4744**	**5.6800e-003**		**143.6164**

3.24 230kV Sub Control Enclosure Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3097	3.6370	1.4871	4.3300e-003		0.1477	0.1477		0.1359	0.1359	0.0000	419.0541	419.0541	0.1355		422.4423
Total	**0.3097**	**3.6370**	**1.4871**	**4.3300e-003**		**0.1477**	**0.1477**		**0.1359**	**0.1359**	**0.0000**	**419.0541**	**419.0541**	**0.1355**		**422.4423**

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	6.3100e-003	0.1878	0.0591	3.9000e-004	9.2900e-003	5.6000e-004	9.8500e-003	2.6700e-003	5.4000e-004	3.2100e-003		41.4007	41.4007	2.5800e-003		41.4651
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0609**	**0.2313**	**0.4344**	**1.4100e-003**	**0.1279**	**1.2900e-003**	**0.1292**	**0.0341**	**1.2200e-003**	**0.0354**		**143.4744**	**143.4744**	**5.6800e-003**		**143.6164**

3.25 70kV Substation Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	1.5025	0.4725	3.1100e-003	0.0743	4.4900e-003	0.0788	0.0214	4.3000e-003	0.0257		331.2057	331.2057	0.0206		331.7211
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.1051**	**1.5459**	**0.8478**	**4.1300e-003**	**0.1929**	**5.2200e-003**	**0.1982**	**0.0529**	**4.9800e-003**	**0.0578**		**433.2794**	**433.2794**	**0.0237**		**433.8723**

3.25 70kV Substation Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**		**0.1118**	**0.1118**		**0.1028**	**0.1028**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

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	1.5025	0.4725	3.1100e-003	0.0743	4.4900e-003	0.0788	0.0214	4.3000e-003	0.0257		331.2057	331.2057	0.0206		331.7211
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.1051**	**1.5459**	**0.8478**	**4.1300e-003**	**0.1929**	**5.2200e-003**	**0.1982**	**0.0529**	**4.9800e-003**	**0.0578**		**433.2794**	**433.2794**	**0.0237**		**433.8723**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4544	3.9475	2.7033	9.9100e-003		0.1448	0.1448		0.1332	0.1332		958.8923	958.8923	0.3101		966.6454
Total	**0.4544**	**3.9475**	**2.7033**	**9.9100e-003**		**0.1448**	**0.1448**		**0.1332**	**0.1332**		**958.8923**	**958.8923**	**0.3101**		**966.6454**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0884	2.6293	0.8269	5.4400e-003	0.1300	7.8600e-003	0.1379	0.0374	7.5200e-003	0.0450		579.6100	579.6100	0.0361		580.5119
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1339**	**2.6655**	**1.1396**	**6.2900e-003**	**0.2289**	**8.4700e-003**	**0.2373**	**0.0637**	**8.0800e-003**	**0.0717**		**664.6714**	**664.6714**	**0.0387**		**665.6380**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4544	3.9475	2.7033	9.9100e-003		0.1448	0.1448		0.1332	0.1332	0.0000	958.8923	958.8923	0.3101		966.6454
Total	**0.4544**	**3.9475**	**2.7033**	**9.9100e-003**		**0.1448**	**0.1448**		**0.1332**	**0.1332**	**0.0000**	**958.8923**	**958.8923**	**0.3101**		**966.6454**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0884	2.6293	0.8269	5.4400e-003	0.1300	7.8600e-003	0.1379	0.0374	7.5200e-003	0.0450		579.6100	579.6100	0.0361		580.5119
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1339**	**2.6655**	**1.1396**	**6.2900e-003**	**0.2289**	**8.4700e-003**	**0.2373**	**0.0637**	**8.0800e-003**	**0.0717**		**664.6714**	**664.6714**	**0.0387**		**665.6380**

3.27 70kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	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	0.0364	0.0290	0.2502	6.8000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		68.0491	68.0491	2.0700e-003		68.1008
Total	**0.0364**	**0.0290**	**0.2502**	**6.8000e-004**	**0.0791**	**4.9000e-004**	**0.0796**	**0.0210**	**4.5000e-004**	**0.0214**		**68.0491**	**68.0491**	**2.0700e-003**		**68.1008**

3.27 70kV Substation Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2386**	**0.0000**	**0.2386**	**0.0258**	**0.0000**	**0.0258**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	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	0.0364	0.0290	0.2502	6.8000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		68.0491	68.0491	2.0700e-003		68.1008
Total	**0.0364**	**0.0290**	**0.2502**	**6.8000e-004**	**0.0791**	**4.9000e-004**	**0.0796**	**0.0210**	**4.5000e-004**	**0.0214**		**68.0491**	**68.0491**	**2.0700e-003**		**68.1008**

3.28 230kV Sub Cable Install Termination - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0375	0.6006	1.0941	1.6800e-003		0.0115	0.0115		0.0105	0.0105		162.6199	162.6199	0.0526		163.9347
Total	**0.0375**	**0.6006**	**1.0941**	**1.6800e-003**		**0.0115**	**0.0115**		**0.0105**	**0.0105**		**162.6199**	**162.6199**	**0.0526**		**163.9347**

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	9.4700e-003	0.2817	0.0886	5.8000e-004	0.0139	8.4000e-004	0.0148	4.0100e-003	8.1000e-004	4.8200e-003		62.1011	62.1011	3.8700e-003		62.1977
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0550**	**0.3179**	**0.4014**	**1.4300e-003**	**0.1128**	**1.4500e-003**	**0.1142**	**0.0302**	**1.3700e-003**	**0.0316**		**147.1625**	**147.1625**	**6.4600e-003**		**147.3237**

3.28 230kV Sub Cable Install Termination - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0375	0.6006	1.0941	1.6800e-003		0.0115	0.0115		0.0105	0.0105	0.0000	162.6199	162.6199	0.0526		163.9347
Total	**0.0375**	**0.6006**	**1.0941**	**1.6800e-003**		**0.0115**	**0.0115**		**0.0105**	**0.0105**	**0.0000**	**162.6199**	**162.6199**	**0.0526**		**163.9347**

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	9.4700e-003	0.2817	0.0886	5.8000e-004	0.0139	8.4000e-004	0.0148	4.0100e-003	8.1000e-004	4.8200e-003		62.1011	62.1011	3.8700e-003		62.1977
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.0550**	**0.3179**	**0.4014**	**1.4300e-003**	**0.1128**	**1.4500e-003**	**0.1142**	**0.0302**	**1.3700e-003**	**0.0316**		**147.1625**	**147.1625**	**6.4600e-003**		**147.3237**

3.29 70kV Substation Testing Commissioning - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.5303**	**0.0000**	**0.5303**	**0.0573**	**0.0000**	**0.0573**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.3100e-003	0.1878	0.0591	3.9000e-004	9.2900e-003	5.6000e-004	9.8500e-003	2.6700e-003	5.4000e-004	3.2100e-003		41.4007	41.4007	2.5800e-003		41.4651
Worker	0.0364	0.0290	0.2502	6.8000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		68.0491	68.0491	2.0700e-003		68.1008
Total	**0.0427**	**0.2168**	**0.3093**	**1.0700e-003**	**0.0884**	**1.0500e-003**	**0.0894**	**0.0237**	**9.9000e-004**	**0.0246**		**109.4498**	**109.4498**	**4.6500e-003**		**109.5660**

3.29 70kV Substation Testing Commissioning - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.2386**	**0.0000**	**0.2386**	**0.0258**	**0.0000**	**0.0258**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.3100e-003	0.1878	0.0591	3.9000e-004	9.2900e-003	5.6000e-004	9.8500e-003	2.6700e-003	5.4000e-004	3.2100e-003		41.4007	41.4007	2.5800e-003		41.4651
Worker	0.0364	0.0290	0.2502	6.8000e-004	0.0791	4.9000e-004	0.0796	0.0210	4.5000e-004	0.0214		68.0491	68.0491	2.0700e-003		68.1008
Total	**0.0427**	**0.2168**	**0.3093**	**1.0700e-003**	**0.0884**	**1.0500e-003**	**0.0894**	**0.0237**	**9.9000e-004**	**0.0246**		**109.4498**	**109.4498**	**4.6500e-003**		**109.5660**

3.30 230kV Sub Testing and Commissioning - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0821	2.4415	0.7678	5.0500e-003	0.1207	7.3000e-003	0.1280	0.0348	6.9800e-003	0.0418		538.2093	538.2093	0.0335		539.0468
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1276**	**2.4777**	**1.0806**	**5.9000e-003**	**0.2196**	**7.9100e-003**	**0.2275**	**0.0610**	**7.5400e-003**	**0.0685**		**623.2706**	**623.2706**	**0.0361**		**624.1728**

3.30 230kV Sub Testing and Commissioning - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0821	2.4415	0.7678	5.0500e-003	0.1207	7.3000e-003	0.1280	0.0348	6.9800e-003	0.0418		538.2093	538.2093	0.0335		539.0468
Worker	0.0455	0.0362	0.3128	8.5000e-004	0.0989	6.1000e-004	0.0995	0.0262	5.6000e-004	0.0268		85.0614	85.0614	2.5900e-003		85.1260
Total	**0.1276**	**2.4777**	**1.0806**	**5.9000e-003**	**0.2196**	**7.9100e-003**	**0.2275**	**0.0610**	**7.5400e-003**	**0.0685**		**623.2706**	**623.2706**	**0.0361**		**624.1728**

3.31 230kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3002	2.8932	3.1755	4.2500e-003		0.1851	0.1851		0.1703	0.1703		411.6887	411.6887	0.1332		415.0174
Total	**0.3002**	**2.8932**	**3.1755**	**4.2500e-003**	**0.0000**	**0.1851**	**0.1851**	**0.0000**	**0.1703**	**0.1703**		**411.6887**	**411.6887**	**0.1332**		**415.0174**

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	0.0915	2.7232	0.8564	5.6400e-003	0.1346	8.1400e-003	0.1428	0.0388	7.7900e-003	0.0466		600.3103	600.3103	0.0374		601.2445
Worker	0.0273	0.0217	0.1877	5.1000e-004	0.0593	3.7000e-004	0.0597	0.0157	3.4000e-004	0.0161		51.0368	51.0368	1.5500e-003		51.0756
Total	**0.1188**	**2.7449**	**1.0441**	**6.1500e-003**	**0.1940**	**8.5100e-003**	**0.2025**	**0.0545**	**8.1300e-003**	**0.0626**		**651.3471**	**651.3471**	**0.0389**		**652.3201**

3.31 230kV Substation Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3002	2.8932	3.1755	4.2500e-003		0.1851	0.1851		0.1703	0.1703	0.0000	411.6887	411.6887	0.1332		415.0174
Total	**0.3002**	**2.8932**	**3.1755**	**4.2500e-003**	**0.0000**	**0.1851**	**0.1851**	**0.0000**	**0.1703**	**0.1703**	**0.0000**	**411.6887**	**411.6887**	**0.1332**		**415.0174**

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	0.0915	2.7232	0.8564	5.6400e-003	0.1346	8.1400e-003	0.1428	0.0388	7.7900e-003	0.0466		600.3103	600.3103	0.0374		601.2445
Worker	0.0273	0.0217	0.1877	5.1000e-004	0.0593	3.7000e-004	0.0597	0.0157	3.4000e-004	0.0161		51.0368	51.0368	1.5500e-003		51.0756
Total	**0.1188**	**2.7449**	**1.0441**	**6.1500e-003**	**0.1940**	**8.5100e-003**	**0.2025**	**0.0545**	**8.1300e-003**	**0.0626**		**651.3471**	**651.3471**	**0.0389**		**652.3201**

3.32 70kV Power Line Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7731	9.8348	3.7809	0.0115		0.3374	0.3374		0.3104	0.3104		1,112.9762	1,112.9762	0.3600		1,121.9752
Total	**0.7731**	**9.8348**	**3.7809**	**0.0115**	**0.5303**	**0.3374**	**0.8677**	**0.0573**	**0.3104**	**0.3677**		**1,112.9762**	**1,112.9762**	**0.3600**		**1,121.9752**

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	0.0316	0.9390	0.2953	1.9400e-003	0.0464	2.8100e-003	0.0492	0.0134	2.6900e-003	0.0161		207.0036	207.0036	0.0129		207.3257
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0862**	**0.9825**	**0.6706**	**2.9600e-003**	**0.1651**	**3.5400e-003**	**0.1686**	**0.0448**	**3.3700e-003**	**0.0482**		**309.0772**	**309.0772**	**0.0160**		**309.4769**

3.32 70kV Power Line Site Work Prep - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.7731	9.8348	3.7809	0.0115		0.3374	0.3374		0.3104	0.3104	0.0000	1,112.9762	1,112.9762	0.3600		1,121.9752
Total	**0.7731**	**9.8348**	**3.7809**	**0.0115**	**0.2386**	**0.3374**	**0.5760**	**0.0258**	**0.3104**	**0.3362**	**0.0000**	**1,112.9762**	**1,112.9762**	**0.3600**		**1,121.9752**

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	0.0316	0.9390	0.2953	1.9400e-003	0.0464	2.8100e-003	0.0492	0.0134	2.6900e-003	0.0161		207.0036	207.0036	0.0129		207.3257
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0862**	**0.9825**	**0.6706**	**2.9600e-003**	**0.1651**	**3.5400e-003**	**0.1686**	**0.0448**	**3.3700e-003**	**0.0482**		**309.0772**	**309.0772**	**0.0160**		**309.4769**

3.33 Reconductoring Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809		631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.5303**	**0.1967**	**0.7269**	**0.0573**	**0.1809**	**0.2382**		**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0158	0.4695	0.1477	9.7000e-004	0.0232	1.4000e-003	0.0246	6.6900e-003	1.3400e-003	8.0300e-003		103.5018	103.5018	6.4400e-003		103.6629
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0704**	**0.5130**	**0.5230**	**1.9900e-003**	**0.1418**	**2.1300e-003**	**0.1440**	**0.0382**	**2.0200e-003**	**0.0402**		**205.5755**	**205.5755**	**9.5400e-003**		**205.8141**

3.33 Reconductoring Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.4334	5.3913	2.4555	6.5200e-003		0.1967	0.1967		0.1809	0.1809	0.0000	631.7131	631.7131	0.2043		636.8208
Total	**0.4334**	**5.3913**	**2.4555**	**6.5200e-003**	**0.2386**	**0.1967**	**0.4353**	**0.0258**	**0.1809**	**0.2067**	**0.0000**	**631.7131**	**631.7131**	**0.2043**		**636.8208**

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	0.0158	0.4695	0.1477	9.7000e-004	0.0232	1.4000e-003	0.0246	6.6900e-003	1.3400e-003	8.0300e-003		103.5018	103.5018	6.4400e-003		103.6629
Worker	0.0546	0.0435	0.3753	1.0200e-003	0.1186	7.3000e-004	0.1194	0.0315	6.8000e-004	0.0321		102.0737	102.0737	3.1000e-003		102.1512
Total	**0.0704**	**0.5130**	**0.5230**	**1.9900e-003**	**0.1418**	**2.1300e-003**	**0.1440**	**0.0382**	**2.0200e-003**	**0.0402**		**205.5755**	**205.5755**	**9.5400e-003**		**205.8141**

3.34 70kV Power Line Pole Tower Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5144	22.7423	15.8669	0.0522		0.8859	0.8859		0.8151	0.8151		5,055.0999	5,055.0999	1.6349		5,095.9730
Total	**2.5144**	**22.7423**	**15.8669**	**0.0522**		**0.8859**	**0.8859**		**0.8151**	**0.8151**		**5,055.0999**	**5,055.0999**	**1.6349**		**5,095.9730**

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	0.0473	1.4086	0.4430	2.9200e-003	0.0696	4.2100e-003	0.0739	0.0201	4.0300e-003	0.0241		310.5053	310.5053	0.0193		310.9885
Worker	0.1911	0.1521	1.3136	3.5900e-003	0.4152	2.5700e-003	0.4178	0.1101	2.3700e-003	0.1125		357.2578	357.2578	0.0109		357.5293
Total	**0.2384**	**1.5606**	**1.7566**	**6.5100e-003**	**0.4849**	**6.7800e-003**	**0.4916**	**0.1302**	**6.4000e-003**	**0.1366**		**667.7632**	**667.7632**	**0.0302**		**668.5178**

3.34 70kV Power Line Pole Tower Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.5144	22.7423	15.8669	0.0522		0.8859	0.8859		0.8151	0.8151	0.0000	5,055.0999	5,055.0999	1.6349		5,095.9730
Total	**2.5144**	**22.7423**	**15.8669**	**0.0522**		**0.8859**	**0.8859**		**0.8151**	**0.8151**	**0.0000**	**5,055.0999**	**5,055.0999**	**1.6349**		**5,095.9730**

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	0.0473	1.4086	0.4430	2.9200e-003	0.0696	4.2100e-003	0.0739	0.0201	4.0300e-003	0.0241		310.5053	310.5053	0.0193		310.9885
Worker	0.1911	0.1521	1.3136	3.5900e-003	0.4152	2.5700e-003	0.4178	0.1101	2.3700e-003	0.1125		357.2578	357.2578	0.0109		357.5293
Total	**0.2384**	**1.5606**	**1.7566**	**6.5100e-003**	**0.4849**	**6.7800e-003**	**0.4916**	**0.1302**	**6.4000e-003**	**0.1366**		**667.7632**	**667.7632**	**0.0302**		**668.5178**

3.34 70kV Power Line Pole Tower Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2007	17.8158	14.9397	0.0522		0.6878	0.6878		0.6328	0.6328		5,057.1027	5,057.1027	1.6356		5,097.9919
Total	**2.2007**	**17.8158**	**14.9397**	**0.0522**		**0.6878**	**0.6878**		**0.6328**	**0.6328**		**5,057.1027**	**5,057.1027**	**1.6356**		**5,097.9919**

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	0.0438	1.3385	0.4095	2.8900e-003	0.0697	3.7100e-003	0.0734	0.0201	3.5500e-003	0.0236		308.3015	308.3015	0.0191		308.7789
Worker	0.1797	0.1367	1.2025	3.4600e-003	0.4152	2.5000e-003	0.4177	0.1101	2.3000e-003	0.1124		344.4888	344.4888	9.7200e-003		344.7319
Total	**0.2235**	**1.4752**	**1.6120**	**6.3500e-003**	**0.4849**	**6.2100e-003**	**0.4911**	**0.1302**	**5.8500e-003**	**0.1360**		**652.7903**	**652.7903**	**0.0288**		**653.5108**

3.34 70kV Power Line Pole Tower Install - 2022

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	2.2007	17.8158	14.9397	0.0522		0.6878	0.6878		0.6328	0.6328	0.0000	5,057.1026	5,057.1026	1.6356		5,097.9919
Total	**2.2007**	**17.8158**	**14.9397**	**0.0522**		**0.6878**	**0.6878**		**0.6328**	**0.6328**	**0.0000**	**5,057.1026**	**5,057.1026**	**1.6356**		**5,097.9919**

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	0.0438	1.3385	0.4095	2.8900e-003	0.0697	3.7100e-003	0.0734	0.0201	3.5500e-003	0.0236		308.3015	308.3015	0.0191		308.7789
Worker	0.1797	0.1367	1.2025	3.4600e-003	0.4152	2.5000e-003	0.4177	0.1101	2.3000e-003	0.1124		344.4888	344.4888	9.7200e-003		344.7319
Total	**0.2235**	**1.4752**	**1.6120**	**6.3500e-003**	**0.4849**	**6.2100e-003**	**0.4911**	**0.1302**	**5.8500e-003**	**0.1360**		**652.7903**	**652.7903**	**0.0288**		**653.5108**

3.35 Distribution Facilities Mobilization - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.5303**	**0.0901**	**0.6204**	**0.0573**	**0.0829**	**0.1402**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	0.0175	0.5354	0.1638	1.1600e-003	0.0279	1.4800e-003	0.0294	8.0300e-003	1.4200e-003	9.4500e-003		123.3206	123.3206	7.6400e-003		123.5116
Worker	0.0513	0.0391	0.3436	9.9000e-004	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		98.4254	98.4254	2.7800e-003		98.4948
Total	**0.0689**	**0.5745**	**0.5074**	**2.1500e-003**	**0.1465**	**2.1900e-003**	**0.1487**	**0.0395**	**2.0800e-003**	**0.0416**		**221.7460**	**221.7460**	**0.0104**		**222.0064**

3.35 Distribution Facilities Mobilization - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**	**0.2386**	**0.0901**	**0.3287**	**0.0258**	**0.0829**	**0.1087**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	0.0175	0.5354	0.1638	1.1600e-003	0.0279	1.4800e-003	0.0294	8.0300e-003	1.4200e-003	9.4500e-003		123.3206	123.3206	7.6400e-003		123.5116
Worker	0.0513	0.0391	0.3436	9.9000e-004	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		98.4254	98.4254	2.7800e-003		98.4948
Total	**0.0689**	**0.5745**	**0.5074**	**2.1500e-003**	**0.1465**	**2.1900e-003**	**0.1487**	**0.0395**	**2.0800e-003**	**0.0416**		**221.7460**	**221.7460**	**0.0104**		**222.0064**

3.36 Distribution Foundation Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415		150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**		**0.0451**	**0.0451**		**0.0415**	**0.0415**		**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0175	0.5354	0.1638	1.1600e-003	0.0279	1.4800e-003	0.0294	8.0300e-003	1.4200e-003	9.4500e-003		123.3206	123.3206	7.6400e-003		123.5116
Worker	0.1027	0.0781	0.6872	1.9800e-003	0.2373	1.4300e-003	0.2387	0.0629	1.3200e-003	0.0642		196.8508	196.8508	5.5600e-003		196.9897
Total	**0.1202**	**0.6135**	**0.8510**	**3.1400e-003**	**0.2651**	**2.9100e-003**	**0.2680**	**0.0710**	**2.7400e-003**	**0.0737**		**320.1713**	**320.1713**	**0.0132**		**320.5012**

3.36 Distribution Foundation Construction - 2022

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	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415	0.0000	150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**		**0.0451**	**0.0451**		**0.0415**	**0.0415**	**0.0000**	**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0175	0.5354	0.1638	1.1600e-003	0.0279	1.4800e-003	0.0294	8.0300e-003	1.4200e-003	9.4500e-003		123.3206	123.3206	7.6400e-003		123.5116
Worker	0.1027	0.0781	0.6872	1.9800e-003	0.2373	1.4300e-003	0.2387	0.0629	1.3200e-003	0.0642		196.8508	196.8508	5.5600e-003		196.9897
Total	**0.1202**	**0.6135**	**0.8510**	**3.1400e-003**	**0.2651**	**2.9100e-003**	**0.2680**	**0.0710**	**2.7400e-003**	**0.0737**		**320.1713**	**320.1713**	**0.0132**		**320.5012**

3.37 Distribution Ground Grid - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0699	0.7846	0.3548	1.0800e-003		0.0326	0.0326		0.0300	0.0300		104.7807	104.7807	0.0339		105.6279
Total	**0.0699**	**0.7846**	**0.3548**	**1.0800e-003**		**0.0326**	**0.0326**		**0.0300**	**0.0300**		**104.7807**	**104.7807**	**0.0339**		**105.6279**

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	0.0117	0.3569	0.1092	7.7000e-004	0.0186	9.9000e-004	0.0196	5.3500e-003	9.5000e-004	6.3000e-003		82.2137	82.2137	5.0900e-003		82.3411
Worker	0.0856	0.0651	0.5726	1.6500e-003	0.1977	1.1900e-003	0.1989	0.0524	1.1000e-003	0.0535		164.0423	164.0423	4.6300e-003		164.1581
Total	**0.0973**	**0.4220**	**0.6818**	**2.4200e-003**	**0.2163**	**2.1800e-003**	**0.2185**	**0.0578**	**2.0500e-003**	**0.0598**		**246.2560**	**246.2560**	**9.7200e-003**		**246.4991**

3.37 Distribution Ground Grid - 2022

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	0.0699	0.7846	0.3548	1.0800e-003		0.0326	0.0326		0.0300	0.0300	0.0000	104.7807	104.7807	0.0339		105.6279
Total	**0.0699**	**0.7846**	**0.3548**	**1.0800e-003**		**0.0326**	**0.0326**		**0.0300**	**0.0300**	**0.0000**	**104.7807**	**104.7807**	**0.0339**		**105.6279**

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	0.0117	0.3569	0.1092	7.7000e-004	0.0186	9.9000e-004	0.0196	5.3500e-003	9.5000e-004	6.3000e-003		82.2137	82.2137	5.0900e-003		82.3411
Worker	0.0856	0.0651	0.5726	1.6500e-003	0.1977	1.1900e-003	0.1989	0.0524	1.1000e-003	0.0535		164.0423	164.0423	4.6300e-003		164.1581
Total	**0.0973**	**0.4220**	**0.6818**	**2.4200e-003**	**0.2163**	**2.1800e-003**	**0.2185**	**0.0578**	**2.0500e-003**	**0.0598**		**246.2560**	**246.2560**	**9.7200e-003**		**246.4991**

3.38 Distribution Steel Bus Erection - 2022

Unmitigated Construction On-Site

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

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	8.7600e-003	0.2677	0.0819	5.8000e-004	0.0139	7.4000e-004	0.0147	4.0100e-003	7.1000e-004	4.7200e-003		61.6603	61.6603	3.8200e-003		61.7558
Worker	0.0428	0.0326	0.2863	8.2000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		82.0212	82.0212	2.3200e-003		82.0790
Total	**0.0515**	**0.3003**	**0.3682**	**1.4000e-003**	**0.1128**	**1.3300e-003**	**0.1141**	**0.0302**	**1.2600e-003**	**0.0315**		**143.6814**	**143.6814**	**6.1400e-003**		**143.8348**

3.38 Distribution Steel Bus Erection - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	8.7600e-003	0.2677	0.0819	5.8000e-004	0.0139	7.4000e-004	0.0147	4.0100e-003	7.1000e-004	4.7200e-003		61.6603	61.6603	3.8200e-003		61.7558
Worker	0.0428	0.0326	0.2863	8.2000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		82.0212	82.0212	2.3200e-003		82.0790
Total	**0.0515**	**0.3003**	**0.3682**	**1.4000e-003**	**0.1128**	**1.3300e-003**	**0.1141**	**0.0302**	**1.2600e-003**	**0.0315**		**143.6814**	**143.6814**	**6.1400e-003**		**143.8348**

3.39 Distribution Bank Breaker - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0933	1.0461	0.4731	1.4400e-003		0.0434	0.0434		0.0400	0.0400		139.7076	139.7076	0.0452		140.8372
Total	**0.0933**	**1.0461**	**0.4731**	**1.4400e-003**		**0.0434**	**0.0434**		**0.0400**	**0.0400**		**139.7076**	**139.7076**	**0.0452**		**140.8372**

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	5.8400e-003	0.1785	0.0546	3.9000e-004	9.2900e-003	4.9000e-004	9.7800e-003	2.6800e-003	4.7000e-004	3.1500e-003		41.1069	41.1069	2.5500e-003		41.1705
Worker	0.0428	0.0326	0.2863	8.2000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		82.0212	82.0212	2.3200e-003		82.0790
Total	**0.0486**	**0.2110**	**0.3409**	**1.2100e-003**	**0.1082**	**1.0800e-003**	**0.1092**	**0.0289**	**1.0200e-003**	**0.0299**		**123.1280**	**123.1280**	**4.8700e-003**		**123.2495**

3.39 Distribution Bank Breaker - 2022

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	0.0933	1.0461	0.4731	1.4400e-003		0.0434	0.0434		0.0400	0.0400	0.0000	139.7076	139.7076	0.0452		140.8372
Total	**0.0933**	**1.0461**	**0.4731**	**1.4400e-003**		**0.0434**	**0.0434**		**0.0400**	**0.0400**	**0.0000**	**139.7076**	**139.7076**	**0.0452**		**140.8372**

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	5.8400e-003	0.1785	0.0546	3.9000e-004	9.2900e-003	4.9000e-004	9.7800e-003	2.6800e-003	4.7000e-004	3.1500e-003		41.1069	41.1069	2.5500e-003		41.1705
Worker	0.0428	0.0326	0.2863	8.2000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		82.0212	82.0212	2.3200e-003		82.0790
Total	**0.0486**	**0.2110**	**0.3409**	**1.2100e-003**	**0.1082**	**1.0800e-003**	**0.1092**	**0.0289**	**1.0200e-003**	**0.0299**		**123.1280**	**123.1280**	**4.8700e-003**		**123.2495**

3.40 Distribution Feeder Conduit - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5552	4.2860	3.7224	0.0137		0.1606	0.1606		0.1478	0.1478		1,327.9366	1,327.9366	0.4295		1,338.6737
Total	**0.5552**	**4.2860**	**3.7224**	**0.0137**		**0.1606**	**0.1606**		**0.1478**	**0.1478**		**1,327.9366**	**1,327.9366**	**0.4295**		**1,338.6737**

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	8.7600e-003	0.2677	0.0819	5.8000e-004	0.0139	7.4000e-004	0.0147	4.0100e-003	7.1000e-004	4.7200e-003		61.6603	61.6603	3.8200e-003		61.7558
Worker	0.0685	0.0521	0.4581	1.3200e-003	0.1582	9.5000e-004	0.1591	0.0420	8.8000e-004	0.0428		131.2338	131.2338	3.7000e-003		131.3264
Total	**0.0772**	**0.3198**	**0.5400**	**1.9000e-003**	**0.1721**	**1.6900e-003**	**0.1738**	**0.0460**	**1.5900e-003**	**0.0476**		**192.8941**	**192.8941**	**7.5200e-003**		**193.0822**

3.40 Distribution Feeder Conduit - 2022

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	0.5552	4.2860	3.7224	0.0137		0.1606	0.1606		0.1478	0.1478	0.0000	1,327.9366	1,327.9366	0.4295		1,338.6737
Total	**0.5552**	**4.2860**	**3.7224**	**0.0137**		**0.1606**	**0.1606**		**0.1478**	**0.1478**	**0.0000**	**1,327.9366**	**1,327.9366**	**0.4295**		**1,338.6737**

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	8.7600e-003	0.2677	0.0819	5.8000e-004	0.0139	7.4000e-004	0.0147	4.0100e-003	7.1000e-004	4.7200e-003		61.6603	61.6603	3.8200e-003		61.7558
Worker	0.0685	0.0521	0.4581	1.3200e-003	0.1582	9.5000e-004	0.1591	0.0420	8.8000e-004	0.0428		131.2338	131.2338	3.7000e-003		131.3264
Total	**0.0772**	**0.3198**	**0.5400**	**1.9000e-003**	**0.1721**	**1.6900e-003**	**0.1738**	**0.0460**	**1.5900e-003**	**0.0476**		**192.8941**	**192.8941**	**7.5200e-003**		**193.0822**

3.41 Distribution Cable Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829		301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**		**0.0901**	**0.0901**		**0.0829**	**0.0829**		**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	8.7600e-003	0.2677	0.0819	5.8000e-004	0.0139	7.4000e-004	0.0147	4.0100e-003	7.1000e-004	4.7200e-003		61.6603	61.6603	3.8200e-003		61.7558
Worker	0.0428	0.0326	0.2863	8.2000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		82.0212	82.0212	2.3200e-003		82.0790
Total	**0.0515**	**0.3003**	**0.3682**	**1.4000e-003**	**0.1128**	**1.3300e-003**	**0.1141**	**0.0302**	**1.2600e-003**	**0.0315**		**143.6814**	**143.6814**	**6.1400e-003**		**143.8348**

3.41 Distribution Cable Install - 2022

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	0.1647	1.6756	2.2379	3.1100e-003		0.0901	0.0901		0.0829	0.0829	0.0000	301.2390	301.2390	0.0974		303.6746
Total	**0.1647**	**1.6756**	**2.2379**	**3.1100e-003**		**0.0901**	**0.0901**		**0.0829**	**0.0829**	**0.0000**	**301.2390**	**301.2390**	**0.0974**		**303.6746**

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	8.7600e-003	0.2677	0.0819	5.8000e-004	0.0139	7.4000e-004	0.0147	4.0100e-003	7.1000e-004	4.7200e-003		61.6603	61.6603	3.8200e-003		61.7558
Worker	0.0428	0.0326	0.2863	8.2000e-004	0.0989	5.9000e-004	0.0995	0.0262	5.5000e-004	0.0268		82.0212	82.0212	2.3200e-003		82.0790
Total	**0.0515**	**0.3003**	**0.3682**	**1.4000e-003**	**0.1128**	**1.3300e-003**	**0.1141**	**0.0302**	**1.2600e-003**	**0.0315**		**143.6814**	**143.6814**	**6.1400e-003**		**143.8348**

3.42 Distribution Testing - 2022

Unmitigated Construction On-Site

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

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	2.9200e-003	0.0892	0.0273	1.9000e-004	4.6400e-003	2.5000e-004	4.8900e-003	1.3400e-003	2.4000e-004	1.5700e-003		20.5534	20.5534	1.2700e-003		20.5853
Worker	0.0257	0.0195	0.1718	4.9000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		49.2127	49.2127	1.3900e-003		49.2474
Total	**0.0286**	**0.1088**	**0.1991**	**6.8000e-004**	**0.0640**	**6.1000e-004**	**0.0646**	**0.0171**	**5.7000e-004**	**0.0176**		**69.7661**	**69.7661**	**2.6600e-003**		**69.8327**

3.42 Distribution Testing - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.9200e-003	0.0892	0.0273	1.9000e-004	4.6400e-003	2.5000e-004	4.8900e-003	1.3400e-003	2.4000e-004	1.5700e-003		20.5534	20.5534	1.2700e-003		20.5853
Worker	0.0257	0.0195	0.1718	4.9000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		49.2127	49.2127	1.3900e-003		49.2474
Total	**0.0286**	**0.1088**	**0.1991**	**6.8000e-004**	**0.0640**	**6.1000e-004**	**0.0646**	**0.0171**	**5.7000e-004**	**0.0176**		**69.7661**	**69.7661**	**2.6600e-003**		**69.8327**

3.43 Distribution Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415		150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**	**0.5303**	**0.0451**	**0.5753**	**0.0573**	**0.0415**	**0.0987**		**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0175	0.5354	0.1638	1.1600e-003	0.0279	1.4800e-003	0.0294	8.0300e-003	1.4200e-003	9.4500e-003		123.3206	123.3206	7.6400e-003		123.5116
Worker	0.0257	0.0195	0.1718	4.9000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		49.2127	49.2127	1.3900e-003		49.2474
Total	**0.0432**	**0.5549**	**0.3356**	**1.6500e-003**	**0.0872**	**1.8400e-003**	**0.0890**	**0.0238**	**1.7500e-003**	**0.0255**		**172.5333**	**172.5333**	**9.0300e-003**		**172.7590**

3.43 Distribution Cleanup Restore - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.0824	0.8378	1.1190	1.5600e-003		0.0451	0.0451		0.0415	0.0415	0.0000	150.6195	150.6195	0.0487		151.8373
Total	**0.0824**	**0.8378**	**1.1190**	**1.5600e-003**	**0.2386**	**0.0451**	**0.2837**	**0.0258**	**0.0415**	**0.0672**	**0.0000**	**150.6195**	**150.6195**	**0.0487**		**151.8373**

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	0.0175	0.5354	0.1638	1.1600e-003	0.0279	1.4800e-003	0.0294	8.0300e-003	1.4200e-003	9.4500e-003		123.3206	123.3206	7.6400e-003		123.5116
Worker	0.0257	0.0195	0.1718	4.9000e-004	0.0593	3.6000e-004	0.0597	0.0157	3.3000e-004	0.0161		49.2127	49.2127	1.3900e-003		49.2474
Total	**0.0432**	**0.5549**	**0.3356**	**1.6500e-003**	**0.0872**	**1.8400e-003**	**0.0890**	**0.0238**	**1.7500e-003**	**0.0255**		**172.5333**	**172.5333**	**9.0300e-003**		**172.7590**

3.44 70kV Power Line Conductor Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6031	23.3806	16.8305	0.0537		0.9761	0.9761		0.8980	0.8980		5,202.1167	5,202.1167	1.6825		5,244.1784
Total	**2.6031**	**23.3806**	**16.8305**	**0.0537**		**0.9761**	**0.9761**		**0.8980**	**0.8980**		**5,202.1167**	**5,202.1167**	**1.6825**		**5,244.1784**

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	0.0292	0.8923	0.2730	1.9300e-003	0.0464	2.4700e-003	0.0489	0.0134	2.3700e-003	0.0157		205.5343	205.5343	0.0127		205.8526
Worker	0.1540	0.1172	1.0307	2.9600e-003	0.3559	2.1400e-003	0.3580	0.0944	1.9700e-003	0.0964		295.2761	295.2761	8.3300e-003		295.4845
Total	**0.1832**	**1.0095**	**1.3037**	**4.8900e-003**	**0.4023**	**4.6100e-003**	**0.4070**	**0.1078**	**4.3400e-003**	**0.1121**		**500.8104**	**500.8104**	**0.0211**		**501.3371**

3.44 70kV Power Line Conductor Install - 2022

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	2.6031	23.3806	16.8305	0.0537		0.9761	0.9761		0.8980	0.8980	0.0000	5,202.1167	5,202.1167	1.6825		5,244.1784
Total	**2.6031**	**23.3806**	**16.8305**	**0.0537**		**0.9761**	**0.9761**		**0.8980**	**0.8980**	**0.0000**	**5,202.1167**	**5,202.1167**	**1.6825**		**5,244.1784**

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	0.0292	0.8923	0.2730	1.9300e-003	0.0464	2.4700e-003	0.0489	0.0134	2.3700e-003	0.0157		205.5343	205.5343	0.0127		205.8526
Worker	0.1540	0.1172	1.0307	2.9600e-003	0.3559	2.1400e-003	0.3580	0.0944	1.9700e-003	0.0964		295.2761	295.2761	8.3300e-003		295.4845
Total	**0.1832**	**1.0095**	**1.3037**	**4.8900e-003**	**0.4023**	**4.6100e-003**	**0.4070**	**0.1078**	**4.3400e-003**	**0.1121**		**500.8104**	**500.8104**	**0.0211**		**501.3371**

3.45 70kV Power Line Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.3936	4.7810	2.4103	6.5200e-003		0.1705	0.1705		0.1568	0.1568		631.5787	631.5787	0.2043		636.6853
Total	**0.3936**	**4.7810**	**2.4103**	**6.5200e-003**	**0.5303**	**0.1705**	**0.7007**	**0.0573**	**0.1568**	**0.2141**		**631.5787**	**631.5787**	**0.2043**		**636.6853**

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	0.0204	0.6246	0.1911	1.3500e-003	0.0325	1.7300e-003	0.0342	9.3600e-003	1.6600e-003	0.0110		143.8740	143.8740	8.9100e-003		144.0968
Worker	0.0513	0.0391	0.3436	9.9000e-004	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		98.4254	98.4254	2.7800e-003		98.4948
Total	**0.0718**	**0.6637**	**0.5347**	**2.3400e-003**	**0.1511**	**2.4400e-003**	**0.1536**	**0.0408**	**2.3200e-003**	**0.0431**		**242.2994**	**242.2994**	**0.0117**		**242.5917**

3.45 70kV Power Line Cleanup Restore - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.3936	4.7810	2.4103	6.5200e-003		0.1705	0.1705		0.1568	0.1568	0.0000	631.5787	631.5787	0.2043		636.6853
Total	**0.3936**	**4.7810**	**2.4103**	**6.5200e-003**	**0.2386**	**0.1705**	**0.4091**	**0.0258**	**0.1568**	**0.1826**	**0.0000**	**631.5787**	**631.5787**	**0.2043**		**636.6853**

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	0.0204	0.6246	0.1911	1.3500e-003	0.0325	1.7300e-003	0.0342	9.3600e-003	1.6600e-003	0.0110		143.8740	143.8740	8.9100e-003		144.0968
Worker	0.0513	0.0391	0.3436	9.9000e-004	0.1186	7.1000e-004	0.1194	0.0315	6.6000e-004	0.0321		98.4254	98.4254	2.7800e-003		98.4948
Total	**0.0718**	**0.6637**	**0.5347**	**2.3400e-003**	**0.1511**	**2.4400e-003**	**0.1536**	**0.0408**	**2.3200e-003**	**0.0431**		**242.2994**	**242.2994**	**0.0117**		**242.5917**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	111.3014	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	111.3014	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	111.3014					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	**111.3014**	**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	111.3014					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	**111.3014**	**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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output Files for Proposed Project (with Mitigation)

Estrella Substation and Paso Robles Area Reinforcement Project

San Luis Obispo 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	119.40	5,201,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Current Temp. Disturbance Area Total from Project Description

Construction Phase - Dates entered based on the specific number of days from the PEA CALEEMOD input file, with consideration of the specific months during which construction is likely to occur as indicated in the Project Description of the EIR.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

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Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

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Off-road Equipment - Values based on PEA and Project Description.

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Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description. Helicopter emissions modeled separately and not included here.

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

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Off-road Equipment - Values Based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description.

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Description

Off-road Equipment - Values from PEA and Project Distribution

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions modeled outside of CalEEMod and not included here.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions calculated separately and not included here.

Off-road Equipment - Based on values in PEA and Project Description

Trips and VMT - Values based on PEA and Project Description

Grading - Waiting on temp. disturbance area and material import/export values for some phases

Area Coating - No Architectural Coating

Water And Wastewater - No Water Use

Construction Off-road Equipment Mitigation - Change to assume all equipment Tier 4 final.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2600500	0
tblAreaCoating	Area_Nonresidential_Interior	7801500	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblVehicleTrips	PR_TP	0.00	79.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.8484	8.5307	5.3609	0.0180	0.2442	0.3065	0.5508	0.0755	0.2823	0.3578	0.0000	1,597.8027	1,597.8027	0.4371	0.0000	1,608.7293
2022	0.2008	1.6737	1.3871	4.6700e-003	0.0557	0.0624	0.1181	0.0134	0.0574	0.0709	0.0000	413.0187	413.0187	0.1177	0.0000	415.9621
Maximum	**0.8484**	**8.5307**	**5.3609**	**0.0180**	**0.2442**	**0.3065**	**0.5508**	**0.0755**	**0.2823**	**0.3578**	**0.0000**	**1,597.8027**	**1,597.8027**	**0.4371**	**0.0000**	**1,608.7293**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2584	1.8198	7.6561	0.0180	0.1944	0.0280	0.2224	0.0569	0.0278	0.0848	0.0000	1,597.8012	1,597.8012	0.4371	0.0000	1,608.7277
2022	0.0694	0.3476	2.0838	4.6700e-003	0.0504	7.1900e-003	0.0576	0.0129	7.1600e-003	0.0200	0.0000	413.0183	413.0183	0.1177	0.0000	415.9616
Maximum	**0.2584**	**1.8198**	**7.6561**	**0.0180**	**0.1944**	**0.0280**	**0.2224**	**0.0569**	**0.0278**	**0.0848**	**0.0000**	**1,597.8012**	**1,597.8012**	**0.4371**	**0.0000**	**1,608.7277**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**68.76**	**78.76**	**-44.34**	**0.00**	**18.36**	**90.45**	**58.13**	**21.53**	**89.70**	**75.55**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	3.3863	0.8455
2	4-1-2021	6-30-2021	3.7899	0.7971
3	7-1-2021	9-30-2021	1.0755	0.2034
4	10-1-2021	12-31-2021	1.0668	0.2054
5	1-1-2022	3-31-2022	1.0047	0.2511
6	4-1-2022	6-30-2022	0.8678	0.1651
		Highest	3.7899	0.8455

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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
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	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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
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	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Reconductoring Site Prep	Site Preparation	1/1/2021	1/28/2021	6	24	Reconductor Site Prep
2	230kv Sub Access Road	Grading	1/1/2021	1/14/2021	6	12	230 Sub Access Road

3	230kV Transmission Site Work Prep	Site Preparation	1/5/2021	2/1/2021	6	24	230 TRANS Site Work Prep
4	230kV Sub Site Work Area	Site Preparation	1/15/2021	2/4/2021	6	18	230 Sub Site Work Area
5	70kV Substation Site Work Area Prep Mobil	Site Preparation	1/25/2021	2/6/2021	6	12	70 Sub Site Work Area
6	230kV Sub Fence Gate Install	Building Construction	2/1/2021	2/13/2021	6	12	230 Sub Fence Gate
7	Reconductoring Pole Install	Building Construction	2/1/2021	7/17/2021	6	144	Reconductor Pole Install
8	230kV Transmission Foundation Tower	Building Construction	2/2/2021	3/29/2021	6	48	230 TRANS Foundation Tower
9	70kV Substation Foundation Construction	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Foundation Construction
10	70kV Substation Ground Grid	Building Construction	2/5/2021	3/4/2021	6	24	70 Sub Ground Grid
11	230kV Sub Foundation Construction	Building Construction	2/8/2021	3/20/2021	6	36	230 Sub Foundation
12	Reconductoring Conductor Install	Building Construction	3/1/2021	7/17/2021	6	120	Reconductor Conductor Install
13	70kV Sub Steel Bus Erection	Building Construction	3/5/2021	4/1/2021	6	24	70 Sub Steel Bus
14	230kV Sub Ground Grid	Building Construction	3/10/2021	4/6/2021	6	24	230 Sub Ground Grid
15	230kV Transmission Conductor	Building Construction	4/1/2021	4/28/2021	6	24	230 TRANS Conductor
16	70 kV Substation Equip Delivery	Building Construction	4/1/2021	4/21/2021	6	18	70 Sub Equip Delivery
17	70kV Substation Control Enclosure	Building Construction	4/1/2021	4/7/2021	6	6	70 Sub Control Enclosure
18	230kV Sub Steel Bus	Building Construction	4/2/2021	4/29/2021	6	24	230 Sub Steel Bus
19	230kV Sub Install Yard Rock	Building Construction	4/16/2021	5/6/2021	6	18	230 Sub Install Yard Rock
20	70kV Substation Cable Installation	Building Construction	4/22/2021	5/12/2021	6	18	70 Sub Cable Install
21	230kV Sub Transformer	Building Construction	4/23/2021	5/27/2021	6	30	230 Sub Transformer
22	230kV Transmission Cleanup Restore	Site Preparation	5/1/2021	5/7/2021	6	6	230 TRANS Cleanup Restore
23	230kV Sub Control Enclosure Delivery	Building Construction	5/1/2021	5/14/2021	6	12	230 Sub Control Enclosure
24	70kV Substation Install Yard Rock	Building Construction	5/1/2021	5/14/2021	6	12	70 Sub Install Yard Rock
25	230kV Sub Remaining Equipment Delivery	Building Construction	5/8/2021	6/4/2021	6	24	230 Sub Remaining Equipment
26	70kV Substation Cleanup Restore	Site Preparation	5/15/2021	5/28/2021	6	12	70 Sub Cleanup Restore
27	230kV Sub Cable Install Termination	Building Construction	5/22/2021	6/4/2021	6	12	230 Sub Cable Install Term

28	70kV Substation Testing Commissioning	Site Preparation	6/1/2021	6/21/2021	6	18	70 Sub Testing Commissioning
29	230kV Sub Testing and Commissioning	Building Construction	6/1/2021	7/5/2021	6	30	230 Sub Testing
30	230kV Substation Cleanup Restore	Site Preparation	7/1/2021	7/21/2021	6	18	230 Sub Cleanup Restore
31	70kV Power Line Site Work Prep	Site Preparation	8/1/2021	8/28/2021	6	24	70 POWER Site Work Prep
32	Reconductoring Cleanup Restore	Site Preparation	8/1/2021	8/14/2021	6	12	Reconductor Cleanup Restore
33	70kV Power Line Pole Tower Install	Building Construction	9/1/2021	4/16/2022	6	196	70 POWER Pole Tower Install
34	Distribution Facilities Mobilization	Site Preparation	1/1/2022	1/14/2022	6	12	Distribution Facilities Mobilization
35	Distribution Foundation Construction	Building Construction	1/6/2022	2/2/2022	6	24	Distribution Foundation Construct
36	Distribution Ground Grid	Building Construction	1/20/2022	2/16/2022	6	24	Distribution Ground Grid
37	Distribution Steel Bus Erection	Building Construction	2/9/2022	3/8/2022	6	24	Distribution Steel Bus Erection
38	Distribution Bank Breaker	Building Construction	2/16/2022	3/8/2022	6	18	Distribution Bank Breaker
39	Distribution Feeder Conduit	Building Construction	2/23/2022	4/5/2022	6	36	Distribution Feeder Conduit
40	Distribution Cable Install	Building Construction	3/15/2022	4/11/2022	6	24	Distribution Cable Install
41	Distribution Testing	Building Construction	4/1/2022	4/28/2022	6	24	Distribution Testing
42	Distribution Cleanup Restore	Site Preparation	4/29/2022	5/12/2022	6	12	Distribution Cleanup Restore
43	70kV Power Line Conductor Install	Building Construction	5/1/2022	6/25/2022	6	48	70 POWER Conductor Install
44	70kV Power Line Cleanup Restore	Site Preparation	6/17/2022	6/30/2022	6	12	70 POWER Cleanup Restore

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Estrella Substation and Paso Robles Area Reinforcement Project - San Luis Obispo County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Reconductoring Site Prep	Graders	1	6.00	187	0.41
Reconductoring Site Prep	Rubber Tired Dozers	0	8.00	247	0.40
Reconductoring Site Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kv Sub Access Road	Concrete/Industrial Saws	0	8.00	81	0.73
230kv Sub Access Road	Excavators	0	8.00	158	0.38
230kv Sub Access Road	Graders	0	8.00	187	0.41
230kv Sub Access Road	Rubber Tired Dozers	0	1.00	247	0.40
230kv Sub Access Road	Scrapers	0	8.00	367	0.48
230kv Sub Access Road	Tractors/Loaders/Backhoes	2	8.00	97	0.37
230kV Transmission Site Work Prep	Graders	1	6.00	187	0.41
230kV Transmission Site Work Prep	Off-Highway Trucks	0	10.00	402	0.38
230kV Transmission Site Work Prep	Rollers	0	8.00	80	0.38
230kV Transmission Site Work Prep	Rubber Tired Dozers	0	8.00	247	0.40
230kV Transmission Site Work Prep	Scrapers	0	8.00	367	0.48
230kV Transmission Site Work Prep	Tractors/Loaders/Backhoes	1	6.00	97	0.37
230kV Sub Site Work Area	Graders	1	8.00	187	0.41
230kV Sub Site Work Area	Graders	0	8.00	187	0.41
230kV Sub Site Work Area	Off-Highway Trucks	4	10.00	402	0.38
230kV Sub Site Work Area	Rollers	2	8.00	80	0.38
230kV Sub Site Work Area	Rubber Tired Dozers	1	8.00	247	0.40
230kV Sub Site Work Area	Scrapers	1	8.00	367	0.48
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Site Work Area	Tractors/Loaders/Backhoes	0	8.00	97	0.37

70kV Substation Site Work Area Prep Mobil	Graders	1	4.00	187	0.41
70kV Substation Site Work Area Prep Mobil	Rubber Tired Dozers	0	8.00	247	0.40
70kV Substation Site Work Area Prep Mobil	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Fence Gate Install	Cranes	0	4.00	231	0.29
230kV Sub Fence Gate Install	Forklifts	0	6.00	89	0.20
230kV Sub Fence Gate Install	Generator Sets	0	8.00	84	0.74
230kV Sub Fence Gate Install	Rubber Tired Dozers	0	1.00	247	0.40
230kV Sub Fence Gate Install	Skid Steer Loaders	1	4.00	65	0.37
230kV Sub Fence Gate Install	Tractors/Loaders/Backhoes	0	6.00	97	0.37
230kV Sub Fence Gate Install	Welders	0	8.00	46	0.45
Reconductoring Pole Install	Bore/Drill Rigs	1	6.00	221	0.50
Reconductoring Pole Install	Cranes	3	6.00	231	0.29
Reconductoring Pole Install	Cranes	1	1.00	231	0.29
Reconductoring Pole Install	Forklifts	0	8.00	89	0.20
Reconductoring Pole Install	Generator Sets	0	8.00	84	0.74
Reconductoring Pole Install	Off-Highway Trucks	2	3.00	402	0.38
Reconductoring Pole Install	Off-Highway Trucks	2	2.00	402	0.38
Reconductoring Pole Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Reconductoring Pole Install	Welders	0	8.00	46	0.45
230kV Transmission Foundation Tower	Bore/Drill Rigs	1	1.00	221	0.50
230kV Transmission Foundation Tower	Cranes	3	5.30	231	0.29
230kV Transmission Foundation Tower	Forklifts	3	2.60	89	0.20
230kV Transmission Foundation Tower	Generator Sets	0	8.00	84	0.74
230kV Transmission Foundation Tower	Off-Highway Trucks	2	3.50	402	0.38
230kV Transmission Foundation Tower	Off-Highway Trucks	2	2.60	402	0.38
230kV Transmission Foundation Tower	Tractors/Loaders/Backhoes	1	0.50	97	0.37

230kV Transmission Foundation Tower	Welders	0	8.00	46	0.45
70kV Substation Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
70kV Substation Foundation Construction	Cranes	0	7.00	231	0.29
70kV Substation Foundation Construction	Forklifts	0	8.00	89	0.20
70kV Substation Foundation Construction	Generator Sets	0	8.00	84	0.74
70kV Substation Foundation Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
70kV Substation Foundation Construction	Trenchers	1	8.00	78	0.50
70kV Substation Foundation Construction	Welders	0	8.00	46	0.45
70kV Substation Ground Grid	Cranes	0	4.00	231	0.29
70kV Substation Ground Grid	Forklifts	0	8.00	89	0.20
70kV Substation Ground Grid	Generator Sets	0	8.00	84	0.74
70kV Substation Ground Grid	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Substation Ground Grid	Trenchers	1	6.00	78	0.50
70kV Substation Ground Grid	Welders	0	8.00	46	0.45
230kV Sub Foundation Construction	Bore/Drill Rigs	1	8.00	221	0.50
230kV Sub Foundation Construction	Cranes	1	5.00	231	0.29
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Forklifts	0	6.00	89	0.20
230kV Sub Foundation Construction	Generator Sets	0	8.00	84	0.74
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Foundation Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37
230kV Sub Foundation Construction	Welders	0	8.00	46	0.45
Reconductoring Conductor Install	Cranes	2	8.00	231	0.29
Reconductoring Conductor Install	Forklifts	1	3.00	89	0.20
Reconductoring Conductor Install	Generator Sets	0	8.00	84	0.74

Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	4.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
Reconductoring Conductor Install	Other General Industrial Equipment	2	6.00	88	0.34
Reconductoring Conductor Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Reconductoring Conductor Install	Welders	0	8.00	46	0.45
70kV Sub Steel Bus Erection	Aerial Lifts	2	8.00	63	0.31
70kV Sub Steel Bus Erection	Cranes	0	7.00	231	0.29
70kV Sub Steel Bus Erection	Forklifts	0	8.00	89	0.20
70kV Sub Steel Bus Erection	Generator Sets	0	8.00	84	0.74
70kV Sub Steel Bus Erection	Off-Highway Trucks	2	6.00	402	0.38
70kV Sub Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Sub Steel Bus Erection	Welders	0	8.00	46	0.45
230kV Sub Ground Grid	Cranes	0	7.00	231	0.29
230kV Sub Ground Grid	Forklifts	0	6.00	89	0.20
230kV Sub Ground Grid	Generator Sets	0	8.00	84	0.74
230kV Sub Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Trenchers	1	8.00	78	0.50
230kV Sub Ground Grid	Welders	0	8.00	46	0.45
230kV Transmission Conductor	Cranes	3	6.00	231	0.29
230kV Transmission Conductor	Forklifts	0	8.00	89	0.20
230kV Transmission Conductor	Generator Sets	0	8.00	84	0.74
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
230kV Transmission Conductor	Tractors/Loaders/Backhoes	0	7.00	97	0.37
230kV Transmission Conductor	Welders	0	8.00	46	0.45

70 kV Substation Equip Delivery	Aerial Lifts	2	4.00	63	0.31
70 kV Substation Equip Delivery	Cranes	0	7.00	231	0.29
70 kV Substation Equip Delivery	Forklifts	0	8.00	89	0.20
70 kV Substation Equip Delivery	Generator Sets	0	8.00	84	0.74
70 kV Substation Equip Delivery	Off-Highway Trucks	1	5.30	402	0.38
70 kV Substation Equip Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70 kV Substation Equip Delivery	Welders	0	8.00	46	0.45
70kV Substation Control Enclosure	Cranes	0	4.00	231	0.29
70kV Substation Control Enclosure	Forklifts	0	6.00	89	0.20
70kV Substation Control Enclosure	Generator Sets	0	8.00	84	0.74
70kV Substation Control Enclosure	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Control Enclosure	Welders	0	8.00	46	0.45
230kV Sub Steel Bus	Aerial Lifts	1	6.00	63	0.31
230kV Sub Steel Bus	Cranes	0	7.00	231	0.29
230kV Sub Steel Bus	Forklifts	0	8.00	89	0.20
230kV Sub Steel Bus	Generator Sets	0	8.00	84	0.74
230kV Sub Steel Bus	Off-Highway Trucks	1	8.00	402	0.38
230kV Sub Steel Bus	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Steel Bus	Welders	0	8.00	46	0.45
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Generator Sets	0	8.00	84	0.74
230kV Sub Install Yard Rock	Skid Steer Loaders	1	10.00	65	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37

230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Welders	0	8.00	46	0.45
70kV Substation Cable Installation	Cranes	0	4.00	231	0.29
70kV Substation Cable Installation	Forklifts	0	6.00	89	0.20
70kV Substation Cable Installation	Generator Sets	0	8.00	84	0.74
70kV Substation Cable Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cable Installation	Welders	0	8.00	46	0.45
230kV Sub Transformer	Cranes	1	6.00	231	0.29
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Generator Sets	1	5.00	84	0.74
230kV Sub Transformer	Off-Highway Trucks	2	10.00	402	0.38
230kV Sub Transformer	Off-Highway Trucks	1	4.80	402	0.38
230kV Sub Transformer	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Welders	0	8.00	46	0.45
230kV Transmission Cleanup Restore	Graders	1	8.00	187	0.41
230kV Transmission Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40
230kV Transmission Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Control Enclosure Delivery	Cranes	1	6.00	231	0.29
230kV Sub Control Enclosure Delivery	Forklifts	0	6.00	89	0.20

230kV Sub Control Enclosure Delivery	Generator Sets	0	8.00	84	0.74
230kV Sub Control Enclosure Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Control Enclosure Delivery	Welders	0	8.00	46	0.45
70kV Substation Install Yard Rock	Cranes	0	7.00	231	0.29
70kV Substation Install Yard Rock	Forklifts	0	6.00	89	0.20
70kV Substation Install Yard Rock	Generator Sets	0	8.00	84	0.74
70kV Substation Install Yard Rock	Skid Steer Loaders	1	8.00	231	0.29
70kV Substation Install Yard Rock	Tractors/Loaders/Backhoes	1	8.00	97	0.37
70kV Substation Install Yard Rock	Welders	0	8.00	46	0.45
230kV Sub Remaining Equipment Delivery	Cranes	0	7.00	231	0.29
230kV Sub Remaining Equipment Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Remaining Equipment Delivery	Generator Sets	0	8.00	84	0.74
230kV Sub Remaining Equipment Delivery	Off-Highway Trucks	1	6.00	402	0.38
230kV Sub Remaining Equipment Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Remaining Equipment Delivery	Welders	0	8.00	46	0.45
70kV Substation Cleanup Restore	Graders	0	8.00	187	0.41
70kV Substation Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40
70kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Cable Install Termination	Aerial Lifts	1	8.00	63	0.31
230kV Sub Cable Install Termination	Cranes	0	7.00	231	0.29
230kV Sub Cable Install Termination	Forklifts	0	6.00	89	0.20
230kV Sub Cable Install Termination	Generator Sets	0	8.00	84	0.74
230kV Sub Cable Install Termination	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Cable Install Termination	Welders	0	8.00	46	0.45
70kV Substation Testing Commissioning	Graders	0	8.00	187	0.41

70kV Substation Testing Commissioning	Rubber Tired Dozers	0	8.00	247	0.40
70kV Substation Testing Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Cement and Mortar Mixers	0	6.00	9	0.56
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Generator Sets	0	8.00	84	0.74
230kV Sub Testing and Commissioning	Pavers	0	7.00	130	0.42
230kV Sub Testing and Commissioning	Rollers	0	7.00	80	0.38
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	7.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Welders	0	8.00	46	0.45
230kV Substation Cleanup Restore	Other General Industrial Equipment	1	6.00	88	0.34
230kV Substation Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40
230kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	1	6.00	97	0.37
70kV Power Line Site Work Prep	Graders	2	6.00	187	0.41
70kV Power Line Site Work Prep	Rubber Tired Dozers	0	8.00	247	0.40
70kV Power Line Site Work Prep	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Reconductoring Cleanup Restore	Graders	1	6.00	187	0.41
Reconductoring Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40

Reconductoring Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Pole Tower Install	Cranes	1	4.00	231	0.29
70kV Power Line Pole Tower Install	Forklifts	0	8.00	89	0.20
70kV Power Line Pole Tower Install	Generator Sets	0	8.00	84	0.74
70kV Power Line Pole Tower Install	Off-Highway Trucks	7	4.00	402	0.38
70kV Power Line Pole Tower Install	Tractors/Loaders/Backhoes	2	4.00	97	0.37
70kV Power Line Pole Tower Install	Welders	0	8.00	46	0.45
Distribution Facilities Mobilization	Graders	0	8.00	187	0.41
Distribution Facilities Mobilization	Rubber Tired Dozers	0	8.00	247	0.40
Distribution Facilities Mobilization	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Foundation Construction	Cranes	0	4.00	231	0.29
Distribution Foundation Construction	Forklifts	0	6.00	89	0.20
Distribution Foundation Construction	Generator Sets	0	8.00	84	0.74
Distribution Foundation Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Distribution Foundation Construction	Welders	0	8.00	46	0.45
Distribution Ground Grid	Cranes	1	1.50	231	0.29
Distribution Ground Grid	Forklifts	0	6.00	89	0.20
Distribution Ground Grid	Generator Sets	0	8.00	84	0.74
Distribution Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Ground Grid	Welders	0	8.00	46	0.45
Distribution Steel Bus Erection	Cranes	0	4.00	231	0.29
Distribution Steel Bus Erection	Forklifts	0	6.00	89	0.20
Distribution Steel Bus Erection	Generator Sets	0	8.00	84	0.74
Distribution Steel Bus Erection	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Steel Bus Erection	Welders	0	8.00	46	0.45
Distribution Bank Breaker	Cranes	1	2.00	231	0.29
Distribution Bank Breaker	Forklifts	0	6.00	89	0.20

Distribution Bank Breaker	Generator Sets	0	8.00	84	0.74
Distribution Bank Breaker	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Bank Breaker	Welders	0	8.00	46	0.45
Distribution Feeder Conduit	Cranes	0	7.00	231	0.29
Distribution Feeder Conduit	Forklifts	0	6.00	89	0.20
Distribution Feeder Conduit	Generator Sets	0	8.00	84	0.74
Distribution Feeder Conduit	Off-Highway Trucks	2	4.00	402	0.38
Distribution Feeder Conduit	Tractors/Loaders/Backhoes	1	1.30	97	0.37
Distribution Feeder Conduit	Welders	0	8.00	46	0.45
Distribution Cable Install	Cranes	0	4.00	231	0.29
Distribution Cable Install	Forklifts	0	6.00	89	0.20
Distribution Cable Install	Generator Sets	0	8.00	84	0.74
Distribution Cable Install	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Distribution Cable Install	Welders	0	8.00	46	0.45
Distribution Testing	Cranes	0	4.00	231	0.29
Distribution Testing	Forklifts	0	6.00	89	0.20
Distribution Testing	Generator Sets	0	8.00	84	0.74
Distribution Testing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Distribution Testing	Welders	0	8.00	46	0.45
Distribution Cleanup Restore	Graders	0	8.00	187	0.41
Distribution Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40
Distribution Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
70kV Power Line Conductor Install	Cranes	3	6.00	231	0.29
70kV Power Line Conductor Install	Forklifts	1	3.00	89	0.20
70kV Power Line Conductor Install	Generator Sets	0	8.00	84	0.74
70kV Power Line Conductor Install	Off-Highway Trucks	3	4.00	402	0.38
70kV Power Line Conductor Install	Off-Highway Trucks	1	6.00	402	0.38

70kV Power Line Conductor Install	Off-Highway Trucks	2	2.00	402	0.38
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Conductor Install	Other General Industrial Equipment	1	6.00	88	0.34
70kV Power Line Conductor Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
70kV Power Line Conductor Install	Welders	0	8.00	46	0.45
70kV Power Line Cleanup Restore	Graders	1	6.00	187	0.41
70kV Power Line Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40
70kV Power Line Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37

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
Reconductoring Site Prep	2	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kv Sub Access Road	2	20.00	33.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Site Work Prep	2	16.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Site Work Area	10	20.00	11.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Site Work Area Prep Mobil	2	12.00	6.00	756.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Fence Gate Install	1	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Pole Install	9	40.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Foundation Tower	12	20.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Foundation Constructi	3	12.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Ground Grid	2	8.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Foundation Constructi	3	24.00	31.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Conductor Install	12	30.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Sub Steel Bus Erection	4	16.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Ground Grid	1	10.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Conductor	7	30.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

70 kV Substation Equip Delivery	3	12.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Control Enclosure	0	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Steel Bus	2	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Install Yard Rock	1	16.00	45.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cable Installation	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Transformer	6	16.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Cleanup Restore	2	10.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Control Enclosure Delivery	1	12.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Install Yard Rock	2	12.00	16.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Remaining Equipment Delivery	1	10.00	28.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cleanup Restore	0	8.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Cable Install Termination	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Testing Commissionin	0	8.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Testing and Commissioning	0	10.00	26.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Substation Cleanup Restore	2	6.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Site Work Prep	3	12.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Cleanup Restore	2	12.00	5.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Pole Tower Install	10	42.00	15.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Facilities Mobilization	1	12.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Foundation Constructi	1	24.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Ground Grid	1	20.00	4.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Steel Bus Erection	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Bank Breaker	1	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Feeder Conduit	3	16.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cable Install	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Testing	0	6.00	1.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Distribution Cleanup Restore	1	6.00	6.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

70kV Power Line Conductor Install	12	36.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Power Line Cleanup Restore	2	12.00	7.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Reconductoring Site Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.3600e-003	0.0000	6.3600e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-003	0.0647	0.0295	8.0000e-005		2.3600e-003	2.3600e-003		2.1700e-003	2.1700e-003	0.0000	6.8770	6.8770	2.2200e-003	0.0000	6.9326
Total	**5.2000e-003**	**0.0647**	**0.0295**	**8.0000e-005**	**6.3600e-003**	**2.3600e-003**	**8.7200e-003**	**6.9000e-004**	**2.1700e-003**	**2.8600e-003**	**0.0000**	**6.8770**	**6.8770**	**2.2200e-003**	**0.0000**	**6.9326**

3.2 Reconductoring Site Prep - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.8600e-003	0.0000	2.8600e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	4.1500e-003	0.0408	8.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	6.8770	6.8770	2.2200e-003	0.0000	6.9326
Total	**9.6000e-004**	**4.1500e-003**	**0.0408**	**8.0000e-005**	**2.8600e-003**	**1.3000e-004**	**2.9900e-003**	**3.1000e-004**	**1.3000e-004**	**4.4000e-004**	**0.0000**	**6.8770**	**6.8770**	**2.2200e-003**	**0.0000**	**6.9326**

3.2 Reconductoring Site Prep - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

3.3 230kv Sub Access Road - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2500e-003	0.0228	0.0271	4.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	3.2757	3.2757	1.0600e-003	0.0000	3.3022
Total	**2.2500e-003**	**0.0228**	**0.0271**	**4.0000e-005**	**0.0000**	**1.3400e-003**	**1.3400e-003**	**0.0000**	**1.2300e-003**	**1.2300e-003**	**0.0000**	**3.2757**	**3.2757**	**1.0600e-003**	**0.0000**	**3.3022**

3.3 230kv Sub Access Road - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-004	0.0189	5.5200e-003	4.0000e-005	9.0000e-004	5.0000e-005	9.5000e-004	2.6000e-004	5.0000e-005	3.1000e-004	0.0000	3.7865	3.7865	2.2000e-004	0.0000	3.7920
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.0900e-003**	**0.0193**	**9.2600e-003**	**5.0000e-005**	**2.0600e-003**	**6.0000e-005**	**2.1100e-003**	**5.7000e-004**	**6.0000e-005**	**6.2000e-004**	**0.0000**	**4.7200**	**4.7200**	**2.5000e-004**	**0.0000**	**4.7263**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6000e-004	1.9700e-003	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2757	3.2757	1.0600e-003	0.0000	3.3021
Total	**4.6000e-004**	**1.9700e-003**	**0.0281**	**4.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.2757**	**3.2757**	**1.0600e-003**	**0.0000**	**3.3021**

3.3 230kv Sub Access Road - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-004	0.0189	5.5200e-003	4.0000e-005	9.0000e-004	5.0000e-005	9.5000e-004	2.6000e-004	5.0000e-005	3.1000e-004	0.0000	3.7865	3.7865	2.2000e-004	0.0000	3.7920
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.0900e-003**	**0.0193**	**9.2600e-003**	**5.0000e-005**	**2.0600e-003**	**6.0000e-005**	**2.1100e-003**	**5.7000e-004**	**6.0000e-005**	**6.2000e-004**	**0.0000**	**4.7200**	**4.7200**	**2.5000e-004**	**0.0000**	**4.7263**

3.4 230kV Transmission Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.3600e-003	0.0000	6.3600e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7600e-003	0.0704	0.0363	9.0000e-005		2.7000e-003	2.7000e-003		2.4800e-003	2.4800e-003	0.0000	7.6959	7.6959	2.4900e-003	0.0000	7.7581
Total	**5.7600e-003**	**0.0704**	**0.0363**	**9.0000e-005**	**6.3600e-003**	**2.7000e-003**	**9.0600e-003**	**6.9000e-004**	**2.4800e-003**	**3.1700e-003**	**0.0000**	**7.6959**	**7.6959**	**2.4900e-003**	**0.0000**	**7.7581**

3.4 230kV Transmission Site Work Prep - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1800e-003**	**0.0132**	**9.6700e-003**	**5.0000e-005**	**2.4500e-003**	**5.0000e-005**	**2.5000e-003**	**6.6000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**4.0180**	**4.0180**	**2.0000e-004**	**0.0000**	**4.0228**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.8600e-003	0.0000	2.8600e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0700e-003	4.6500e-003	0.0479	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.6959	7.6959	2.4900e-003	0.0000	7.7581
Total	**1.0700e-003**	**4.6500e-003**	**0.0479**	**9.0000e-005**	**2.8600e-003**	**1.4000e-004**	**3.0000e-003**	**3.1000e-004**	**1.4000e-004**	**4.5000e-004**	**0.0000**	**7.6959**	**7.6959**	**2.4900e-003**	**0.0000**	**7.7581**

3.4 230kV Transmission Site Work Prep - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1800e-003**	**0.0132**	**9.6700e-003**	**5.0000e-005**	**2.4500e-003**	**5.0000e-005**	**2.5000e-003**	**6.6000e-004**	**4.0000e-005**	**7.1000e-004**	**0.0000**	**4.0180**	**4.0180**	**2.0000e-004**	**0.0000**	**4.0228**

3.5 230kV Sub Site Work Area - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0550	0.0000	0.0550	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0542	0.5369	0.3317	9.4000e-004		0.0220	0.0220		0.0203	0.0203	0.0000	82.7786	82.7786	0.0268	0.0000	83.4479
Total	**0.0542**	**0.5369**	**0.3317**	**9.4000e-004**	**0.0550**	**0.0220**	**0.0771**	**0.0299**	**0.0203**	**0.0502**	**0.0000**	**82.7786**	**82.7786**	**0.0268**	**0.0000**	**83.4479**

3.5 230kV Sub Site Work Area - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	3.0000e-004	9.4200e-003	2.7600e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	1.8932	1.8932	1.1000e-004	0.0000	1.8960
Worker	7.3000e-004	6.4000e-004	5.6100e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4003	1.4003	4.0000e-005	0.0000	1.4014
Total	**4.0900e-003**	**0.1213**	**0.0335**	**3.3000e-004**	**8.6300e-003**	**5.0000e-004**	**9.1300e-003**	**2.3600e-003**	**4.8000e-004**	**2.8500e-003**	**0.0000**	**32.0445**	**32.0445**	**1.8200e-003**	**0.0000**	**32.0901**

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					0.0248	0.0000	0.0248	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0115	0.0500	0.4463	9.4000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	82.7785	82.7785	0.0268	0.0000	83.4478
Total	**0.0115**	**0.0500**	**0.4463**	**9.4000e-004**	**0.0248**	**1.5400e-003**	**0.0263**	**0.0135**	**1.5400e-003**	**0.0150**	**0.0000**	**82.7785**	**82.7785**	**0.0268**	**0.0000**	**83.4478**

3.5 230kV Sub Site Work Area - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	3.0000e-004	9.4200e-003	2.7600e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.8000e-004	1.3000e-004	3.0000e-005	1.6000e-004	0.0000	1.8932	1.8932	1.1000e-004	0.0000	1.8960
Worker	7.3000e-004	6.4000e-004	5.6100e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.4003	1.4003	4.0000e-005	0.0000	1.4014
Total	**4.0900e-003**	**0.1213**	**0.0335**	**3.3000e-004**	**8.6300e-003**	**5.0000e-004**	**9.1300e-003**	**2.3600e-003**	**4.8000e-004**	**2.8500e-003**	**0.0000**	**32.0445**	**32.0445**	**1.8200e-003**	**0.0000**	**32.0901**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7400e-003	0.0000	3.7400e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0235	0.0121	3.0000e-005		9.0000e-004	9.0000e-004		8.3000e-004	8.3000e-004	0.0000	2.5653	2.5653	8.3000e-004	0.0000	2.5860
Total	**1.9200e-003**	**0.0235**	**0.0121**	**3.0000e-005**	**3.7400e-003**	**9.0000e-004**	**4.6400e-003**	**4.3000e-004**	**8.3000e-004**	**1.2600e-003**	**0.0000**	**2.5653**	**2.5653**	**8.3000e-004**	**0.0000**	**2.5860**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	1.1000e-004	3.4300e-003	1.0000e-003	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6885	0.6885	4.0000e-005	0.0000	0.6895
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4600e-003**	**0.1149**	**0.0284**	**3.1000e-004**	**7.3000e-003**	**4.7000e-004**	**7.7800e-003**	**2.0000e-003**	**4.5000e-004**	**2.4700e-003**	**0.0000**	**29.9995**	**29.9995**	**1.7300e-003**	**0.0000**	**30.0427**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6800e-003	0.0000	1.6800e-003	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	1.5500e-003	0.0160	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.5653	2.5653	8.3000e-004	0.0000	2.5860
Total	**3.6000e-004**	**1.5500e-003**	**0.0160**	**3.0000e-005**	**1.6800e-003**	**5.0000e-005**	**1.7300e-003**	**1.9000e-004**	**5.0000e-005**	**2.4000e-004**	**0.0000**	**2.5653**	**2.5653**	**8.3000e-004**	**0.0000**	**2.5860**

3.6 70kV Substation Site Work Area Prep Mobil - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0600e-003	0.1112	0.0251	2.9000e-004	6.4500e-003	4.6000e-004	6.9100e-003	1.7700e-003	4.4000e-004	2.2200e-003	0.0000	28.7509	28.7509	1.6700e-003	0.0000	28.7927
Vendor	1.1000e-004	3.4300e-003	1.0000e-003	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6885	0.6885	4.0000e-005	0.0000	0.6895
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4600e-003**	**0.1149**	**0.0284**	**3.1000e-004**	**7.3000e-003**	**4.7000e-004**	**7.7800e-003**	**2.0000e-003**	**4.5000e-004**	**2.4700e-003**	**0.0000**	**29.9995**	**29.9995**	**1.7300e-003**	**0.0000**	**30.0427**

3.7 230kV Sub Fence Gate Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-004	3.0100e-003	4.1700e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.1000e-004	1.1000e-004	0.0000	0.5449	0.5449	1.8000e-004	0.0000	0.5493
Total	**2.3000e-004**	**3.0100e-003**	**4.1700e-003**	**1.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.5449**	**0.5449**	**1.8000e-004**	**0.0000**	**0.5493**

3.7 230kV Sub Fence Gate Install - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0171	5.0200e-003	4.0000e-005	8.2000e-004	5.0000e-005	8.7000e-004	2.4000e-004	5.0000e-005	2.8000e-004	0.0000	3.4422	3.4422	2.0000e-004	0.0000	3.4473
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**7.9000e-004**	**0.0173**	**6.8900e-003**	**5.0000e-005**	**1.4000e-003**	**5.0000e-005**	**1.4500e-003**	**3.9000e-004**	**5.0000e-005**	**4.4000e-004**	**0.0000**	**3.9090**	**3.9090**	**2.1000e-004**	**0.0000**	**3.9144**

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	1.5000e-004	3.4900e-003	4.7100e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.5449	0.5449	1.8000e-004	0.0000	0.5493
Total	**1.5000e-004**	**3.4900e-003**	**4.7100e-003**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.5449**	**0.5449**	**1.8000e-004**	**0.0000**	**0.5493**

3.7 230kV Sub Fence Gate Install - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.5000e-004	0.0171	5.0200e-003	4.0000e-005	8.2000e-004	5.0000e-005	8.7000e-004	2.4000e-004	5.0000e-005	2.8000e-004	0.0000	3.4422	3.4422	2.0000e-004	0.0000	3.4473
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**7.9000e-004**	**0.0173**	**6.8900e-003**	**5.0000e-005**	**1.4000e-003**	**5.0000e-005**	**1.4500e-003**	**3.9000e-004**	**5.0000e-005**	**4.4000e-004**	**0.0000**	**3.9090**	**3.9090**	**2.1000e-004**	**0.0000**	**3.9144**

3.8 Reconductoring Pole Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1391	1.4662	0.7755	2.6800e-003		0.0560	0.0560		0.0515	0.0515	0.0000	235.7435	235.7435	0.0762	0.0000	237.6496
Total	**0.1391**	**1.4662**	**0.7755**	**2.6800e-003**		**0.0560**	**0.0560**		**0.0515**	**0.0515**	**0.0000**	**235.7435**	**235.7435**	**0.0762**	**0.0000**	**237.6496**

3.8 Reconductoring Pole Install - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8500e-003	0.0891	0.0261	1.9000e-004	4.2500e-003	2.5000e-004	4.5100e-003	1.2300e-003	2.4000e-004	1.4700e-003	0.0000	17.8996	17.8996	1.0600e-003	0.0000	17.9260
Worker	0.0117	0.0102	0.0898	2.5000e-004	0.0277	1.8000e-004	0.0279	7.3700e-003	1.6000e-004	7.5300e-003	0.0000	22.4052	22.4052	6.8000e-004	0.0000	22.4222
Total	**0.0146**	**0.0993**	**0.1159**	**4.4000e-004**	**0.0320**	**4.3000e-004**	**0.0324**	**8.6000e-003**	**4.0000e-004**	**9.0000e-003**	**0.0000**	**40.3048**	**40.3048**	**1.7400e-003**	**0.0000**	**40.3482**

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	0.0330	0.1429	1.2095	2.6800e-003		4.4000e-003	4.4000e-003		4.4000e-003	4.4000e-003	0.0000	235.7433	235.7433	0.0762	0.0000	237.6494
Total	**0.0330**	**0.1429**	**1.2095**	**2.6800e-003**		**4.4000e-003**	**4.4000e-003**		**4.4000e-003**	**4.4000e-003**	**0.0000**	**235.7433**	**235.7433**	**0.0762**	**0.0000**	**237.6494**

3.8 Reconductoring Pole Install - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8500e-003	0.0891	0.0261	1.9000e-004	4.2500e-003	2.5000e-004	4.5100e-003	1.2300e-003	2.4000e-004	1.4700e-003	0.0000	17.8996	17.8996	1.0600e-003	0.0000	17.9260
Worker	0.0117	0.0102	0.0898	2.5000e-004	0.0277	1.8000e-004	0.0279	7.3700e-003	1.6000e-004	7.5300e-003	0.0000	22.4052	22.4052	6.8000e-004	0.0000	22.4222
Total	**0.0146**	**0.0993**	**0.1159**	**4.4000e-004**	**0.0320**	**4.3000e-004**	**0.0324**	**8.6000e-003**	**4.0000e-004**	**9.0000e-003**	**0.0000**	**40.3048**	**40.3048**	**1.7400e-003**	**0.0000**	**40.3482**

3.9 230kV Transmission Foundation Tower - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0460	0.4635	0.2634	8.3000e-004		0.0189	0.0189		0.0174	0.0174	0.0000	72.6630	72.6630	0.0235	0.0000	73.2505
Total	**0.0460**	**0.4635**	**0.2634**	**8.3000e-004**		**0.0189**	**0.0189**		**0.0174**	**0.0174**	**0.0000**	**72.6630**	**72.6630**	**0.0235**	**0.0000**	**73.2505**

3.9 230kV Transmission Foundation Tower - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8000e-004	0.0274	8.0300e-003	6.0000e-005	1.3100e-003	8.0000e-005	1.3900e-003	3.8000e-004	7.0000e-005	4.5000e-004	0.0000	5.5076	5.5076	3.2000e-004	0.0000	5.5157
Worker	1.9600e-003	1.7100e-003	0.0150	4.0000e-005	4.6200e-003	3.0000e-005	4.6500e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.7342	3.7342	1.1000e-004	0.0000	3.7370
Total	**2.8400e-003**	**0.0291**	**0.0230**	**1.0000e-004**	**5.9300e-003**	**1.1000e-004**	**6.0400e-003**	**1.6100e-003**	**1.0000e-004**	**1.7100e-003**	**0.0000**	**9.2418**	**9.2418**	**4.3000e-004**	**0.0000**	**9.2527**

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	0.0102	0.0440	0.3845	8.3000e-004		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	72.6629	72.6629	0.0235	0.0000	73.2504
Total	**0.0102**	**0.0440**	**0.3845**	**8.3000e-004**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**72.6629**	**72.6629**	**0.0235**	**0.0000**	**73.2504**

3.9 230kV Transmission Foundation Tower - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8000e-004	0.0274	8.0300e-003	6.0000e-005	1.3100e-003	8.0000e-005	1.3900e-003	3.8000e-004	7.0000e-005	4.5000e-004	0.0000	5.5076	5.5076	3.2000e-004	0.0000	5.5157
Worker	1.9600e-003	1.7100e-003	0.0150	4.0000e-005	4.6200e-003	3.0000e-005	4.6500e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.7342	3.7342	1.1000e-004	0.0000	3.7370
Total	**2.8400e-003**	**0.0291**	**0.0230**	**1.0000e-004**	**5.9300e-003**	**1.1000e-004**	**6.0400e-003**	**1.6100e-003**	**1.0000e-004**	**1.7100e-003**	**0.0000**	**9.2418**	**9.2418**	**4.3000e-004**	**0.0000**	**9.2527**

3.10 70kV Substation Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9300e-003	0.1012	0.0833	1.9000e-004		5.5000e-003	5.5000e-003		5.0600e-003	5.0600e-003	0.0000	16.7635	16.7635	5.4200e-003	0.0000	16.8991
Total	**9.9300e-003**	**0.1012**	**0.0833**	**1.9000e-004**		**5.5000e-003**	**5.5000e-003**		**5.0600e-003**	**5.0600e-003**	**0.0000**	**16.7635**	**16.7635**	**5.4200e-003**	**0.0000**	**16.8991**

3.10 70kV Substation Foundation Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8000e-004	0.0149	4.3500e-003	3.0000e-005	7.1000e-004	4.0000e-005	7.5000e-004	2.0000e-004	4.0000e-005	2.5000e-004	0.0000	2.9833	2.9833	1.8000e-004	0.0000	2.9877
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.0700e-003**	**0.0154**	**8.8400e-003**	**4.0000e-005**	**2.1000e-003**	**5.0000e-005**	**2.1500e-003**	**5.7000e-004**	**5.0000e-005**	**6.3000e-004**	**0.0000**	**4.1035**	**4.1035**	**2.1000e-004**	**0.0000**	**4.1088**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3500e-003	0.0102	0.1101	1.9000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	16.7635	16.7635	5.4200e-003	0.0000	16.8990
Total	**2.3500e-003**	**0.0102**	**0.1101**	**1.9000e-004**		**3.1000e-004**	**3.1000e-004**		**3.1000e-004**	**3.1000e-004**	**0.0000**	**16.7635**	**16.7635**	**5.4200e-003**	**0.0000**	**16.8990**

3.10 70kV Substation Foundation Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8000e-004	0.0149	4.3500e-003	3.0000e-005	7.1000e-004	4.0000e-005	7.5000e-004	2.0000e-004	4.0000e-005	2.5000e-004	0.0000	2.9833	2.9833	1.8000e-004	0.0000	2.9877
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.0700e-003**	**0.0154**	**8.8400e-003**	**4.0000e-005**	**2.1000e-003**	**5.0000e-005**	**2.1500e-003**	**5.7000e-004**	**5.0000e-005**	**6.3000e-004**	**0.0000**	**4.1035**	**4.1035**	**2.1000e-004**	**0.0000**	**4.1088**

3.11 70kV Substation Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1300e-003	0.0487	0.0438	6.0000e-005		3.3000e-003	3.3000e-003		3.0400e-003	3.0400e-003	0.0000	5.1260	5.1260	1.6600e-003	0.0000	5.1674
Total	**5.1300e-003**	**0.0487**	**0.0438**	**6.0000e-005**		**3.3000e-003**	**3.3000e-003**		**3.0400e-003**	**3.0400e-003**	**0.0000**	**5.1260**	**5.1260**	**1.6600e-003**	**0.0000**	**5.1674**

3.11 70kV Substation Ground Grid - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	3.9000e-004	3.4000e-004	2.9900e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7468	0.7468	2.0000e-005	0.0000	0.7474
Total	**7.2000e-004**	**0.0106**	**6.0000e-003**	**3.0000e-005**	**1.4100e-003**	**4.0000e-005**	**1.4500e-003**	**3.9000e-004**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**2.8122**	**2.8122**	**1.4000e-004**	**0.0000**	**2.8158**

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	7.1000e-004	3.0900e-003	0.0440	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.1260	5.1260	1.6600e-003	0.0000	5.1674
Total	**7.1000e-004**	**3.0900e-003**	**0.0440**	**6.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**5.1260**	**5.1260**	**1.6600e-003**	**0.0000**	**5.1674**

3.11 70kV Substation Ground Grid - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	3.9000e-004	3.4000e-004	2.9900e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.7468	0.7468	2.0000e-005	0.0000	0.7474
Total	**7.2000e-004**	**0.0106**	**6.0000e-003**	**3.0000e-005**	**1.4100e-003**	**4.0000e-005**	**1.4500e-003**	**3.9000e-004**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**2.8122**	**2.8122**	**1.4000e-004**	**0.0000**	**2.8158**

3.12 230kV Sub Foundation Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.1303	0.0851	2.7000e-004		5.1200e-003	5.1200e-003		4.7100e-003	4.7100e-003	0.0000	23.6667	23.6667	7.6500e-003	0.0000	23.8581
Total	**0.0114**	**0.1303**	**0.0851**	**2.7000e-004**		**5.1200e-003**	**5.1200e-003**		**4.7100e-003**	**4.7100e-003**	**0.0000**	**23.6667**	**23.6667**	**7.6500e-003**	**0.0000**	**23.8581**

3.12 230kV Sub Foundation Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-003	0.0531	0.0156	1.1000e-004	2.5400e-003	1.5000e-004	2.6900e-003	7.3000e-004	1.5000e-004	8.8000e-004	0.0000	10.6709	10.6709	6.3000e-004	0.0000	10.6867
Worker	1.7600e-003	1.5300e-003	0.0135	4.0000e-005	4.1600e-003	3.0000e-005	4.1900e-003	1.1100e-003	2.0000e-005	1.1300e-003	0.0000	3.3608	3.3608	1.0000e-004	0.0000	3.3633
Total	**3.4600e-003**	**0.0547**	**0.0290**	**1.5000e-004**	**6.7000e-003**	**1.8000e-004**	**6.8800e-003**	**1.8400e-003**	**1.7000e-004**	**2.0100e-003**	**0.0000**	**14.0317**	**14.0317**	**7.3000e-004**	**0.0000**	**14.0500**

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	3.3300e-003	0.0144	0.1328	2.7000e-004		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	23.6667	23.6667	7.6500e-003	0.0000	23.8580
Total	**3.3300e-003**	**0.0144**	**0.1328**	**2.7000e-004**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**23.6667**	**23.6667**	**7.6500e-003**	**0.0000**	**23.8580**

3.12 230kV Sub Foundation Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-003	0.0531	0.0156	1.1000e-004	2.5400e-003	1.5000e-004	2.6900e-003	7.3000e-004	1.5000e-004	8.8000e-004	0.0000	10.6709	10.6709	6.3000e-004	0.0000	10.6867
Worker	1.7600e-003	1.5300e-003	0.0135	4.0000e-005	4.1600e-003	3.0000e-005	4.1900e-003	1.1100e-003	2.0000e-005	1.1300e-003	0.0000	3.3608	3.3608	1.0000e-004	0.0000	3.3633
Total	**3.4600e-003**	**0.0547**	**0.0290**	**1.5000e-004**	**6.7000e-003**	**1.8000e-004**	**6.8800e-003**	**1.8400e-003**	**1.7000e-004**	**2.0100e-003**	**0.0000**	**14.0317**	**14.0317**	**7.3000e-004**	**0.0000**	**14.0500**

3.13 Reconductoring Conductor Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2443	2.2851	1.4691	4.7200e-003		0.0927	0.0927		0.0853	0.0853	0.0000	414.6560	414.6560	0.1341	0.0000	418.0087
Total	**0.2443**	**2.2851**	**1.4691**	**4.7200e-003**		**0.0927**	**0.0927**		**0.0853**	**0.0853**	**0.0000**	**414.6560**	**414.6560**	**0.1341**	**0.0000**	**418.0087**

3.13 Reconductoring Conductor Install - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8300e-003	0.0571	0.0167	1.2000e-004	2.7300e-003	1.6000e-004	2.8900e-003	7.9000e-004	1.6000e-004	9.4000e-004	0.0000	11.4741	11.4741	6.8000e-004	0.0000	11.4910
Worker	7.3400e-003	6.3900e-003	0.0561	1.5000e-004	0.0173	1.1000e-004	0.0174	4.6100e-003	1.0000e-004	4.7100e-003	0.0000	14.0033	14.0033	4.2000e-004	0.0000	14.0139
Total	**9.1700e-003**	**0.0635**	**0.0729**	**2.7000e-004**	**0.0201**	**2.7000e-004**	**0.0203**	**5.4000e-003**	**2.6000e-004**	**5.6500e-003**	**0.0000**	**25.4774**	**25.4774**	**1.1000e-003**	**0.0000**	**25.5049**

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	0.0579	0.2507	2.2031	4.7200e-003		7.7100e-003	7.7100e-003		7.7100e-003	7.7100e-003	0.0000	414.6555	414.6555	0.1341	0.0000	418.0082
Total	**0.0579**	**0.2507**	**2.2031**	**4.7200e-003**		**7.7100e-003**	**7.7100e-003**		**7.7100e-003**	**7.7100e-003**	**0.0000**	**414.6555**	**414.6555**	**0.1341**	**0.0000**	**418.0082**

3.13 Reconductoring Conductor Install - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8300e-003	0.0571	0.0167	1.2000e-004	2.7300e-003	1.6000e-004	2.8900e-003	7.9000e-004	1.6000e-004	9.4000e-004	0.0000	11.4741	11.4741	6.8000e-004	0.0000	11.4910
Worker	7.3400e-003	6.3900e-003	0.0561	1.5000e-004	0.0173	1.1000e-004	0.0174	4.6100e-003	1.0000e-004	4.7100e-003	0.0000	14.0033	14.0033	4.2000e-004	0.0000	14.0139
Total	**9.1700e-003**	**0.0635**	**0.0729**	**2.7000e-004**	**0.0201**	**2.7000e-004**	**0.0203**	**5.4000e-003**	**2.6000e-004**	**5.6500e-003**	**0.0000**	**25.4774**	**25.4774**	**1.1000e-003**	**0.0000**	**25.5049**

3.14 70kV Sub Steel Bus Erection - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1092	0.0911	2.8000e-004		3.7500e-003	3.7500e-003		3.4500e-003	3.4500e-003	0.0000	24.4181	24.4181	7.9000e-003	0.0000	24.6155
Total	**0.0118**	**0.1092**	**0.0911**	**2.8000e-004**		**3.7500e-003**	**3.7500e-003**		**3.4500e-003**	**3.4500e-003**	**0.0000**	**24.4181**	**24.4181**	**7.9000e-003**	**0.0000**	**24.6155**

3.14 70kV Sub Steel Bus Erection - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1100e-003**	**0.0110**	**9.0000e-003**	**4.0000e-005**	**2.3400e-003**	**4.0000e-005**	**2.3800e-003**	**6.3000e-004**	**4.0000e-005**	**6.7000e-004**	**0.0000**	**3.5590**	**3.5590**	**1.7000e-004**	**0.0000**	**3.5632**

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	3.9000e-003	0.0353	0.1373	2.8000e-004		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	24.4180	24.4180	7.9000e-003	0.0000	24.6155
Total	**3.9000e-003**	**0.0353**	**0.1373**	**2.8000e-004**		**4.5000e-004**	**4.5000e-004**		**4.5000e-004**	**4.5000e-004**	**0.0000**	**24.4180**	**24.4180**	**7.9000e-003**	**0.0000**	**24.6155**

3.14 70kV Sub Steel Bus Erection - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	7.8000e-004	6.8000e-004	5.9900e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4937	1.4937	5.0000e-005	0.0000	1.4948
Total	**1.1100e-003**	**0.0110**	**9.0000e-003**	**4.0000e-005**	**2.3400e-003**	**4.0000e-005**	**2.3800e-003**	**6.3000e-004**	**4.0000e-005**	**6.7000e-004**	**0.0000**	**3.5590**	**3.5590**	**1.7000e-004**	**0.0000**	**3.5632**

3.15 230kV Sub Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5900e-003	0.0421	0.0313	4.0000e-005		3.0600e-003	3.0600e-003		2.8200e-003	2.8200e-003	0.0000	3.5590	3.5590	1.1500e-003	0.0000	3.5877
Total	**4.5900e-003**	**0.0421**	**0.0313**	**4.0000e-005**		**3.0600e-003**	**3.0600e-003**		**2.8200e-003**	**2.8200e-003**	**0.0000**	**3.5590**	**3.5590**	**1.1500e-003**	**0.0000**	**3.5877**

3.15 230kV Sub Ground Grid - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0600e-003	0.0331	9.7100e-003	7.0000e-005	1.5800e-003	9.0000e-005	1.6800e-003	4.6000e-004	9.0000e-005	5.5000e-004	0.0000	6.6550	6.6550	3.9000e-004	0.0000	6.6648
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5500e-003**	**0.0336**	**0.0135**	**8.0000e-005**	**2.7400e-003**	**1.0000e-004**	**2.8400e-003**	**7.7000e-004**	**1.0000e-004**	**8.6000e-004**	**0.0000**	**7.5885**	**7.5885**	**4.2000e-004**	**0.0000**	**7.5991**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.0000e-004	2.1500e-003	0.0305	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.5590	3.5590	1.1500e-003	0.0000	3.5877
Total	**5.0000e-004**	**2.1500e-003**	**0.0305**	**4.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**3.5590**	**3.5590**	**1.1500e-003**	**0.0000**	**3.5877**

3.15 230kV Sub Ground Grid - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0600e-003	0.0331	9.7100e-003	7.0000e-005	1.5800e-003	9.0000e-005	1.6800e-003	4.6000e-004	9.0000e-005	5.5000e-004	0.0000	6.6550	6.6550	3.9000e-004	0.0000	6.6648
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5500e-003**	**0.0336**	**0.0135**	**8.0000e-005**	**2.7400e-003**	**1.0000e-004**	**2.8400e-003**	**7.7000e-004**	**1.0000e-004**	**8.6000e-004**	**0.0000**	**7.5885**	**7.5885**	**4.2000e-004**	**0.0000**	**7.5991**

3.16 230kV Transmission Conductor - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0257	0.2573	0.1400	4.7000e-004		9.9500e-003	9.9500e-003		9.1500e-003	9.1500e-003	0.0000	41.5223	41.5223	0.0134	0.0000	41.8580
Total	**0.0257**	**0.2573**	**0.1400**	**4.7000e-004**		**9.9500e-003**	**9.9500e-003**		**9.1500e-003**	**9.1500e-003**	**0.0000**	**41.5223**	**41.5223**	**0.0134**	**0.0000**	**41.8580**

3.16 230kV Transmission Conductor - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	1.4700e-003	1.2800e-003	0.0112	3.0000e-005	3.4700e-003	2.0000e-005	3.4900e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.8007	2.8007	8.0000e-005	0.0000	2.8028
Total	**1.8700e-003**	**0.0138**	**0.0149**	**6.0000e-005**	**4.0700e-003**	**6.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1500e-003**	**0.0000**	**5.3250**	**5.3250**	**2.3000e-004**	**0.0000**	**5.3308**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7900e-003	0.0251	0.2124	4.7000e-004		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	41.5223	41.5223	0.0134	0.0000	41.8580
Total	**5.7900e-003**	**0.0251**	**0.2124**	**4.7000e-004**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**41.5223**	**41.5223**	**0.0134**	**0.0000**	**41.8580**

3.16 230kV Transmission Conductor - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	1.4700e-003	1.2800e-003	0.0112	3.0000e-005	3.4700e-003	2.0000e-005	3.4900e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.8007	2.8007	8.0000e-005	0.0000	2.8028
Total	**1.8700e-003**	**0.0138**	**0.0149**	**6.0000e-005**	**4.0700e-003**	**6.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1500e-003**	**0.0000**	**5.3250**	**5.3250**	**2.3000e-004**	**0.0000**	**5.3308**

3.17 70 kV Substation Equip Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9500e-003	0.0368	0.0313	9.0000e-005		1.2500e-003	1.2500e-003		1.1500e-003	1.1500e-003	0.0000	8.2434	8.2434	2.6700e-003	0.0000	8.3100
Total	**3.9500e-003**	**0.0368**	**0.0313**	**9.0000e-005**		**1.2500e-003**	**1.2500e-003**		**1.1500e-003**	**1.1500e-003**	**0.0000**	**8.2434**	**8.2434**	**2.6700e-003**	**0.0000**	**8.3100**

3.17 70 kV Substation Equip Delivery - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	4.4000e-004	3.8000e-004	3.3700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8402	0.8402	3.0000e-005	0.0000	0.8408
Total	**7.7000e-004**	**0.0107**	**6.3800e-003**	**3.0000e-005**	**1.5300e-003**	**4.0000e-005**	**1.5700e-003**	**4.2000e-004**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**2.9055**	**2.9055**	**1.5000e-004**	**0.0000**	**2.9092**

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	1.3400e-003	0.0127	0.0468	9.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.2434	8.2434	2.6700e-003	0.0000	8.3100
Total	**1.3400e-003**	**0.0127**	**0.0468**	**9.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**8.2434**	**8.2434**	**2.6700e-003**	**0.0000**	**8.3100**

3.17 70 kV Substation Equip Delivery - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	4.4000e-004	3.8000e-004	3.3700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8402	0.8402	3.0000e-005	0.0000	0.8408
Total	**7.7000e-004**	**0.0107**	**6.3800e-003**	**3.0000e-005**	**1.5300e-003**	**4.0000e-005**	**1.5700e-003**	**4.2000e-004**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**2.9055**	**2.9055**	**1.5000e-004**	**0.0000**	**2.9092**

3.18 70kV Substation Control Enclosure - 2021

Unmitigated Construction On-Site

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

3.18 70kV Substation Control Enclosure - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1147	0.1147	1.0000e-005	0.0000	0.1149
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**1.4000e-004**	**6.8000e-004**	**1.1100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3481**	**0.3481**	**2.0000e-005**	**0.0000**	**0.3485**

Mitigated Construction On-Site

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

3.18 70kV Substation Control Enclosure - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1147	0.1147	1.0000e-005	0.0000	0.1149
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**1.4000e-004**	**6.8000e-004**	**1.1100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3481**	**0.3481**	**2.0000e-005**	**0.0000**	**0.3485**

3.19 230kV Sub Steel Bus - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.6100e-003	0.0686	0.0531	1.7000e-004		2.4200e-003	2.4200e-003		2.2300e-003	2.2300e-003	0.0000	15.2460	15.2460	4.9300e-003	0.0000	15.3693
Total	**7.6100e-003**	**0.0686**	**0.0531**	**1.7000e-004**		**2.4200e-003**	**2.4200e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**15.2460**	**15.2460**	**4.9300e-003**	**0.0000**	**15.3693**

3.19 230kV Sub Steel Bus - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0343	0.0100	7.0000e-005	1.6400e-003	1.0000e-004	1.7300e-003	4.7000e-004	9.0000e-005	5.7000e-004	0.0000	6.8845	6.8845	4.1000e-004	0.0000	6.8946
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5900e-003**	**0.0347**	**0.0138**	**8.0000e-005**	**2.8000e-003**	**1.1000e-004**	**2.8900e-003**	**7.8000e-004**	**1.0000e-004**	**8.8000e-004**	**0.0000**	**7.8180**	**7.8180**	**4.4000e-004**	**0.0000**	**7.8289**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3100e-003	0.0169	0.0826	1.7000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	15.2460	15.2460	4.9300e-003	0.0000	15.3693
Total	**2.3100e-003**	**0.0169**	**0.0826**	**1.7000e-004**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**15.2460**	**15.2460**	**4.9300e-003**	**0.0000**	**15.3693**

3.19 230kV Sub Steel Bus - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-003	0.0343	0.0100	7.0000e-005	1.6400e-003	1.0000e-004	1.7300e-003	4.7000e-004	9.0000e-005	5.7000e-004	0.0000	6.8845	6.8845	4.1000e-004	0.0000	6.8946
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5900e-003**	**0.0347**	**0.0138**	**8.0000e-005**	**2.8000e-003**	**1.1000e-004**	**2.8900e-003**	**7.8000e-004**	**1.0000e-004**	**8.8000e-004**	**0.0000**	**7.8180**	**7.8180**	**4.4000e-004**	**0.0000**	**7.8289**

3.20 230kV Sub Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	0.0113	0.0156	2.0000e-005		4.6000e-004	4.6000e-004		4.2000e-004	4.2000e-004	0.0000	2.0432	2.0432	6.6000e-004	0.0000	2.0597
Total	**8.5000e-004**	**0.0113**	**0.0156**	**2.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**2.0432**	**2.0432**	**6.6000e-004**	**0.0000**	**2.0597**

3.20 230kV Sub Install Yard Rock - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0386	0.0113	8.0000e-005	1.8400e-003	1.1000e-004	1.9500e-003	5.3000e-004	1.1000e-004	6.4000e-004	0.0000	7.7450	7.7450	4.6000e-004	0.0000	7.7565
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.8200e-003**	**0.0391**	**0.0158**	**9.0000e-005**	**3.2300e-003**	**1.2000e-004**	**3.3500e-003**	**9.0000e-004**	**1.2000e-004**	**1.0200e-003**	**0.0000**	**8.8653**	**8.8653**	**4.9000e-004**	**0.0000**	**8.8776**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7000e-004	0.0131	0.0177	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.0432	2.0432	6.6000e-004	0.0000	2.0597
Total	**5.7000e-004**	**0.0131**	**0.0177**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.0432**	**2.0432**	**6.6000e-004**	**0.0000**	**2.0597**

3.20 230kV Sub Install Yard Rock - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0386	0.0113	8.0000e-005	1.8400e-003	1.1000e-004	1.9500e-003	5.3000e-004	1.1000e-004	6.4000e-004	0.0000	7.7450	7.7450	4.6000e-004	0.0000	7.7565
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.8200e-003**	**0.0391**	**0.0158**	**9.0000e-005**	**3.2300e-003**	**1.2000e-004**	**3.3500e-003**	**9.0000e-004**	**1.2000e-004**	**1.0200e-003**	**0.0000**	**8.8653**	**8.8653**	**4.9000e-004**	**0.0000**	**8.8776**

3.21 70kV Substation Cable Installation - 2021

Unmitigated Construction On-Site

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

3.21 70kV Substation Cable Installation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	3.7000e-004	3.2000e-004	2.8100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7002	0.7002	2.0000e-005	0.0000	0.7007
Total	**4.5000e-004**	**2.8900e-003**	**3.5600e-003**	**2.0000e-005**	**9.9000e-004**	**2.0000e-005**	**1.0000e-003**	**2.7000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.2165**	**1.2165**	**5.0000e-005**	**0.0000**	**1.2178**

Mitigated Construction On-Site

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

3.21 70kV Substation Cable Installation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	3.7000e-004	3.2000e-004	2.8100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7002	0.7002	2.0000e-005	0.0000	0.7007
Total	**4.5000e-004**	**2.8900e-003**	**3.5600e-003**	**2.0000e-005**	**9.9000e-004**	**2.0000e-005**	**1.0000e-003**	**2.7000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.2165**	**1.2165**	**5.0000e-005**	**0.0000**	**1.2178**

3.22 230kV Sub Transformer - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0376	0.3432	0.2414	7.6000e-004		0.0136	0.0136		0.0126	0.0126	0.0000	66.9818	66.9818	0.0202	0.0000	67.4873
Total	**0.0376**	**0.3432**	**0.2414**	**7.6000e-004**		**0.0136**	**0.0136**		**0.0126**	**0.0126**	**0.0000**	**66.9818**	**66.9818**	**0.0202**	**0.0000**	**67.4873**

3.22 230kV Sub Transformer - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3700e-003	0.0428	0.0126	9.0000e-005	2.0400e-003	1.2000e-004	2.1700e-003	5.9000e-004	1.2000e-004	7.1000e-004	0.0000	8.6056	8.6056	5.1000e-004	0.0000	8.6183
Worker	9.8000e-004	8.5000e-004	7.4800e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3300e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8671	1.8671	6.0000e-005	0.0000	1.8685
Total	**2.3500e-003**	**0.0437**	**0.0200**	**1.1000e-004**	**4.3500e-003**	**1.3000e-004**	**4.5000e-003**	**1.2000e-003**	**1.3000e-004**	**1.3400e-003**	**0.0000**	**10.4727**	**10.4727**	**5.7000e-004**	**0.0000**	**10.4868**

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	9.2200e-003	0.0399	0.3605	7.6000e-004		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	66.9818	66.9818	0.0202	0.0000	67.4873
Total	**9.2200e-003**	**0.0399**	**0.3605**	**7.6000e-004**		**1.2300e-003**	**1.2300e-003**		**1.2300e-003**	**1.2300e-003**	**0.0000**	**66.9818**	**66.9818**	**0.0202**	**0.0000**	**67.4873**

3.22 230kV Sub Transformer - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3700e-003	0.0428	0.0126	9.0000e-005	2.0400e-003	1.2000e-004	2.1700e-003	5.9000e-004	1.2000e-004	7.1000e-004	0.0000	8.6056	8.6056	5.1000e-004	0.0000	8.6183
Worker	9.8000e-004	8.5000e-004	7.4800e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3300e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8671	1.8671	6.0000e-005	0.0000	1.8685
Total	**2.3500e-003**	**0.0437**	**0.0200**	**1.1000e-004**	**4.3500e-003**	**1.3000e-004**	**4.5000e-003**	**1.2000e-003**	**1.3000e-004**	**1.3400e-003**	**0.0000**	**10.4727**	**10.4727**	**5.7000e-004**	**0.0000**	**10.4868**

3.23 230kV Transmission Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5900e-003	0.0000	1.5900e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6400e-003	0.0206	8.6900e-003	2.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	2.1558	2.1558	7.0000e-004	0.0000	2.1733
Total	**1.6400e-003**	**0.0206**	**8.6900e-003**	**2.0000e-005**	**1.5900e-003**	**7.3000e-004**	**2.3200e-003**	**1.7000e-004**	**6.7000e-004**	**8.4000e-004**	**0.0000**	**2.1558**	**2.1558**	**7.0000e-004**	**0.0000**	**2.1733**

3.23 230kV Transmission Cleanup Restore - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**2.0000e-004**	**2.6800e-003**	**1.6900e-003**	**1.0000e-005**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.7497**	**0.7497**	**4.0000e-005**	**0.0000**	**0.7507**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.2000e-004	0.0000	7.2000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.3000e-003	0.0124	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1558	2.1558	7.0000e-004	0.0000	2.1733
Total	**3.0000e-004**	**1.3000e-003**	**0.0124**	**2.0000e-005**	**7.2000e-004**	**4.0000e-005**	**7.6000e-004**	**8.0000e-005**	**4.0000e-005**	**1.2000e-004**	**0.0000**	**2.1558**	**2.1558**	**7.0000e-004**	**0.0000**	**2.1733**

3.23 230kV Transmission Cleanup Restore - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**2.0000e-004**	**2.6800e-003**	**1.6900e-003**	**1.0000e-005**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.7497**	**0.7497**	**4.0000e-005**	**0.0000**	**0.7507**

3.24 230kV Sub Control Enclosure Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8600e-003	0.0218	8.9200e-003	3.0000e-005		8.9000e-004	8.9000e-004		8.2000e-004	8.2000e-004	0.0000	2.2810	2.2810	7.4000e-004	0.0000	2.2994
Total	**1.8600e-003**	**0.0218**	**8.9200e-003**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.2810**	**2.2810**	**7.4000e-004**	**0.0000**	**2.2994**

3.24 230kV Sub Control Enclosure Delivery - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2295	0.2295	1.0000e-005	0.0000	0.2298
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.3000e-004**	**1.4000e-003**	**2.5700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7896**	**0.7896**	**3.0000e-005**	**0.0000**	**0.7904**

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	3.2000e-004	1.3800e-003	0.0117	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2810	2.2810	7.4000e-004	0.0000	2.2994
Total	**3.2000e-004**	**1.3800e-003**	**0.0117**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2810**	**2.2810**	**7.4000e-004**	**0.0000**	**2.2994**

3.24 230kV Sub Control Enclosure Delivery - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2295	0.2295	1.0000e-005	0.0000	0.2298
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.3000e-004**	**1.4000e-003**	**2.5700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7896**	**0.7896**	**3.0000e-005**	**0.0000**	**0.7904**

3.25 70kV Substation Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1200e-003	0.0114	0.0136	2.0000e-005		6.7000e-004	6.7000e-004		6.2000e-004	6.2000e-004	0.0000	1.6378	1.6378	5.3000e-004	0.0000	1.6511
Total	**1.1200e-003**	**0.0114**	**0.0136**	**2.0000e-005**		**6.7000e-004**	**6.7000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.6378**	**1.6378**	**5.3000e-004**	**0.0000**	**1.6511**

3.25 70kV Substation Install Yard Rock - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	9.1400e-003	2.6800e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8359	1.8359	1.1000e-004	0.0000	1.8386
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**5.8000e-004**	**9.4000e-003**	**4.9200e-003**	**3.0000e-005**	**1.1300e-003**	**3.0000e-005**	**1.1600e-003**	**3.1000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**2.3960**	**2.3960**	**1.3000e-004**	**0.0000**	**2.3991**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-004	9.9000e-004	0.0141	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.6378	1.6378	5.3000e-004	0.0000	1.6511
Total	**2.3000e-004**	**9.9000e-004**	**0.0141**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.6378**	**1.6378**	**5.3000e-004**	**0.0000**	**1.6511**

3.25 70kV Substation Install Yard Rock - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	9.1400e-003	2.6800e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8359	1.8359	1.1000e-004	0.0000	1.8386
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**5.8000e-004**	**9.4000e-003**	**4.9200e-003**	**3.0000e-005**	**1.1300e-003**	**3.0000e-005**	**1.1600e-003**	**3.1000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**2.3960**	**2.3960**	**1.3000e-004**	**0.0000**	**2.3991**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4500e-003	0.0474	0.0324	1.2000e-004		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	10.4387	10.4387	3.3800e-003	0.0000	10.5231
Total	**5.4500e-003**	**0.0474**	**0.0324**	**1.2000e-004**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**10.4387**	**10.4387**	**3.3800e-003**	**0.0000**	**10.5231**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0200e-003	0.0320	9.3700e-003	7.0000e-005	1.5300e-003	9.0000e-005	1.6200e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4255	6.4255	3.8000e-004	0.0000	6.4350
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5100e-003**	**0.0324**	**0.0131**	**8.0000e-005**	**2.6900e-003**	**1.0000e-004**	**2.7800e-003**	**7.5000e-004**	**1.0000e-004**	**8.4000e-004**	**0.0000**	**7.3591**	**7.3591**	**4.1000e-004**	**0.0000**	**7.3692**

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	1.4500e-003	6.3000e-003	0.0534	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.4387	10.4387	3.3800e-003	0.0000	10.5231
Total	**1.4500e-003**	**6.3000e-003**	**0.0534**	**1.2000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.4387**	**10.4387**	**3.3800e-003**	**0.0000**	**10.5231**

3.26 230kV Sub Remaining Equipment Delivery - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0200e-003	0.0320	9.3700e-003	7.0000e-005	1.5300e-003	9.0000e-005	1.6200e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4255	6.4255	3.8000e-004	0.0000	6.4350
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5100e-003**	**0.0324**	**0.0131**	**8.0000e-005**	**2.6900e-003**	**1.0000e-004**	**2.7800e-003**	**7.5000e-004**	**1.0000e-004**	**8.4000e-004**	**0.0000**	**7.3591**	**7.3591**	**4.1000e-004**	**0.0000**	**7.3692**

3.27 70kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.1800e-003**	**0.0000**	**3.1800e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.27 70kV Substation Cleanup Restore - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.7000e-004	1.5000e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3734	0.3734	1.0000e-005	0.0000	0.3737
Total	**2.0000e-004**	**1.7000e-004**	**1.5000e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3734**	**0.3734**	**1.0000e-005**	**0.0000**	**0.3737**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**0.0000**	**1.4300e-003**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.27 70kV Substation Cleanup Restore - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.7000e-004	1.5000e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3734	0.3734	1.0000e-005	0.0000	0.3737
Total	**2.0000e-004**	**1.7000e-004**	**1.5000e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3734**	**0.3734**	**1.0000e-005**	**0.0000**	**0.3737**

3.28 230kV Sub Cable Install Termination - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2000e-004	3.6000e-003	6.5600e-003	1.0000e-005		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8852	0.8852	2.9000e-004	0.0000	0.8923
Total	**2.2000e-004**	**3.6000e-003**	**6.5600e-003**	**1.0000e-005**		**7.0000e-005**	**7.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.8852**	**0.8852**	**2.9000e-004**	**0.0000**	**0.8923**

3.28 230kV Sub Cable Install Termination - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**2.9000e-004**	**1.9200e-003**	**2.3700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.8110**	**0.8110**	**3.0000e-005**	**0.0000**	**0.8119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5000e-004	5.6600e-003	7.6500e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.8852	0.8852	2.9000e-004	0.0000	0.8923
Total	**2.5000e-004**	**5.6600e-003**	**7.6500e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.8852**	**0.8852**	**2.9000e-004**	**0.0000**	**0.8923**

3.28 230kV Sub Cable Install Termination - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**2.9000e-004**	**1.9200e-003**	**2.3700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.8110**	**0.8110**	**3.0000e-005**	**0.0000**	**0.8119**

3.29 70kV Substation Testing Commissioning - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7700e-003	0.0000	4.7700e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.7700e-003**	**0.0000**	**4.7700e-003**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.29 70kV Substation Testing Commissioning - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4000e-004**	**1.9700e-003**	**2.7400e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.9000e-004**	**2.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.9044**	**0.9044**	**4.0000e-005**	**0.0000**	**0.9053**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1500e-003	0.0000	2.1500e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.1500e-003**	**0.0000**	**2.1500e-003**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.29 70kV Substation Testing Commissioning - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4000e-004**	**1.9700e-003**	**2.7400e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.9000e-004**	**2.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.9044**	**0.9044**	**4.0000e-005**	**0.0000**	**0.9053**

3.30 230kV Sub Testing and Commissioning - 2021

Unmitigated Construction On-Site

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

3.30 230kV Sub Testing and Commissioning - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0371	0.0109	8.0000e-005	1.7700e-003	1.1000e-004	1.8800e-003	5.1000e-004	1.0000e-004	6.1000e-004	0.0000	7.4582	7.4582	4.4000e-004	0.0000	7.4692
Worker	6.1000e-004	5.3000e-004	4.6800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1669	1.1669	4.0000e-005	0.0000	1.1678
Total	**1.8000e-003**	**0.0377**	**0.0156**	**9.0000e-005**	**3.2100e-003**	**1.2000e-004**	**3.3300e-003**	**8.9000e-004**	**1.1000e-004**	**1.0000e-003**	**0.0000**	**8.6251**	**8.6251**	**4.8000e-004**	**0.0000**	**8.6370**

Mitigated Construction On-Site

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

3.30 230kV Sub Testing and Commissioning - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1900e-003	0.0371	0.0109	8.0000e-005	1.7700e-003	1.1000e-004	1.8800e-003	5.1000e-004	1.0000e-004	6.1000e-004	0.0000	7.4582	7.4582	4.4000e-004	0.0000	7.4692
Worker	6.1000e-004	5.3000e-004	4.6800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1669	1.1669	4.0000e-005	0.0000	1.1678
Total	**1.8000e-003**	**0.0377**	**0.0156**	**9.0000e-005**	**3.2100e-003**	**1.2000e-004**	**3.3300e-003**	**8.9000e-004**	**1.1000e-004**	**1.0000e-003**	**0.0000**	**8.6251**	**8.6251**	**4.8000e-004**	**0.0000**	**8.6370**

3.31 230kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0260	0.0286	4.0000e-005		1.6700e-003	1.6700e-003		1.5300e-003	1.5300e-003	0.0000	3.3613	3.3613	1.0900e-003	0.0000	3.3885
Total	**2.7000e-003**	**0.0260**	**0.0286**	**4.0000e-005**	**0.0000**	**1.6700e-003**	**1.6700e-003**	**0.0000**	**1.5300e-003**	**1.5300e-003**	**0.0000**	**3.3613**	**3.3613**	**1.0900e-003**	**0.0000**	**3.3885**

3.31 230kV Substation Cleanup Restore - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-004	0.0248	7.2800e-003	5.0000e-005	1.1900e-003	7.0000e-005	1.2600e-003	3.4000e-004	7.0000e-005	4.1000e-004	0.0000	4.9912	4.9912	2.9000e-004	0.0000	4.9986
Worker	2.2000e-004	1.9000e-004	1.6800e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4201	0.4201	1.0000e-005	0.0000	0.4204
Total	**1.0200e-003**	**0.0250**	**8.9600e-003**	**5.0000e-005**	**1.7100e-003**	**7.0000e-005**	**1.7800e-003**	**4.8000e-004**	**7.0000e-005**	**5.5000e-004**	**0.0000**	**5.4113**	**5.4113**	**3.0000e-004**	**0.0000**	**5.4190**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	2.0400e-003	0.0290	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.3613	3.3613	1.0900e-003	0.0000	3.3885
Total	**4.7000e-004**	**2.0400e-003**	**0.0290**	**4.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.3613**	**3.3613**	**1.0900e-003**	**0.0000**	**3.3885**

3.31 230kV Substation Cleanup Restore - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-004	0.0248	7.2800e-003	5.0000e-005	1.1900e-003	7.0000e-005	1.2600e-003	3.4000e-004	7.0000e-005	4.1000e-004	0.0000	4.9912	4.9912	2.9000e-004	0.0000	4.9986
Worker	2.2000e-004	1.9000e-004	1.6800e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4201	0.4201	1.0000e-005	0.0000	0.4204
Total	**1.0200e-003**	**0.0250**	**8.9600e-003**	**5.0000e-005**	**1.7100e-003**	**7.0000e-005**	**1.7800e-003**	**4.8000e-004**	**7.0000e-005**	**5.5000e-004**	**0.0000**	**5.4113**	**5.4113**	**3.0000e-004**	**0.0000**	**5.4190**

3.32 70kV Power Line Site Work Prep - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.3600e-003	0.0000	6.3600e-003	6.9000e-004	0.0000	6.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.2800e-003	0.1180	0.0454	1.4000e-004		4.0500e-003	4.0500e-003		3.7300e-003	3.7300e-003	0.0000	12.1161	12.1161	3.9200e-003	0.0000	12.2141
Total	**9.2800e-003**	**0.1180**	**0.0454**	**1.4000e-004**	**6.3600e-003**	**4.0500e-003**	**0.0104**	**6.9000e-004**	**3.7300e-003**	**4.4200e-003**	**0.0000**	**12.1161**	**12.1161**	**3.9200e-003**	**0.0000**	**12.2141**

3.32 70kV Power Line Site Work Prep - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.8600e-003	0.0000	2.8600e-003	3.1000e-004	0.0000	3.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6900e-003	7.3200e-003	0.0676	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	12.1161	12.1161	3.9200e-003	0.0000	12.2141
Total	**1.6900e-003**	**7.3200e-003**	**0.0676**	**1.4000e-004**	**2.8600e-003**	**2.3000e-004**	**3.0900e-003**	**3.1000e-004**	**2.3000e-004**	**5.4000e-004**	**0.0000**	**12.1161**	**12.1161**	**3.9200e-003**	**0.0000**	**12.2141**

3.32 70kV Power Line Site Work Prep - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0114	3.3500e-003	2.0000e-005	5.5000e-004	3.0000e-005	5.8000e-004	1.6000e-004	3.0000e-005	1.9000e-004	0.0000	2.2948	2.2948	1.4000e-004	0.0000	2.2982
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**9.6000e-004**	**0.0119**	**7.8400e-003**	**3.0000e-005**	**1.9400e-003**	**4.0000e-005**	**1.9800e-003**	**5.3000e-004**	**4.0000e-005**	**5.7000e-004**	**0.0000**	**3.4151**	**3.4151**	**1.7000e-004**	**0.0000**	**3.4193**

3.33 Reconductoring Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-003	0.0324	0.0147	4.0000e-005		1.1800e-003	1.1800e-003		1.0900e-003	1.0900e-003	0.0000	3.4385	3.4385	1.1100e-003	0.0000	3.4663
Total	**2.6000e-003**	**0.0324**	**0.0147**	**4.0000e-005**	**3.1800e-003**	**1.1800e-003**	**4.3600e-003**	**3.4000e-004**	**1.0900e-003**	**1.4300e-003**	**0.0000**	**3.4385**	**3.4385**	**1.1100e-003**	**0.0000**	**3.4663**

3.33 Reconductoring Cleanup Restore - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	2.8600e-003	8.4000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5737	0.5737	3.0000e-005	0.0000	0.5746
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.8000e-004**	**3.1200e-003**	**3.0800e-003**	**2.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**1.1338**	**1.1338**	**5.0000e-005**	**0.0000**	**1.1351**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	2.0800e-003	0.0204	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.4385	3.4385	1.1100e-003	0.0000	3.4663
Total	**4.8000e-004**	**2.0800e-003**	**0.0204**	**4.0000e-005**	**1.4300e-003**	**6.0000e-005**	**1.4900e-003**	**1.5000e-004**	**6.0000e-005**	**2.1000e-004**	**0.0000**	**3.4385**	**3.4385**	**1.1100e-003**	**0.0000**	**3.4663**

3.33 Reconductoring Cleanup Restore - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	2.8600e-003	8.4000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5737	0.5737	3.0000e-005	0.0000	0.5746
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.8000e-004**	**3.1200e-003**	**3.0800e-003**	**2.0000e-005**	**8.3000e-004**	**1.0000e-005**	**8.4000e-004**	**2.2000e-004**	**1.0000e-005**	**2.4000e-004**	**0.0000**	**1.1338**	**1.1338**	**5.0000e-005**	**0.0000**	**1.1351**

3.34 70kV Power Line Pole Tower Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1320	1.1940	0.8330	2.7400e-003		0.0465	0.0465		0.0428	0.0428	0.0000	240.7603	240.7603	0.0779	0.0000	242.7069
Total	**0.1320**	**1.1940**	**0.8330**	**2.7400e-003**		**0.0465**	**0.0465**		**0.0428**	**0.0428**	**0.0000**	**240.7603**	**240.7603**	**0.0779**	**0.0000**	**242.7069**

3.34 70kV Power Line Pole Tower Install - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-003	0.0750	0.0220	1.6000e-004	3.5800e-003	2.1000e-004	3.7900e-003	1.0300e-003	2.0000e-004	1.2400e-003	0.0000	15.0598	15.0598	8.9000e-004	0.0000	15.0820
Worker	8.9900e-003	7.8300e-003	0.0687	1.9000e-004	0.0212	1.3000e-004	0.0214	5.6400e-003	1.2000e-004	5.7700e-003	0.0000	17.1540	17.1540	5.2000e-004	0.0000	17.1670
Total	**0.0114**	**0.0828**	**0.0907**	**3.5000e-004**	**0.0248**	**3.4000e-004**	**0.0252**	**6.6700e-003**	**3.2000e-004**	**7.0100e-003**	**0.0000**	**32.2138**	**32.2138**	**1.4100e-003**	**0.0000**	**32.2490**

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	0.0336	0.1454	1.2803	2.7400e-003		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003	0.0000	240.7600	240.7600	0.0779	0.0000	242.7066
Total	**0.0336**	**0.1454**	**1.2803**	**2.7400e-003**		**4.4700e-003**	**4.4700e-003**		**4.4700e-003**	**4.4700e-003**	**0.0000**	**240.7600**	**240.7600**	**0.0779**	**0.0000**	**242.7066**

3.34 70kV Power Line Pole Tower Install - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4000e-003	0.0750	0.0220	1.6000e-004	3.5800e-003	2.1000e-004	3.7900e-003	1.0300e-003	2.0000e-004	1.2400e-003	0.0000	15.0598	15.0598	8.9000e-004	0.0000	15.0820
Worker	8.9900e-003	7.8300e-003	0.0687	1.9000e-004	0.0212	1.3000e-004	0.0214	5.6400e-003	1.2000e-004	5.7700e-003	0.0000	17.1540	17.1540	5.2000e-004	0.0000	17.1670
Total	**0.0114**	**0.0828**	**0.0907**	**3.5000e-004**	**0.0248**	**3.4000e-004**	**0.0252**	**6.6700e-003**	**3.2000e-004**	**7.0100e-003**	**0.0000**	**32.2138**	**32.2138**	**1.4100e-003**	**0.0000**	**32.2490**

3.34 70kV Power Line Pole Tower Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1001	0.8106	0.6798	2.3800e-003		0.0313	0.0313		0.0288	0.0288	0.0000	208.7416	208.7416	0.0675	0.0000	210.4293
Total	**0.1001**	**0.8106**	**0.6798**	**2.3800e-003**		**0.0313**	**0.0313**		**0.0288**	**0.0288**	**0.0000**	**208.7416**	**208.7416**	**0.0675**	**0.0000**	**210.4293**

3.34 70kV Power Line Pole Tower Install - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9200e-003	0.0617	0.0176	1.3000e-004	3.1000e-003	1.6000e-004	3.2600e-003	9.0000e-004	1.6000e-004	1.0500e-003	0.0000	12.9629	12.9629	7.6000e-004	0.0000	12.9819
Worker	7.3100e-003	6.1000e-003	0.0546	1.6000e-004	0.0184	1.1000e-004	0.0185	4.8900e-003	1.0000e-004	4.9900e-003	0.0000	14.3354	14.3354	4.0000e-004	0.0000	14.3455
Total	**9.2300e-003**	**0.0678**	**0.0721**	**2.9000e-004**	**0.0215**	**2.7000e-004**	**0.0218**	**5.7900e-003**	**2.6000e-004**	**6.0400e-003**	**0.0000**	**27.2983**	**27.2983**	**1.1600e-003**	**0.0000**	**27.3274**

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	0.0291	0.1260	1.1096	2.3800e-003		3.8800e-003	3.8800e-003		3.8800e-003	3.8800e-003	0.0000	208.7413	208.7413	0.0675	0.0000	210.4291
Total	**0.0291**	**0.1260**	**1.1096**	**2.3800e-003**		**3.8800e-003**	**3.8800e-003**		**3.8800e-003**	**3.8800e-003**	**0.0000**	**208.7413**	**208.7413**	**0.0675**	**0.0000**	**210.4291**

3.34 70kV Power Line Pole Tower Install - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9200e-003	0.0617	0.0176	1.3000e-004	3.1000e-003	1.6000e-004	3.2600e-003	9.0000e-004	1.6000e-004	1.0500e-003	0.0000	12.9629	12.9629	7.6000e-004	0.0000	12.9819
Worker	7.3100e-003	6.1000e-003	0.0546	1.6000e-004	0.0184	1.1000e-004	0.0185	4.8900e-003	1.0000e-004	4.9900e-003	0.0000	14.3354	14.3354	4.0000e-004	0.0000	14.3455
Total	**9.2300e-003**	**0.0678**	**0.0721**	**2.9000e-004**	**0.0215**	**2.7000e-004**	**0.0218**	**5.7900e-003**	**2.6000e-004**	**6.0400e-003**	**0.0000**	**27.2983**	**27.2983**	**1.1600e-003**	**0.0000**	**27.3274**

3.35 Distribution Facilities Mobilization - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-004	0.0101	0.0134	2.0000e-005		5.4000e-004	5.4000e-004		5.0000e-004	5.0000e-004	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**9.9000e-004**	**0.0101**	**0.0134**	**2.0000e-005**	**3.1800e-003**	**5.4000e-004**	**3.7200e-003**	**3.4000e-004**	**5.0000e-004**	**8.4000e-004**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

3.35 Distribution Facilities Mobilization - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.8000e-004**	**3.4900e-003**	**2.9900e-003**	**2.0000e-005**	**8.5000e-004**	**1.0000e-005**	**8.7000e-004**	**2.3000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.2239**	**1.2239**	**6.0000e-005**	**0.0000**	**1.2253**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-004	9.9000e-004	0.0141	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**2.3000e-004**	**9.9000e-004**	**0.0141**	**2.0000e-005**	**1.4300e-003**	**3.0000e-005**	**1.4600e-003**	**1.5000e-004**	**3.0000e-005**	**1.8000e-004**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

3.35 Distribution Facilities Mobilization - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.8000e-004**	**3.4900e-003**	**2.9900e-003**	**2.0000e-005**	**8.5000e-004**	**1.0000e-005**	**8.7000e-004**	**2.3000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.2239**	**1.2239**	**6.0000e-005**	**0.0000**	**1.2253**

3.36 Distribution Foundation Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9000e-004	0.0101	0.0134	2.0000e-005		5.4000e-004	5.4000e-004		5.0000e-004	5.0000e-004	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**9.9000e-004**	**0.0101**	**0.0134**	**2.0000e-005**		**5.4000e-004**	**5.4000e-004**		**5.0000e-004**	**5.0000e-004**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

3.36 Distribution Foundation Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	6.5100e-003	1.8500e-003	1.0000e-005	3.3000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.3675	1.3675	8.0000e-005	0.0000	1.3695
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.3000e-003**	**7.4300e-003**	**0.0101**	**3.0000e-005**	**3.1000e-003**	**4.0000e-005**	**3.1300e-003**	**8.3000e-004**	**4.0000e-005**	**8.6000e-004**	**0.0000**	**3.5280**	**3.5280**	**1.4000e-004**	**0.0000**	**3.5315**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-004	9.9000e-004	0.0141	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.6397	1.6397	5.3000e-004	0.0000	1.6529
Total	**2.3000e-004**	**9.9000e-004**	**0.0141**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.6397**	**1.6397**	**5.3000e-004**	**0.0000**	**1.6529**

3.36 Distribution Foundation Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	6.5100e-003	1.8500e-003	1.0000e-005	3.3000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	1.3675	1.3675	8.0000e-005	0.0000	1.3695
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.3000e-003**	**7.4300e-003**	**0.0101**	**3.0000e-005**	**3.1000e-003**	**4.0000e-005**	**3.1300e-003**	**8.3000e-004**	**4.0000e-005**	**8.6000e-004**	**0.0000**	**3.5280**	**3.5280**	**1.4000e-004**	**0.0000**	**3.5315**

3.37 Distribution Ground Grid - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-004	9.4100e-003	4.2600e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**8.4000e-004**	**9.4100e-003**	**4.2600e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

3.37 Distribution Ground Grid - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	4.3400e-003	1.2400e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9117	0.9117	5.0000e-005	0.0000	0.9130
Worker	9.2000e-004	7.7000e-004	6.8500e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3200e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8004	1.8004	5.0000e-005	0.0000	1.8016
Total	**1.0600e-003**	**5.1100e-003**	**8.0900e-003**	**3.0000e-005**	**2.5300e-003**	**2.0000e-005**	**2.5500e-003**	**6.7000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.7120**	**2.7120**	**1.0000e-004**	**0.0000**	**2.7146**

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	1.6000e-004	6.9000e-004	5.8500e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**1.6000e-004**	**6.9000e-004**	**5.8500e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

3.37 Distribution Ground Grid - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4000e-004	4.3400e-003	1.2400e-003	1.0000e-005	2.2000e-004	1.0000e-005	2.3000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.9117	0.9117	5.0000e-005	0.0000	0.9130
Worker	9.2000e-004	7.7000e-004	6.8500e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3200e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8004	1.8004	5.0000e-005	0.0000	1.8016
Total	**1.0600e-003**	**5.1100e-003**	**8.0900e-003**	**3.0000e-005**	**2.5300e-003**	**2.0000e-005**	**2.5500e-003**	**6.7000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.7120**	**2.7120**	**1.0000e-004**	**0.0000**	**2.7146**

3.38 Distribution Steel Bus Erection - 2022

Unmitigated Construction On-Site

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

3.38 Distribution Steel Bus Erection - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

Mitigated Construction On-Site

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

3.38 Distribution Steel Bus Erection - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

3.39 Distribution Bank Breaker - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-004	9.4100e-003	4.2600e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.6000e-004	3.6000e-004	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**8.4000e-004**	**9.4100e-003**	**4.2600e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

3.39 Distribution Bank Breaker - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.6300e-003	4.6000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3419	0.3419	2.0000e-005	0.0000	0.3424
Worker	3.4000e-004	2.9000e-004	2.5700e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6751	0.6751	2.0000e-005	0.0000	0.6756
Total	**3.9000e-004**	**1.9200e-003**	**3.0300e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**1.0170**	**1.0170**	**4.0000e-005**	**0.0000**	**1.0180**

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	1.6000e-004	6.9000e-004	5.8500e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.1407	1.1407	3.7000e-004	0.0000	1.1499
Total	**1.6000e-004**	**6.9000e-004**	**5.8500e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.1407**	**1.1407**	**3.7000e-004**	**0.0000**	**1.1499**

3.39 Distribution Bank Breaker - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.6300e-003	4.6000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3419	0.3419	2.0000e-005	0.0000	0.3424
Worker	3.4000e-004	2.9000e-004	2.5700e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6751	0.6751	2.0000e-005	0.0000	0.6756
Total	**3.9000e-004**	**1.9200e-003**	**3.0300e-003**	**1.0000e-005**	**9.5000e-004**	**1.0000e-005**	**9.6000e-004**	**2.5000e-004**	**0.0000**	**2.7000e-004**	**0.0000**	**1.0170**	**1.0170**	**4.0000e-005**	**0.0000**	**1.0180**

3.40 Distribution Feeder Conduit - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9900e-003	0.0772	0.0670	2.5000e-004		2.8900e-003	2.8900e-003		2.6600e-003	2.6600e-003	0.0000	21.6843	21.6843	7.0100e-003	0.0000	21.8596
Total	**9.9900e-003**	**0.0772**	**0.0670**	**2.5000e-004**		**2.8900e-003**	**2.8900e-003**		**2.6600e-003**	**2.6600e-003**	**0.0000**	**21.6843**	**21.6843**	**7.0100e-003**	**0.0000**	**21.8596**

3.40 Distribution Feeder Conduit - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	4.8800e-003	1.3900e-003	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0256	1.0256	6.0000e-005	0.0000	1.0271
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.2500e-003**	**5.8000e-003**	**9.6100e-003**	**3.0000e-005**	**3.0200e-003**	**3.0000e-005**	**3.0500e-003**	**8.1000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.1861**	**3.1861**	**1.2000e-004**	**0.0000**	**3.1891**

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	3.0200e-003	0.0131	0.1135	2.5000e-004		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	21.6843	21.6843	7.0100e-003	0.0000	21.8596
Total	**3.0200e-003**	**0.0131**	**0.1135**	**2.5000e-004**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**21.6843**	**21.6843**	**7.0100e-003**	**0.0000**	**21.8596**

3.40 Distribution Feeder Conduit - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	4.8800e-003	1.3900e-003	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0256	1.0256	6.0000e-005	0.0000	1.0271
Worker	1.1000e-003	9.2000e-004	8.2200e-003	2.0000e-005	2.7700e-003	2.0000e-005	2.7900e-003	7.4000e-004	2.0000e-005	7.5000e-004	0.0000	2.1604	2.1604	6.0000e-005	0.0000	2.1620
Total	**1.2500e-003**	**5.8000e-003**	**9.6100e-003**	**3.0000e-005**	**3.0200e-003**	**3.0000e-005**	**3.0500e-003**	**8.1000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.1861**	**3.1861**	**1.2000e-004**	**0.0000**	**3.1891**

3.41 Distribution Cable Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9800e-003	0.0201	0.0269	4.0000e-005		1.0800e-003	1.0800e-003		9.9000e-004	9.9000e-004	0.0000	3.2794	3.2794	1.0600e-003	0.0000	3.3059
Total	**1.9800e-003**	**0.0201**	**0.0269**	**4.0000e-005**		**1.0800e-003**	**1.0800e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**3.2794**	**3.2794**	**1.0600e-003**	**0.0000**	**3.3059**

3.41 Distribution Cable Install - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6000e-004	1.9700e-003	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2794	3.2794	1.0600e-003	0.0000	3.3059
Total	**4.6000e-004**	**1.9700e-003**	**0.0281**	**4.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.2794**	**3.2794**	**1.0600e-003**	**0.0000**	**3.3059**

3.41 Distribution Cable Install - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	4.6000e-004	3.8000e-004	3.4300e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9002	0.9002	3.0000e-005	0.0000	0.9008
Total	**5.6000e-004**	**3.6400e-003**	**4.3600e-003**	**2.0000e-005**	**1.3200e-003**	**2.0000e-005**	**1.3300e-003**	**3.6000e-004**	**2.0000e-005**	**3.7000e-004**	**0.0000**	**1.5839**	**1.5839**	**7.0000e-005**	**0.0000**	**1.5856**

3.42 Distribution Testing - 2022

Unmitigated Construction On-Site

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

3.42 Distribution Testing - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0900e-003	3.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2279	0.2279	1.0000e-005	0.0000	0.2283
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.1000e-004**	**1.3200e-003**	**2.3700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7680**	**0.7680**	**3.0000e-005**	**0.0000**	**0.7687**

Mitigated Construction On-Site

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

3.42 Distribution Testing - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0900e-003	3.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2279	0.2279	1.0000e-005	0.0000	0.2283
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**3.1000e-004**	**1.3200e-003**	**2.3700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7680**	**0.7680**	**3.0000e-005**	**0.0000**	**0.7687**

3.43 Distribution Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	5.0300e-003	6.7100e-003	1.0000e-005		2.7000e-004	2.7000e-004		2.5000e-004	2.5000e-004	0.0000	0.8198	0.8198	2.7000e-004	0.0000	0.8265
Total	**4.9000e-004**	**5.0300e-003**	**6.7100e-003**	**1.0000e-005**	**3.1800e-003**	**2.7000e-004**	**3.4500e-003**	**3.4000e-004**	**2.5000e-004**	**5.9000e-004**	**0.0000**	**0.8198**	**0.8198**	**2.7000e-004**	**0.0000**	**0.8265**

3.43 Distribution Cleanup Restore - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	1.4000e-004	1.2000e-004	1.0300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2701	0.2701	1.0000e-005	0.0000	0.2702
Total	**2.4000e-004**	**3.3800e-003**	**1.9600e-003**	**1.0000e-005**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.9538**	**0.9538**	**5.0000e-005**	**0.0000**	**0.9550**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-004	4.9000e-004	7.0300e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.8198	0.8198	2.7000e-004	0.0000	0.8265
Total	**1.1000e-004**	**4.9000e-004**	**7.0300e-003**	**1.0000e-005**	**1.4300e-003**	**2.0000e-005**	**1.4500e-003**	**1.5000e-004**	**2.0000e-005**	**1.7000e-004**	**0.0000**	**0.8198**	**0.8198**	**2.7000e-004**	**0.0000**	**0.8265**

3.43 Distribution Cleanup Restore - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-004	3.2600e-003	9.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6838	0.6838	4.0000e-005	0.0000	0.6848
Worker	1.4000e-004	1.2000e-004	1.0300e-003	0.0000	3.5000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2701	0.2701	1.0000e-005	0.0000	0.2702
Total	**2.4000e-004**	**3.3800e-003**	**1.9600e-003**	**1.0000e-005**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.9538**	**0.9538**	**5.0000e-005**	**0.0000**	**0.9550**

3.44 70kV Power Line Conductor Install - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0625	0.5611	0.4039	1.2900e-003		0.0234	0.0234		0.0216	0.0216	0.0000	113.2627	113.2627	0.0366	0.0000	114.1785
Total	**0.0625**	**0.5611**	**0.4039**	**1.2900e-003**		**0.0234**	**0.0234**		**0.0216**	**0.0216**	**0.0000**	**113.2627**	**113.2627**	**0.0366**	**0.0000**	**114.1785**

3.44 70kV Power Line Conductor Install - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8000e-004	0.0217	6.1800e-003	5.0000e-005	1.0900e-003	6.0000e-005	1.1500e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.5584	4.5584	2.7000e-004	0.0000	4.5651
Worker	3.3100e-003	2.7600e-003	0.0247	7.0000e-005	8.3200e-003	5.0000e-005	8.3700e-003	2.2100e-003	5.0000e-005	2.2600e-003	0.0000	6.4813	6.4813	1.8000e-004	0.0000	6.4859
Total	**3.9900e-003**	**0.0245**	**0.0309**	**1.2000e-004**	**9.4100e-003**	**1.1000e-004**	**9.5200e-003**	**2.5300e-003**	**1.0000e-004**	**2.6300e-003**	**0.0000**	**11.0397**	**11.0397**	**4.5000e-004**	**0.0000**	**11.0509**

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	0.0158	0.0685	0.6123	1.2900e-003		2.1100e-003	2.1100e-003		2.1100e-003	2.1100e-003	0.0000	113.2626	113.2626	0.0366	0.0000	114.1784
Total	**0.0158**	**0.0685**	**0.6123**	**1.2900e-003**		**2.1100e-003**	**2.1100e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**113.2626**	**113.2626**	**0.0366**	**0.0000**	**114.1784**

3.44 70kV Power Line Conductor Install - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.8000e-004	0.0217	6.1800e-003	5.0000e-005	1.0900e-003	6.0000e-005	1.1500e-003	3.2000e-004	5.0000e-005	3.7000e-004	0.0000	4.5584	4.5584	2.7000e-004	0.0000	4.5651
Worker	3.3100e-003	2.7600e-003	0.0247	7.0000e-005	8.3200e-003	5.0000e-005	8.3700e-003	2.2100e-003	5.0000e-005	2.2600e-003	0.0000	6.4813	6.4813	1.8000e-004	0.0000	6.4859
Total	**3.9900e-003**	**0.0245**	**0.0309**	**1.2000e-004**	**9.4100e-003**	**1.1000e-004**	**9.5200e-003**	**2.5300e-003**	**1.0000e-004**	**2.6300e-003**	**0.0000**	**11.0397**	**11.0397**	**4.5000e-004**	**0.0000**	**11.0509**

3.45 70kV Power Line Cleanup Restore - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3600e-003	0.0287	0.0145	4.0000e-005		1.0200e-003	1.0200e-003		9.4000e-004	9.4000e-004	0.0000	3.4378	3.4378	1.1100e-003	0.0000	3.4656
Total	**2.3600e-003**	**0.0287**	**0.0145**	**4.0000e-005**	**3.1800e-003**	**1.0200e-003**	**4.2000e-003**	**3.4000e-004**	**9.4000e-004**	**1.2800e-003**	**0.0000**	**3.4378**	**3.4378**	**1.1100e-003**	**0.0000**	**3.4656**

3.45 70kV Power Line Cleanup Restore - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.8000e-003	1.0800e-003	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.7977	0.7977	5.0000e-005	0.0000	0.7989
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**4.0000e-004**	**4.0300e-003**	**3.1400e-003**	**2.0000e-005**	**8.8000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.3378**	**1.3378**	**7.0000e-005**	**0.0000**	**1.3394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	2.0800e-003	0.0204	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.4378	3.4378	1.1100e-003	0.0000	3.4655
Total	**4.8000e-004**	**2.0800e-003**	**0.0204**	**4.0000e-005**	**1.4300e-003**	**6.0000e-005**	**1.4900e-003**	**1.5000e-004**	**6.0000e-005**	**2.1000e-004**	**0.0000**	**3.4378**	**3.4378**	**1.1100e-003**	**0.0000**	**3.4655**

3.45 70kV Power Line Cleanup Restore - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.8000e-003	1.0800e-003	1.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	6.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.7977	0.7977	5.0000e-005	0.0000	0.7989
Worker	2.8000e-004	2.3000e-004	2.0600e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5401	0.5401	2.0000e-005	0.0000	0.5405
Total	**4.0000e-004**	**4.0300e-003**	**3.1400e-003**	**2.0000e-005**	**8.8000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**1.3378**	**1.3378**	**7.0000e-005**	**0.0000**	**1.3394**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

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

5.3 Energy by Land Use - Electricity

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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	20.3125					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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-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	20.3125					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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output Files for Proposed Project (Quarterly Diesel Particulate Matter Calculations)

Estrella Substation and Paso Robles Area Reinforcement Project

San Luis Obispo 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	119.40	5,201,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Current Temp. Disturbance Area Total from Project Description

Construction Phase - Dates entered based on the specific number of days from the PEA CALEEMOD input file, with consideration of the specific months during which construction is likely to occur as indicated in the Project Description of the EIR.

Off-road Equipment - Based on values in PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description.

Off-road Equipment - Values based on PEA and Project Description

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions modeled outside of CalEEMod and not included here.

Off-road Equipment - Values based on PEA and Project Description. Helicopter emissions calculated separately and not included here.

Trips and VMT - Values based on PEA and Project Description

Grading - Waiting on temp. disturbance area and material import/export values for some phases

Area Coating - No Architectural Coating

Water And Wastewater - No Water Use

Construction Off-road Equipment Mitigation - Change to assume all equipment Tier 4 final.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	2600500	0
tblAreaCoating	Area_Nonresidential_Interior	7801500	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	21.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblFleetMix	UBUS	1.1630e-003	0.00
tblGrading	AcresOfGrading	0.00	6.00

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tblLandUse	LandUseSquareFeet	0.00	5,201,000.00
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tblTripsAndVMT	VendorTripNumber	852.00	30.00
tblTripsAndVMT	VendorTripNumber	852.00	45.00
tblTripsAndVMT	VendorTripNumber	852.00	3.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	40.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
tblTripsAndVMT	WorkerTripNumber	5.00	10.00
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tblTripsAndVMT	WorkerTripNumber	2,184.00	16.00
tblTripsAndVMT	WorkerTripNumber	2,184.00	10.00
tblVehicleTrips	CC_TTP	0.00	28.00
tblVehicleTrips	CNW_TTP	0.00	13.00
tblVehicleTrips	CW_TTP	0.00	59.00
tblVehicleTrips	DV_TP	0.00	19.00
tblVehicleTrips	PB_TP	0.00	2.00
tblVehicleTrips	PR_TP	0.00	79.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3493	3.4403	2.1640	7.2900e-003	0.0674	0.1242	0.1916	0.0168	0.1144	0.1311	0.0000	647.1799	647.1799	0.1810	0.0000	651.7053
Maximum	**0.3493**	**3.4403**	**2.1640**	**7.2900e-003**	**0.0674**	**0.1242**	**0.1916**	**0.0168**	**0.1144**	**0.1311**	**0.0000**	**647.1799**	**647.1799**	**0.1810**	**0.0000**	**651.7053**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1056	0.6943	3.1435	7.2900e-003	0.0622	0.0114	0.0735	0.0162	0.0113	0.0275	0.0000	647.1792	647.1792	0.1810	0.0000	651.7046
Maximum	**0.1056**	**0.6943**	**3.1435**	**7.2900e-003**	**0.0622**	**0.0114**	**0.0735**	**0.0162**	**0.0113**	**0.0275**	**0.0000**	**647.1792**	**647.1792**	**0.1810**	**0.0000**	**651.7046**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**69.78**	**79.82**	**-45.26**	**0.00**	**7.79**	**90.83**	**61.62**	**3.34**	**90.10**	**79.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	4-1-2021	6-30-2021	3.7852	0.7952
		Highest	3.7852	0.7952

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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
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	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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
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	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

Estrella Substation and Paso Robles Area Reinforcement Project - San Luis Obispo County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Reconductoring Pole Install	Building Construction	4/1/2021	6/30/2021	6	78	Reconductor Pole Install
2	Reconductoring Conductor Install	Building Construction	4/1/2021	6/30/2021	6	78	Reconductor Conductor Install
3	230kV Sub Ground Grid	Building Construction	4/1/2021	4/6/2021	6	5	230 Sub Ground Grid
4	230kV Transmission Conductor	Building Construction	4/1/2021	4/28/2021	6	24	230 TRANS Conductor
5	70 kV Substation Equip Delivery	Building Construction	4/1/2021	4/21/2021	6	18	70 Sub Equip Delivery
6	70kV Substation Control Enclosure	Building Construction	4/1/2021	4/7/2021	6	6	70 Sub Control Enclosure
7	230kV Sub Steel Bus	Building Construction	4/2/2021	4/29/2021	6	24	230 Sub Steel Bus
8	230kV Sub Install Yard Rock	Building Construction	4/16/2021	5/6/2021	6	18	230 Sub Install Yard Rock
9	70kV Substation Cable Installation	Building Construction	4/22/2021	5/12/2021	6	18	70 Sub Cable Install
10	230kV Sub Transformer	Building Construction	4/23/2021	5/27/2021	6	30	230 Sub Transformer
11	230kV Transmission Cleanup Restore	Site Preparation	5/1/2021	5/7/2021	6	6	230 TRANS Cleanup Restore
12	230kV Sub Control Enclosure Delivery	Building Construction	5/1/2021	5/14/2021	6	12	230 Sub Control Enclosure
13	70kV Substation Install Yard Rock	Building Construction	5/1/2021	5/14/2021	6	12	70 Sub Install Yard Rock
14	230kV Sub Remaining Equipment Delivery	Building Construction	5/8/2021	6/4/2021	6	24	230 Sub Remaining Equipment
15	70kV Substation Cleanup Restore	Site Preparation	5/15/2021	5/28/2021	6	12	70 Sub Cleanup Restore
16	230kV Sub Cable Install Termination	Building Construction	5/22/2021	6/4/2021	6	12	230 Sub Cable Install Term
17	70kV Substation Testing Commissioning	Site Preparation	6/1/2021	6/21/2021	6	18	70 Sub Testing Commissioning
18	230kV Sub Testing and Commissioning	Building Construction	6/1/2021	6/30/2021	6	26	230 Sub Testing

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Reconductoring Pole Install	Bore/Drill Rigs	1	6.00	221	0.50
Reconductoring Pole Install	Cranes	3	6.00	231	0.29
Reconductoring Pole Install	Cranes	1	1.00	231	0.29
Reconductoring Pole Install	Forklifts	0	8.00	89	0.20
Reconductoring Pole Install	Generator Sets	0	8.00	84	0.74
Reconductoring Pole Install	Off-Highway Trucks	2	3.00	402	0.38
Reconductoring Pole Install	Off-Highway Trucks	2	2.00	402	0.38
Reconductoring Pole Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Reconductoring Pole Install	Welders	0	8.00	46	0.45
Reconductoring Conductor Install	Cranes	2	8.00	231	0.29
Reconductoring Conductor Install	Forklifts	1	3.00	89	0.20
Reconductoring Conductor Install	Generator Sets	0	8.00	84	0.74
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	6.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	2	4.00	402	0.38
Reconductoring Conductor Install	Off-Highway Trucks	1	6.00	402	0.38
Reconductoring Conductor Install	Other General Industrial Equipment	2	6.00	88	0.34
Reconductoring Conductor Install	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Reconductoring Conductor Install	Welders	0	8.00	46	0.45
230kV Sub Ground Grid	Cranes	0	7.00	231	0.29
230kV Sub Ground Grid	Forklifts	0	6.00	89	0.20
230kV Sub Ground Grid	Generator Sets	0	8.00	84	0.74
230kV Sub Ground Grid	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Ground Grid	Trenchers	1	8.00	78	0.50

230kV Sub Ground Grid	Welders	0	8.00	46	0.45
230kV Transmission Conductor	Cranes	3	6.00	231	0.29
230kV Transmission Conductor	Forklifts	0	8.00	89	0.20
230kV Transmission Conductor	Generator Sets	0	8.00	84	0.74
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
230kV Transmission Conductor	Off-Highway Trucks	2	4.00	402	0.38
230kV Transmission Conductor	Tractors/Loaders/Backhoes	0	7.00	97	0.37
230kV Transmission Conductor	Welders	0	8.00	46	0.45
70 kV Substation Equip Delivery	Aerial Lifts	2	4.00	63	0.31
70 kV Substation Equip Delivery	Cranes	0	7.00	231	0.29
70 kV Substation Equip Delivery	Forklifts	0	8.00	89	0.20
70 kV Substation Equip Delivery	Generator Sets	0	8.00	84	0.74
70 kV Substation Equip Delivery	Off-Highway Trucks	1	5.30	402	0.38
70 kV Substation Equip Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70 kV Substation Equip Delivery	Welders	0	8.00	46	0.45
70kV Substation Control Enclosure	Cranes	0	4.00	231	0.29
70kV Substation Control Enclosure	Forklifts	0	6.00	89	0.20
70kV Substation Control Enclosure	Generator Sets	0	8.00	84	0.74
70kV Substation Control Enclosure	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Control Enclosure	Welders	0	8.00	46	0.45
230kV Sub Steel Bus	Aerial Lifts	1	6.00	63	0.31
230kV Sub Steel Bus	Cranes	0	7.00	231	0.29
230kV Sub Steel Bus	Forklifts	0	8.00	89	0.20
230kV Sub Steel Bus	Generator Sets	0	8.00	84	0.74
230kV Sub Steel Bus	Off-Highway Trucks	1	8.00	402	0.38
230kV Sub Steel Bus	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Steel Bus	Welders	0	8.00	46	0.45

230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Cranes	0	4.00	231	0.29
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Forklifts	0	6.00	89	0.20
230kV Sub Install Yard Rock	Generator Sets	0	8.00	84	0.74
230kV Sub Install Yard Rock	Skid Steer Loaders	1	10.00	65	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Install Yard Rock	Welders	0	8.00	46	0.45
70kV Substation Cable Installation	Cranes	0	4.00	231	0.29
70kV Substation Cable Installation	Forklifts	0	6.00	89	0.20
70kV Substation Cable Installation	Generator Sets	0	8.00	84	0.74
70kV Substation Cable Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
70kV Substation Cable Installation	Welders	0	8.00	46	0.45
230kV Sub Transformer	Cranes	1	6.00	231	0.29
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Forklifts	0	6.00	89	0.20
230kV Sub Transformer	Generator Sets	1	5.00	84	0.74
230kV Sub Transformer	Off-Highway Trucks	2	10.00	402	0.38
230kV Sub Transformer	Off-Highway Trucks	1	4.80	402	0.38
230kV Sub Transformer	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37

230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Transformer	Welders	0	8.00	46	0.45
230kV Transmission Cleanup Restore	Graders	1	8.00	187	0.41
230kV Transmission Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40
230kV Transmission Cleanup Restore	Tractors/Loaders/Backhoes	1	4.00	97	0.37
230kV Sub Control Enclosure Delivery	Cranes	1	6.00	231	0.29
230kV Sub Control Enclosure Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Control Enclosure Delivery	Generator Sets	0	8.00	84	0.74
230kV Sub Control Enclosure Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Control Enclosure Delivery	Welders	0	8.00	46	0.45
70kV Substation Install Yard Rock	Cranes	0	7.00	231	0.29
70kV Substation Install Yard Rock	Forklifts	0	6.00	89	0.20
70kV Substation Install Yard Rock	Generator Sets	0	8.00	84	0.74
70kV Substation Install Yard Rock	Skid Steer Loaders	1	8.00	231	0.29
70kV Substation Install Yard Rock	Tractors/Loaders/Backhoes	1	8.00	97	0.37
70kV Substation Install Yard Rock	Welders	0	8.00	46	0.45
230kV Sub Remaining Equipment Delivery	Cranes	0	7.00	231	0.29
230kV Sub Remaining Equipment Delivery	Forklifts	0	6.00	89	0.20
230kV Sub Remaining Equipment Delivery	Generator Sets	0	8.00	84	0.74
230kV Sub Remaining Equipment Delivery	Off-Highway Trucks	1	6.00	402	0.38
230kV Sub Remaining Equipment Delivery	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Remaining Equipment Delivery	Welders	0	8.00	46	0.45
70kV Substation Cleanup Restore	Graders	0	8.00	187	0.41
70kV Substation Cleanup Restore	Rubber Tired Dozers	0	8.00	247	0.40
70kV Substation Cleanup Restore	Tractors/Loaders/Backhoes	0	8.00	97	0.37

230kV Sub Cable Install Termination	Aerial Lifts	1	8.00	63	0.31
230kV Sub Cable Install Termination	Cranes	0	7.00	231	0.29
230kV Sub Cable Install Termination	Forklifts	0	6.00	89	0.20
230kV Sub Cable Install Termination	Generator Sets	0	8.00	84	0.74
230kV Sub Cable Install Termination	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Cable Install Termination	Welders	0	8.00	46	0.45
70kV Substation Testing Commissioning	Graders	0	8.00	187	0.41
70kV Substation Testing Commissioning	Rubber Tired Dozers	0	8.00	247	0.40
70kV Substation Testing Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Cement and Mortar Mixers	0	6.00	9	0.56
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Cranes	0	4.00	231	0.29
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Forklifts	0	6.00	89	0.20
230kV Sub Testing and Commissioning	Generator Sets	0	8.00	84	0.74
230kV Sub Testing and Commissioning	Pavers	0	7.00	130	0.42
230kV Sub Testing and Commissioning	Rollers	0	7.00	80	0.38
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	7.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37
230kV Sub Testing and Commissioning	Welders	0	8.00	46	0.45

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
Reconductoring Pole Install	9	40.00	13.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Reconductoring Conductor Install	12	30.00	10.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Ground Grid	1	10.00	29.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Conductor	7	30.00	11.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70 kV Substation Equip Delivery	3	12.00	12.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Control Enclosure	0	10.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Steel Bus	2	10.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Install Yard Rock	1	16.00	45.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cable Installation	0	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Transformer	6	16.00	30.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Transmission Cleanup Restore	2	10.00	9.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Control Enclosure Delivery	1	12.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Install Yard Rock	2	12.00	16.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Remaining Equipment Delivery	1	10.00	28.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Cleanup Restore	0	8.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Cable Install Termination	1	10.00	3.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
70kV Substation Testing Commissionin	0	8.00	2.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
230kV Sub Testing and Commissioning	0	10.00	26.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Reconductoring Pole Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0753	0.7942	0.4200	1.4500e-003		0.0303	0.0303		0.0279	0.0279	0.0000	127.6944	127.6944	0.0413	0.0000	128.7269
Total	**0.0753**	**0.7942**	**0.4200**	**1.4500e-003**		**0.0303**	**0.0303**		**0.0279**	**0.0279**	**0.0000**	**127.6944**	**127.6944**	**0.0413**	**0.0000**	**128.7269**

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	1.5500e-003	0.0483	0.0141	1.0000e-004	2.3000e-003	1.4000e-004	2.4400e-003	6.7000e-004	1.3000e-004	8.0000e-004	0.0000	9.6956	9.6956	5.7000e-004	0.0000	9.7099
Worker	6.3600e-003	5.5400e-003	0.0486	1.3000e-004	0.0150	1.0000e-004	0.0151	3.9900e-003	9.0000e-005	4.0800e-003	0.0000	12.1362	12.1362	3.7000e-004	0.0000	12.1454
Total	**7.9100e-003**	**0.0538**	**0.0628**	**2.3000e-004**	**0.0173**	**2.4000e-004**	**0.0176**	**4.6600e-003**	**2.2000e-004**	**4.8800e-003**	**0.0000**	**21.8318**	**21.8318**	**9.4000e-004**	**0.0000**	**21.8553**

3.2 Reconductoring Pole Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0179	0.0774	0.6551	1.4500e-003		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	127.6943	127.6943	0.0413	0.0000	128.7267
Total	**0.0179**	**0.0774**	**0.6551**	**1.4500e-003**		**2.3800e-003**	**2.3800e-003**		**2.3800e-003**	**2.3800e-003**	**0.0000**	**127.6943**	**127.6943**	**0.0413**	**0.0000**	**128.7267**

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	1.5500e-003	0.0483	0.0141	1.0000e-004	2.3000e-003	1.4000e-004	2.4400e-003	6.7000e-004	1.3000e-004	8.0000e-004	0.0000	9.6956	9.6956	5.7000e-004	0.0000	9.7099
Worker	6.3600e-003	5.5400e-003	0.0486	1.3000e-004	0.0150	1.0000e-004	0.0151	3.9900e-003	9.0000e-005	4.0800e-003	0.0000	12.1362	12.1362	3.7000e-004	0.0000	12.1454
Total	**7.9100e-003**	**0.0538**	**0.0628**	**2.3000e-004**	**0.0173**	**2.4000e-004**	**0.0176**	**4.6600e-003**	**2.2000e-004**	**4.8800e-003**	**0.0000**	**21.8318**	**21.8318**	**9.4000e-004**	**0.0000**	**21.8553**

3.3 Reconductoring Conductor Install - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	1.4853	0.9549	3.0700e-003		0.0602	0.0602		0.0554	0.0554	0.0000	269.5264	269.5264	0.0872	0.0000	271.7057
Total	**0.1588**	**1.4853**	**0.9549**	**3.0700e-003**		**0.0602**	**0.0602**		**0.0554**	**0.0554**	**0.0000**	**269.5264**	**269.5264**	**0.0872**	**0.0000**	**271.7057**

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	1.1900e-003	0.0371	0.0109	8.0000e-005	1.7700e-003	1.1000e-004	1.8800e-003	5.1000e-004	1.0000e-004	6.1000e-004	0.0000	7.4582	7.4582	4.4000e-004	0.0000	7.4692
Worker	4.7700e-003	4.1600e-003	0.0365	1.0000e-004	0.0113	7.0000e-005	0.0113	2.9900e-003	7.0000e-005	3.0600e-003	0.0000	9.1021	9.1021	2.8000e-004	0.0000	9.1090
Total	**5.9600e-003**	**0.0413**	**0.0474**	**1.8000e-004**	**0.0130**	**1.8000e-004**	**0.0132**	**3.5000e-003**	**1.7000e-004**	**3.6700e-003**	**0.0000**	**16.5603**	**16.5603**	**7.2000e-004**	**0.0000**	**16.5782**

3.3 Reconductoring Conductor Install - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0376	0.1630	1.4320	3.0700e-003		5.0100e-003	5.0100e-003		5.0100e-003	5.0100e-003	0.0000	269.5261	269.5261	0.0872	0.0000	271.7054
Total	**0.0376**	**0.1630**	**1.4320**	**3.0700e-003**		**5.0100e-003**	**5.0100e-003**		**5.0100e-003**	**5.0100e-003**	**0.0000**	**269.5261**	**269.5261**	**0.0872**	**0.0000**	**271.7054**

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	1.1900e-003	0.0371	0.0109	8.0000e-005	1.7700e-003	1.1000e-004	1.8800e-003	5.1000e-004	1.0000e-004	6.1000e-004	0.0000	7.4582	7.4582	4.4000e-004	0.0000	7.4692
Worker	4.7700e-003	4.1600e-003	0.0365	1.0000e-004	0.0113	7.0000e-005	0.0113	2.9900e-003	7.0000e-005	3.0600e-003	0.0000	9.1021	9.1021	2.8000e-004	0.0000	9.1090
Total	**5.9600e-003**	**0.0413**	**0.0474**	**1.8000e-004**	**0.0130**	**1.8000e-004**	**0.0132**	**3.5000e-003**	**1.7000e-004**	**3.6700e-003**	**0.0000**	**16.5603**	**16.5603**	**7.2000e-004**	**0.0000**	**16.5782**

3.4 230kV Sub Ground Grid - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6000e-004	8.7800e-003	6.5200e-003	1.0000e-005		6.4000e-004	6.4000e-004		5.9000e-004	5.9000e-004	0.0000	0.7415	0.7415	2.4000e-004	0.0000	0.7474
Total	**9.6000e-004**	**8.7800e-003**	**6.5200e-003**	**1.0000e-005**		**6.4000e-004**	**6.4000e-004**		**5.9000e-004**	**5.9000e-004**	**0.0000**	**0.7415**	**0.7415**	**2.4000e-004**	**0.0000**	**0.7474**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2000e-004	6.9000e-003	2.0200e-003	1.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	1.0000e-004	2.0000e-005	1.1000e-004	0.0000	1.3865	1.3865	8.0000e-005	0.0000	1.3885
Worker	1.0000e-004	9.0000e-005	7.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1945	0.1945	1.0000e-005	0.0000	0.1946
Total	**3.2000e-004**	**6.9900e-003**	**2.8000e-003**	**1.0000e-005**	**5.7000e-004**	**2.0000e-005**	**5.9000e-004**	**1.6000e-004**	**2.0000e-005**	**1.8000e-004**	**0.0000**	**1.5810**	**1.5810**	**9.0000e-005**	**0.0000**	**1.5831**

3.4 230kV Sub Ground Grid - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-004	4.5000e-004	6.3600e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.7415	0.7415	2.4000e-004	0.0000	0.7474
Total	**1.0000e-004**	**4.5000e-004**	**6.3600e-003**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.7415**	**0.7415**	**2.4000e-004**	**0.0000**	**0.7474**

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	2.2000e-004	6.9000e-003	2.0200e-003	1.0000e-005	3.3000e-004	2.0000e-005	3.5000e-004	1.0000e-004	2.0000e-005	1.1000e-004	0.0000	1.3865	1.3865	8.0000e-005	0.0000	1.3885
Worker	1.0000e-004	9.0000e-005	7.8000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.1945	0.1945	1.0000e-005	0.0000	0.1946
Total	**3.2000e-004**	**6.9900e-003**	**2.8000e-003**	**1.0000e-005**	**5.7000e-004**	**2.0000e-005**	**5.9000e-004**	**1.6000e-004**	**2.0000e-005**	**1.8000e-004**	**0.0000**	**1.5810**	**1.5810**	**9.0000e-005**	**0.0000**	**1.5831**

3.5 230kV Transmission Conductor - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0257	0.2573	0.1400	4.7000e-004		9.9500e-003	9.9500e-003		9.1500e-003	9.1500e-003	0.0000	41.5223	41.5223	0.0134	0.0000	41.8580
Total	**0.0257**	**0.2573**	**0.1400**	**4.7000e-004**		**9.9500e-003**	**9.9500e-003**		**9.1500e-003**	**9.1500e-003**	**0.0000**	**41.5223**	**41.5223**	**0.0134**	**0.0000**	**41.8580**

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	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	1.4700e-003	1.2800e-003	0.0112	3.0000e-005	3.4700e-003	2.0000e-005	3.4900e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.8007	2.8007	8.0000e-005	0.0000	2.8028
Total	**1.8700e-003**	**0.0138**	**0.0149**	**6.0000e-005**	**4.0700e-003**	**6.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1500e-003**	**0.0000**	**5.3250**	**5.3250**	**2.3000e-004**	**0.0000**	**5.3308**

3.5 230kV Transmission Conductor - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7900e-003	0.0251	0.2124	4.7000e-004		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	41.5223	41.5223	0.0134	0.0000	41.8580
Total	**5.7900e-003**	**0.0251**	**0.2124**	**4.7000e-004**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**41.5223**	**41.5223**	**0.0134**	**0.0000**	**41.8580**

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	4.0000e-004	0.0126	3.6800e-003	3.0000e-005	6.0000e-004	4.0000e-005	6.4000e-004	1.7000e-004	3.0000e-005	2.1000e-004	0.0000	2.5243	2.5243	1.5000e-004	0.0000	2.5280
Worker	1.4700e-003	1.2800e-003	0.0112	3.0000e-005	3.4700e-003	2.0000e-005	3.4900e-003	9.2000e-004	2.0000e-005	9.4000e-004	0.0000	2.8007	2.8007	8.0000e-005	0.0000	2.8028
Total	**1.8700e-003**	**0.0138**	**0.0149**	**6.0000e-005**	**4.0700e-003**	**6.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1500e-003**	**0.0000**	**5.3250**	**5.3250**	**2.3000e-004**	**0.0000**	**5.3308**

3.6 70 kV Substation Equip Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9500e-003	0.0368	0.0313	9.0000e-005		1.2500e-003	1.2500e-003		1.1500e-003	1.1500e-003	0.0000	8.2434	8.2434	2.6700e-003	0.0000	8.3100
Total	**3.9500e-003**	**0.0368**	**0.0313**	**9.0000e-005**		**1.2500e-003**	**1.2500e-003**		**1.1500e-003**	**1.1500e-003**	**0.0000**	**8.2434**	**8.2434**	**2.6700e-003**	**0.0000**	**8.3100**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	4.4000e-004	3.8000e-004	3.3700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8402	0.8402	3.0000e-005	0.0000	0.8408
Total	**7.7000e-004**	**0.0107**	**6.3800e-003**	**3.0000e-005**	**1.5300e-003**	**4.0000e-005**	**1.5700e-003**	**4.2000e-004**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**2.9055**	**2.9055**	**1.5000e-004**	**0.0000**	**2.9092**

3.6 70 kV Substation Equip Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3400e-003	0.0127	0.0468	9.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.2434	8.2434	2.6700e-003	0.0000	8.3100
Total	**1.3400e-003**	**0.0127**	**0.0468**	**9.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**8.2434**	**8.2434**	**2.6700e-003**	**0.0000**	**8.3100**

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	3.3000e-004	0.0103	3.0100e-003	2.0000e-005	4.9000e-004	3.0000e-005	5.2000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.0653	2.0653	1.2000e-004	0.0000	2.0684
Worker	4.4000e-004	3.8000e-004	3.3700e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0500e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8402	0.8402	3.0000e-005	0.0000	0.8408
Total	**7.7000e-004**	**0.0107**	**6.3800e-003**	**3.0000e-005**	**1.5300e-003**	**4.0000e-005**	**1.5700e-003**	**4.2000e-004**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**2.9055**	**2.9055**	**1.5000e-004**	**0.0000**	**2.9092**

3.7 70kV Substation Control Enclosure - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1147	0.1147	1.0000e-005	0.0000	0.1149
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**1.4000e-004**	**6.8000e-004**	**1.1100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3481**	**0.3481**	**2.0000e-005**	**0.0000**	**0.3485**

3.7 70kV Substation Control Enclosure - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.7000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1147	0.1147	1.0000e-005	0.0000	0.1149
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**1.4000e-004**	**6.8000e-004**	**1.1100e-003**	**0.0000**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.3481**	**0.3481**	**2.0000e-005**	**0.0000**	**0.3485**

3.8 230kV Sub Steel Bus - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.6100e-003	0.0686	0.0531	1.7000e-004		2.4200e-003	2.4200e-003		2.2300e-003	2.2300e-003	0.0000	15.2460	15.2460	4.9300e-003	0.0000	15.3693
Total	**7.6100e-003**	**0.0686**	**0.0531**	**1.7000e-004**		**2.4200e-003**	**2.4200e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**15.2460**	**15.2460**	**4.9300e-003**	**0.0000**	**15.3693**

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	1.1000e-003	0.0343	0.0100	7.0000e-005	1.6400e-003	1.0000e-004	1.7300e-003	4.7000e-004	9.0000e-005	5.7000e-004	0.0000	6.8845	6.8845	4.1000e-004	0.0000	6.8946
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5900e-003**	**0.0347**	**0.0138**	**8.0000e-005**	**2.8000e-003**	**1.1000e-004**	**2.8900e-003**	**7.8000e-004**	**1.0000e-004**	**8.8000e-004**	**0.0000**	**7.8180**	**7.8180**	**4.4000e-004**	**0.0000**	**7.8289**

3.8 230kV Sub Steel Bus - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3100e-003	0.0169	0.0826	1.7000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	15.2460	15.2460	4.9300e-003	0.0000	15.3693
Total	**2.3100e-003**	**0.0169**	**0.0826**	**1.7000e-004**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**15.2460**	**15.2460**	**4.9300e-003**	**0.0000**	**15.3693**

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	1.1000e-003	0.0343	0.0100	7.0000e-005	1.6400e-003	1.0000e-004	1.7300e-003	4.7000e-004	9.0000e-005	5.7000e-004	0.0000	6.8845	6.8845	4.1000e-004	0.0000	6.8946
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5900e-003**	**0.0347**	**0.0138**	**8.0000e-005**	**2.8000e-003**	**1.1000e-004**	**2.8900e-003**	**7.8000e-004**	**1.0000e-004**	**8.8000e-004**	**0.0000**	**7.8180**	**7.8180**	**4.4000e-004**	**0.0000**	**7.8289**

3.9 230kV Sub Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	0.0113	0.0156	2.0000e-005		4.6000e-004	4.6000e-004		4.2000e-004	4.2000e-004	0.0000	2.0432	2.0432	6.6000e-004	0.0000	2.0597
Total	**8.5000e-004**	**0.0113**	**0.0156**	**2.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.2000e-004**	**4.2000e-004**	**0.0000**	**2.0432**	**2.0432**	**6.6000e-004**	**0.0000**	**2.0597**

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	1.2300e-003	0.0386	0.0113	8.0000e-005	1.8400e-003	1.1000e-004	1.9500e-003	5.3000e-004	1.1000e-004	6.4000e-004	0.0000	7.7450	7.7450	4.6000e-004	0.0000	7.7565
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.8200e-003**	**0.0391**	**0.0158**	**9.0000e-005**	**3.2300e-003**	**1.2000e-004**	**3.3500e-003**	**9.0000e-004**	**1.2000e-004**	**1.0200e-003**	**0.0000**	**8.8653**	**8.8653**	**4.9000e-004**	**0.0000**	**8.8776**

3.9 230kV Sub Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7000e-004	0.0131	0.0177	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.0432	2.0432	6.6000e-004	0.0000	2.0597
Total	**5.7000e-004**	**0.0131**	**0.0177**	**2.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.0432**	**2.0432**	**6.6000e-004**	**0.0000**	**2.0597**

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	1.2300e-003	0.0386	0.0113	8.0000e-005	1.8400e-003	1.1000e-004	1.9500e-003	5.3000e-004	1.1000e-004	6.4000e-004	0.0000	7.7450	7.7450	4.6000e-004	0.0000	7.7565
Worker	5.9000e-004	5.1000e-004	4.4900e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	1.1203	1.1203	3.0000e-005	0.0000	1.1211
Total	**1.8200e-003**	**0.0391**	**0.0158**	**9.0000e-005**	**3.2300e-003**	**1.2000e-004**	**3.3500e-003**	**9.0000e-004**	**1.2000e-004**	**1.0200e-003**	**0.0000**	**8.8653**	**8.8653**	**4.9000e-004**	**0.0000**	**8.8776**

3.10 70kV Substation Cable Installation - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	3.7000e-004	3.2000e-004	2.8100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7002	0.7002	2.0000e-005	0.0000	0.7007
Total	**4.5000e-004**	**2.8900e-003**	**3.5600e-003**	**2.0000e-005**	**9.9000e-004**	**2.0000e-005**	**1.0000e-003**	**2.7000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.2165**	**1.2165**	**5.0000e-005**	**0.0000**	**1.2178**

3.10 70kV Substation Cable Installation - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	3.7000e-004	3.2000e-004	2.8100e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7002	0.7002	2.0000e-005	0.0000	0.7007
Total	**4.5000e-004**	**2.8900e-003**	**3.5600e-003**	**2.0000e-005**	**9.9000e-004**	**2.0000e-005**	**1.0000e-003**	**2.7000e-004**	**2.0000e-005**	**2.8000e-004**	**0.0000**	**1.2165**	**1.2165**	**5.0000e-005**	**0.0000**	**1.2178**

3.11 230kV Sub Transformer - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0376	0.3432	0.2414	7.6000e-004		0.0136	0.0136		0.0126	0.0126	0.0000	66.9818	66.9818	0.0202	0.0000	67.4873
Total	**0.0376**	**0.3432**	**0.2414**	**7.6000e-004**		**0.0136**	**0.0136**		**0.0126**	**0.0126**	**0.0000**	**66.9818**	**66.9818**	**0.0202**	**0.0000**	**67.4873**

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	1.3700e-003	0.0428	0.0126	9.0000e-005	2.0400e-003	1.2000e-004	2.1700e-003	5.9000e-004	1.2000e-004	7.1000e-004	0.0000	8.6056	8.6056	5.1000e-004	0.0000	8.6183
Worker	9.8000e-004	8.5000e-004	7.4800e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3300e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8671	1.8671	6.0000e-005	0.0000	1.8685
Total	**2.3500e-003**	**0.0437**	**0.0200**	**1.1000e-004**	**4.3500e-003**	**1.3000e-004**	**4.5000e-003**	**1.2000e-003**	**1.3000e-004**	**1.3400e-003**	**0.0000**	**10.4727**	**10.4727**	**5.7000e-004**	**0.0000**	**10.4868**

3.11 230kV Sub Transformer - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2200e-003	0.0399	0.3605	7.6000e-004		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	66.9818	66.9818	0.0202	0.0000	67.4873
Total	**9.2200e-003**	**0.0399**	**0.3605**	**7.6000e-004**		**1.2300e-003**	**1.2300e-003**		**1.2300e-003**	**1.2300e-003**	**0.0000**	**66.9818**	**66.9818**	**0.0202**	**0.0000**	**67.4873**

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	1.3700e-003	0.0428	0.0126	9.0000e-005	2.0400e-003	1.2000e-004	2.1700e-003	5.9000e-004	1.2000e-004	7.1000e-004	0.0000	8.6056	8.6056	5.1000e-004	0.0000	8.6183
Worker	9.8000e-004	8.5000e-004	7.4800e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3300e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8671	1.8671	6.0000e-005	0.0000	1.8685
Total	**2.3500e-003**	**0.0437**	**0.0200**	**1.1000e-004**	**4.3500e-003**	**1.3000e-004**	**4.5000e-003**	**1.2000e-003**	**1.3000e-004**	**1.3400e-003**	**0.0000**	**10.4727**	**10.4727**	**5.7000e-004**	**0.0000**	**10.4868**

3.12 230kV Transmission Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5900e-003	0.0000	1.5900e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6400e-003	0.0206	8.6900e-003	2.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	2.1558	2.1558	7.0000e-004	0.0000	2.1733
Total	**1.6400e-003**	**0.0206**	**8.6900e-003**	**2.0000e-005**	**1.5900e-003**	**7.3000e-004**	**2.3200e-003**	**1.7000e-004**	**6.7000e-004**	**8.4000e-004**	**0.0000**	**2.1558**	**2.1558**	**7.0000e-004**	**0.0000**	**2.1733**

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	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**2.0000e-004**	**2.6800e-003**	**1.6900e-003**	**1.0000e-005**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.7497**	**0.7497**	**4.0000e-005**	**0.0000**	**0.7507**

3.12 230kV Transmission Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.2000e-004	0.0000	7.2000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.3000e-003	0.0124	2.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.1558	2.1558	7.0000e-004	0.0000	2.1733
Total	**3.0000e-004**	**1.3000e-003**	**0.0124**	**2.0000e-005**	**7.2000e-004**	**4.0000e-005**	**7.6000e-004**	**8.0000e-005**	**4.0000e-005**	**1.2000e-004**	**0.0000**	**2.1558**	**2.1558**	**7.0000e-004**	**0.0000**	**2.1733**

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	8.0000e-005	2.5700e-003	7.5000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5163	0.5163	3.0000e-005	0.0000	0.5171
Worker	1.2000e-004	1.1000e-004	9.4000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2334	0.2334	1.0000e-005	0.0000	0.2336
Total	**2.0000e-004**	**2.6800e-003**	**1.6900e-003**	**1.0000e-005**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**1.2000e-004**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**0.7497**	**0.7497**	**4.0000e-005**	**0.0000**	**0.7507**

3.13 230kV Sub Control Enclosure Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8600e-003	0.0218	8.9200e-003	3.0000e-005		8.9000e-004	8.9000e-004		8.2000e-004	8.2000e-004	0.0000	2.2810	2.2810	7.4000e-004	0.0000	2.2994
Total	**1.8600e-003**	**0.0218**	**8.9200e-003**	**3.0000e-005**		**8.9000e-004**	**8.9000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.2810**	**2.2810**	**7.4000e-004**	**0.0000**	**2.2994**

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	4.0000e-005	1.1400e-003	3.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2295	0.2295	1.0000e-005	0.0000	0.2298
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.3000e-004**	**1.4000e-003**	**2.5700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7896**	**0.7896**	**3.0000e-005**	**0.0000**	**0.7904**

3.13 230kV Sub Control Enclosure Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2000e-004	1.3800e-003	0.0117	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2810	2.2810	7.4000e-004	0.0000	2.2994
Total	**3.2000e-004**	**1.3800e-003**	**0.0117**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2810**	**2.2810**	**7.4000e-004**	**0.0000**	**2.2994**

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	4.0000e-005	1.1400e-003	3.3000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2295	0.2295	1.0000e-005	0.0000	0.2298
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.3000e-004**	**1.4000e-003**	**2.5700e-003**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**7.6000e-004**	**2.0000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.7896**	**0.7896**	**3.0000e-005**	**0.0000**	**0.7904**

3.14 70kV Substation Install Yard Rock - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1200e-003	0.0114	0.0136	2.0000e-005		6.7000e-004	6.7000e-004		6.2000e-004	6.2000e-004	0.0000	1.6378	1.6378	5.3000e-004	0.0000	1.6511
Total	**1.1200e-003**	**0.0114**	**0.0136**	**2.0000e-005**		**6.7000e-004**	**6.7000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**1.6378**	**1.6378**	**5.3000e-004**	**0.0000**	**1.6511**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-004	9.1400e-003	2.6800e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8359	1.8359	1.1000e-004	0.0000	1.8386
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**5.8000e-004**	**9.4000e-003**	**4.9200e-003**	**3.0000e-005**	**1.1300e-003**	**3.0000e-005**	**1.1600e-003**	**3.1000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**2.3960**	**2.3960**	**1.3000e-004**	**0.0000**	**2.3991**

3.14 70kV Substation Install Yard Rock - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.3000e-004	9.9000e-004	0.0141	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.6378	1.6378	5.3000e-004	0.0000	1.6511
Total	**2.3000e-004**	**9.9000e-004**	**0.0141**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.6378**	**1.6378**	**5.3000e-004**	**0.0000**	**1.6511**

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	2.9000e-004	9.1400e-003	2.6800e-003	2.0000e-005	4.4000e-004	3.0000e-005	4.6000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	1.8359	1.8359	1.1000e-004	0.0000	1.8386
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**5.8000e-004**	**9.4000e-003**	**4.9200e-003**	**3.0000e-005**	**1.1300e-003**	**3.0000e-005**	**1.1600e-003**	**3.1000e-004**	**2.0000e-005**	**3.4000e-004**	**0.0000**	**2.3960**	**2.3960**	**1.3000e-004**	**0.0000**	**2.3991**

3.15 230kV Sub Remaining Equipment Delivery - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4500e-003	0.0474	0.0324	1.2000e-004		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	10.4387	10.4387	3.3800e-003	0.0000	10.5231
Total	**5.4500e-003**	**0.0474**	**0.0324**	**1.2000e-004**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**10.4387**	**10.4387**	**3.3800e-003**	**0.0000**	**10.5231**

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	1.0200e-003	0.0320	9.3700e-003	7.0000e-005	1.5300e-003	9.0000e-005	1.6200e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4255	6.4255	3.8000e-004	0.0000	6.4350
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5100e-003**	**0.0324**	**0.0131**	**8.0000e-005**	**2.6900e-003**	**1.0000e-004**	**2.7800e-003**	**7.5000e-004**	**1.0000e-004**	**8.4000e-004**	**0.0000**	**7.3591**	**7.3591**	**4.1000e-004**	**0.0000**	**7.3692**

3.15 230kV Sub Remaining Equipment Delivery - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4500e-003	6.3000e-003	0.0534	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.4387	10.4387	3.3800e-003	0.0000	10.5231
Total	**1.4500e-003**	**6.3000e-003**	**0.0534**	**1.2000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.4387**	**10.4387**	**3.3800e-003**	**0.0000**	**10.5231**

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	1.0200e-003	0.0320	9.3700e-003	7.0000e-005	1.5300e-003	9.0000e-005	1.6200e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4255	6.4255	3.8000e-004	0.0000	6.4350
Worker	4.9000e-004	4.3000e-004	3.7400e-003	1.0000e-005	1.1600e-003	1.0000e-005	1.1600e-003	3.1000e-004	1.0000e-005	3.1000e-004	0.0000	0.9336	0.9336	3.0000e-005	0.0000	0.9343
Total	**1.5100e-003**	**0.0324**	**0.0131**	**8.0000e-005**	**2.6900e-003**	**1.0000e-004**	**2.7800e-003**	**7.5000e-004**	**1.0000e-004**	**8.4000e-004**	**0.0000**	**7.3591**	**7.3591**	**4.1000e-004**	**0.0000**	**7.3692**

3.16 70kV Substation Cleanup Restore - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.1800e-003**	**0.0000**	**3.1800e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.7000e-004	1.5000e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3734	0.3734	1.0000e-005	0.0000	0.3737
Total	**2.0000e-004**	**1.7000e-004**	**1.5000e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3734**	**0.3734**	**1.0000e-005**	**0.0000**	**0.3737**

3.16 70kV Substation Cleanup Restore - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**0.0000**	**1.4300e-003**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.7000e-004	1.5000e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3734	0.3734	1.0000e-005	0.0000	0.3737
Total	**2.0000e-004**	**1.7000e-004**	**1.5000e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3734**	**0.3734**	**1.0000e-005**	**0.0000**	**0.3737**

3.17 230kV Sub Cable Install Termination - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2000e-004	3.6000e-003	6.5600e-003	1.0000e-005		7.0000e-005	7.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8852	0.8852	2.9000e-004	0.0000	0.8923
Total	**2.2000e-004**	**3.6000e-003**	**6.5600e-003**	**1.0000e-005**		**7.0000e-005**	**7.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**0.8852**	**0.8852**	**2.9000e-004**	**0.0000**	**0.8923**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**2.9000e-004**	**1.9200e-003**	**2.3700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.8110**	**0.8110**	**3.0000e-005**	**0.0000**	**0.8119**

3.17 230kV Sub Cable Install Termination - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5000e-004	5.6600e-003	7.6500e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.8852	0.8852	2.9000e-004	0.0000	0.8923
Total	**2.5000e-004**	**5.6600e-003**	**7.6500e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.8852**	**0.8852**	**2.9000e-004**	**0.0000**	**0.8923**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.4000e-004	2.1000e-004	1.8700e-003	1.0000e-005	5.8000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4668	0.4668	1.0000e-005	0.0000	0.4671
Total	**2.9000e-004**	**1.9200e-003**	**2.3700e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.7000e-004**	**1.7000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.8110**	**0.8110**	**3.0000e-005**	**0.0000**	**0.8119**

3.18 70kV Substation Testing Commissioning - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.7700e-003	0.0000	4.7700e-003	5.2000e-004	0.0000	5.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.7700e-003**	**0.0000**	**4.7700e-003**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4000e-004**	**1.9700e-003**	**2.7400e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.9000e-004**	**2.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.9044**	**0.9044**	**4.0000e-005**	**0.0000**	**0.9053**

3.18 70kV Substation Testing Commissioning - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1500e-003	0.0000	2.1500e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.1500e-003**	**0.0000**	**2.1500e-003**	**2.3000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.7100e-003	5.0000e-004	0.0000	8.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3442	0.3442	2.0000e-005	0.0000	0.3447
Worker	2.9000e-004	2.6000e-004	2.2400e-003	1.0000e-005	6.9000e-004	0.0000	7.0000e-004	1.8000e-004	0.0000	1.9000e-004	0.0000	0.5601	0.5601	2.0000e-005	0.0000	0.5606
Total	**3.4000e-004**	**1.9700e-003**	**2.7400e-003**	**1.0000e-005**	**7.7000e-004**	**0.0000**	**7.9000e-004**	**2.0000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**0.9044**	**0.9044**	**4.0000e-005**	**0.0000**	**0.9053**

3.19 230kV Sub Testing and Commissioning - 2021

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0300e-003	0.0322	9.4300e-003	7.0000e-005	1.5400e-003	9.0000e-005	1.6300e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4638	6.4638	3.8000e-004	0.0000	6.4733
Worker	5.3000e-004	4.6000e-004	4.0500e-003	1.0000e-005	1.2500e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0114	1.0114	3.0000e-005	0.0000	1.0121
Total	**1.5600e-003**	**0.0326**	**0.0135**	**8.0000e-005**	**2.7900e-003**	**1.0000e-004**	**2.8900e-003**	**7.7000e-004**	**1.0000e-004**	**8.7000e-004**	**0.0000**	**7.4751**	**7.4751**	**4.1000e-004**	**0.0000**	**7.4854**

3.19 230kV Sub Testing and Commissioning - 2021

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0300e-003	0.0322	9.4300e-003	7.0000e-005	1.5400e-003	9.0000e-005	1.6300e-003	4.4000e-004	9.0000e-005	5.3000e-004	0.0000	6.4638	6.4638	3.8000e-004	0.0000	6.4733
Worker	5.3000e-004	4.6000e-004	4.0500e-003	1.0000e-005	1.2500e-003	1.0000e-005	1.2600e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0114	1.0114	3.0000e-005	0.0000	1.0121
Total	**1.5600e-003**	**0.0326**	**0.0135**	**8.0000e-005**	**2.7900e-003**	**1.0000e-004**	**2.8900e-003**	**7.7000e-004**	**1.0000e-004**	**8.7000e-004**	**0.0000**	**7.4751**	**7.4751**	**4.1000e-004**	**0.0000**	**7.4854**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

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

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	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	20.3125	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-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	20.3125					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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	20.3125					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	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	**20.3125**	**0.0000**	**2.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0000**	**3.0000e-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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX D

Biological Resources Supporting Information

This appendix includes complex tables that are not accessible using an assistive device such as a screen reader. For additional assistance please contact CPUC.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
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Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958

In Reply Refer To: November 18, 2020
Consultation Code: 08EVEN00-2019-SLI-0752
Event Code: 08EVEN00-2021-E-00129
Project Name: Estrella Substation and Paso Robles Area Reinforcement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.]

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
(805) 644-1766

Project Summary

Consultation Code: 08EVEN00-2019-SLI-0752

Event Code: 08EVEN00-2021-E-00129

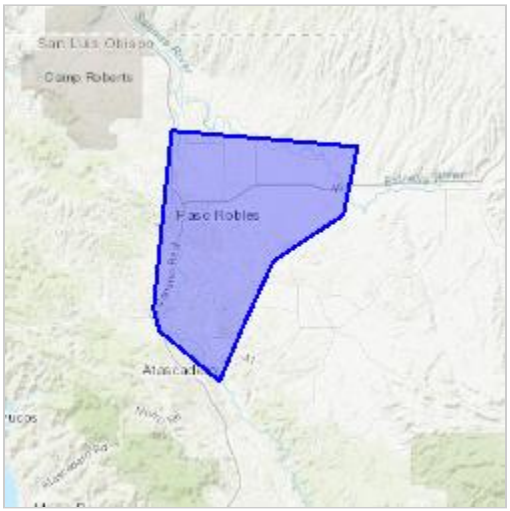
Project Name: Estrella Substation and Paso Robles Area Reinforcement Project

Project Type: TRANSMISSION LINE

Project Description: Electric transmission infrastructure upgrade.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/35.59582677868773N120.64578674311021W



Counties: San Luis Obispo, CA

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Insects

NAME	STATUS
Kern Primrose Sphinx Moth *Euproserpinus euterpe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7881	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
Chorro Creek Bog Thistle *Cirsium fontinale var. obispoense* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5991	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Purple Amole *Chlorogalum purpureum* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5531	Threatened
Salt Marsh Bird's-beak *Cordylanthus maritimus ssp. maritimus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6447	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* https://ecos.fws.gov/ecp/species/498#crithab	Final

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
Quad IS (Adelaida (3512067) OR Paso Robles (3512066) OR Estrella (3512065) OR York Mountain (3512057) OR Templeton (3512056) OR Creston (3512055) OR Morro Bay North (3512047) OR Atascadero (3512046) OR Santa Margarita (3512045))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Abies bracteata	bristlecone fir	Gymnosperms	PGPIN01030	80	1	None	None	G2G3	S2S3	1B.3	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Lower montane coniferous forest, Oldgrowth, Riparian woodland, Ultramafic
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	3	None	Threatened	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Agrostis hooveri	Hoover's bent grass	Monocots	PMPOA040M0	31	1	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Valley & foothill grassland
Ammodramus savannarum	grasshopper sparrow	Birds	ABPBXA0020	27	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Valley & foothill grassland
Anniella pulchra	Northern California legless lizard	Reptiles	ARACC01020	375	10	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	Chaparral, Coastal dunes, Coastal scrub
Antirrhinum ovatum	oval-leaved snapdragon	Dicots	PDSCR2K010	16	1	None	None	G3	S3	4.2	null	Chaparral, Cismontane woodland, Pinon & juniper woodlands, Valley & foothill grassland
Antrozous pallidus	pallid bat	Mammals	AMACC10010	420	2	None	None	G5	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley & foothill grassland
Aquila chrysaetos	golden eagle	Birds	ABNKC22010	323	2	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_FP-Fully Protected, CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Broadleaved upland forest, Cismontane woodland, Coastal prairie, Great Basin grassland, Great Basin scrub, Lower montane coniferous forest, Pinon & juniper woodlands, Upper montane coniferous forest, Valley & foothill grassland

Arctostaphylos luciana	Santa Lucia manzanita	Dicots	PDERI040N0	10	1	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCSC-UC Santa Cruz, USFS_S-Sensitive	Chaparral, Cismontane woodland
Arctostaphylos pilosula	Santa Margarita manzanita	Dicots	PDERI042Z0	58	4	None	None	G2?	S2?	1B.2	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Cismontane woodland, Closed-cone coniferous forest
Ardea herodias	great blue heron	Birds	ABNGA04010	156	1	None	None	G5	S4	null	CDF_S-Sensitive, IUCN_LC-Least Concern	Brackish marsh, Estuary, Freshwater marsh, Marsh & swamp, Riparian forest, Wetland
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	Dicots	PDFAB0F2X3	16	3	None	None	G5T2	S2	1B.2	null	Coastal scrub
Atractelmis wawona	Wawona riffle beetle	Insects	IICOL58010	80	1	None	None	G3	S1S2	null	null	Aquatic
Batrachoseps minor	lesser slender salamander	Amphibians	AAAAD02170	8	7	None	None	G1	S1	null	CDFW_SSC-Species of Special Concern, IUCN_DD-Data Deficient, USFS_S-Sensitive	Broadleaved upland forest
Bombus caliginosus	obscure bumble bee	Insects	IIHYM24380	181	1	None	None	G4?	S1S2	null	IUCN_VU-Vulnerable	null
Bombus crotchii	Crotch bumble bee	Insects	IIHYM24480	312	3	None	Candidate Endangered	G3G4	S1S2	null	null	null
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	ICBRA03030	791	6	Threatened	None	G3	S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland, Vernal pool, Wetland
Buteo regalis	ferruginous hawk	Birds	ABNKC19120	107	1	None	None	G4	S3S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern, USFWS_BCC-Birds of Conservation Concern	Great Basin grassland, Great Basin scrub, Pinon & juniper woodlands, Valley & foothill grassland
Calochortus obispoensis	San Luis mariposa-lily	Monocots	PMLIL0D110	46	3	None	None	G2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub, Ultramafic, Valley & foothill grassland
Calochortus simulans	La Panza mariposa-lily	Monocots	PMLIL0D170	105	14	None	None	G2	S2	1B.3	SB_CRES-San Diego Zoo CRES Native Gene Seed Bank, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley & foothill grassland
Calycadenia villosa	dwarf calycadenia	Dicots	PDAST1P0B0	59	4	None	None	G3	S3	1B.1	SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Cismontane woodland, Meadow & seep, Valley & foothill grassland
Camissoniopsis hardhamiae	Hardham's evening-primrose	Dicots	PDONA030N0	22	7	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Limestone
Carex obispoensis	San Luis Obispo sedge	Monocots	PMCYP039J0	29	3	None	None	G3?	S3?	1B.2	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Ultramafic, Valley & foothill grassland

Castilleja densiflora var. obispoensis	San Luis Obispo owl's-clover	Dicots	PDSCR0D453	69	7	None	None	G5T2	S2	1B.2	null	Meadow & seep, Ultramafic, Valley & foothill grassland
Caulanthus lemmonii	Lemmon's jewelflower	Dicots	PDBRA0M0E0	91	4	None	None	G3	S3	1B.2	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Pinon & juniper woodlands, Valley & foothill grassland
Charadrius alexandrinus nivosus	western snowy plover	Birds	ABNNB03031	138	2	Threatened	None	G3T3	S2S3	null	CDFW_SSC-Species of Special Concern, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Great Basin standing waters, Sand shore, Wetland
Chorizanthe breweri	Brewer's spineflower	Dicots	PDPGN04050	45	7	None	None	G3	S3	1B.3	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Coastal scrub, Ultramafic
Chorizanthe rectispina	straight-awned spineflower	Dicots	PDPGN040N0	38	10	None	None	G2	S2	1B.3	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub
Cicindela hirticollis gravida	sandy beach tiger beetle	Insects	IICOL02101	34	2	None	None	G5T2	S2	null	null	Coastal dunes
Cirsium fontinale var. obispoense	Chorro Creek bog thistle	Dicots	PDAST2E162	22	1	Endangered	Endangered	G2T2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden	Chaparral, Cismontane woodland, Coastal scrub, Ultramafic, Valley & foothill grassland
Cirsium occidentale var. lucianum	Cuesta Ridge thistle	Dicots	PDAST2E1Z6	7	1	None	None	G3G4T2	S2	1B.2	null	Chaparral, Ultramafic
Coelus globosus	globose dune beetle	Insects	IICOL4A010	50	2	None	None	G1G2	S1S2	null	IUCN_VU-Vulnerable	Coastal dunes
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	1	None	None	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Danaus plexippus pop. 1	monarch - California overwintering population	Insects	IILEPP2012	383	2	None	None	G4T2T3	S2S3	null	USFS_S-Sensitive	Closed-cone coniferous forest
Delphinium parryi ssp. blochmaniae	dune larkspur	Dicots	PDRAN0B1B1	27	1	None	None	G4T2	S2	1B.2	null	Chaparral, Coastal dunes
Delphinium parryi ssp. eastwoodiae	Eastwood's larkspur	Dicots	PDRAN0B1B2	15	2	None	None	G4T2	S2	1B.2	null	Chaparral, Ultramafic, Valley & foothill grassland
Delphinium umbraculorum	umbrella larkspur	Dicots	PDRAN0B1W0	95	3	None	None	G3	S3	1B.3	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland
Dudleya abramsii ssp. bettinae	Betty's dudleya	Dicots	PDCRA04011	14	7	None	None	G4T2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Coastal scrub, Ultramafic, Valley & foothill grassland

Dudleya abramsii ssp. murina	mouse-gray dudleya	Dicots	PDCRA04012	36	3	None	None	G4T2	S2	1B.3	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	Dicots	PDCRA04051	81	8	None	None	G3T2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Chaparral, Coastal bluff scrub, Coastal scrub, Ultramafic, Valley & foothill grassland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	180	2	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1398	27	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Eriastrum luteum	yellow-flowered eriastrum	Dicots	PDPLM03080	34	12	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Cismontane woodland
Erigeron blochmaniae	Blochman's leafy daisy	Dicots	PDAST3M5J0	36	1	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, Coastal scrub
Eucyclogobius newberryi	tidewater goby	Fish	AFCQN04010	127	1	Endangered	None	G3	S3	null	AFS_EN-Endangered, IUCN_VU-Vulnerable	Aquatic, Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters, South coast flowing waters
Extriplex joaquinana	San Joaquin spearscale	Dicots	PDCHE041F3	127	1	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	Alkali playa, Chenopod scrub, Meadow & seep, Valley & foothill grassland
Fritillaria ojaiensis	Ojai fritillary	Monocots	PMLIL0V0N0	49	1	None	None	G3	S3	1B.2	SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Broadleaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Ultramafic
Fritillaria viridea	San Benito fritillary	Monocots	PMLIL0V0L0	24	1	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic
Helminthoglypta walkeriana	Morro shoulderband (=banded dune) snail	Mollusks	IMGASC2510	14	1	Endangered	None	G1	S1S2	null	IUCN_CR-Critically Endangered	Coastal dunes, Coastal scrub
Horkelia cuneata var. puberula	mesa horkelia	Dicots	PDROS0W045	103	3	None	None	G4T1	S1	1B.1	USFS_S-Sensitive	Chaparral, Cismontane woodland, Coastal scrub
Horkelia cuneata var. sericea	Kellogg's horkelia	Dicots	PDROS0W043	58	3	None	None	G4T1?	S1?	1B.1	SB_UCSC-UC Santa Cruz, USFS_S-Sensitive	Chaparral, Closed-cone coniferous forest, Coastal dunes, Coastal scrub
Juncus luciensis	Santa Lucia dwarf rush	Monocots	PMJUN013J0	37	3	None	None	G3	S3	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Great Basin scrub, Lower montane coniferous forest, Meadow & seep, Vernal pool, Wetland
Layia jonesii	Jones' layia	Dicots	PDAST5N090	25	8	None	None	G2	S2	1B.2	USFS_S-Sensitive	Chaparral, Ultramafic, Valley & foothill grassland
Lepidium jaredii ssp. jaredii	Jared's pepper-grass	Dicots	PDBRA1M0G1	12	1	None	None	G2G3T1T2	S1S2	1B.2	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden	Valley & foothill grassland

Linderiella occidentalis	California linderiella	Crustaceans	ICBRA06010	508	5	None	None	G2G3	S2S3	null	IUCN_NT-Near Threatened	Vernal pool
Malacothamnus palmeri var. palmeri	Santa Lucia bush-mallow	Dicots	PDMAL0Q0B5	10	2	None	None	G3T2Q	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral
Meconella oregana	Oregon meconella	Dicots	PDPAP0G030	9	1	None	None	G2G3	S2	1B.1	null	Coastal prairie, Coastal scrub
Monardella palmeri	Palmer's monardella	Dicots	PDLAM180H0	24	2	None	None	G2	S2	1B.2	BLM_S-Sensitive, USFS_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic
Monolopia gracilens	woodland woollythreads	Dicots	PDAST6G010	68	1	None	None	G3	S3	1B.2	null	Broadleaved upland forest, Chaparral, Cismontane woodland, North coast coniferous forest, Ultramafic, Valley & foothill grassland
Navarretia fossalis	spreading navarretia	Dicots	PDPLM0C080	78	1	Threatened	None	G2	S2	1B.1	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Alkali playa, Chenopod scrub, Marsh & swamp, Vernal pool, Wetland
Navarretia nigelliformis ssp. radians	shining navarretia	Dicots	PDPLM0C0J2	102	12	None	None	G4T2	S2	1B.2	BLM_S-Sensitive	Cismontane woodland, Valley & foothill grassland, Vernal pool, Wetland
Neotoma macrotis luciana	Monterey dusky-footed woodrat	Mammals	AMAFF08083	8	3	None	None	G5T3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_DD-Data Deficient	Broadleaved upland forest, Chaparral
Northern Interior Cypress Forest	Northern Interior Cypress Forest	Forest	CTT83220CA	22	1	None	None	G2	S2.2	null	null	Closed-cone coniferous forest
Oncorhynchus mykiss irideus pop. 9	steelhead - south-central California coast DPS	Fish	AFCHA0209H	41	3	Threatened	None	G5T2Q	S2	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters, South coast flowing waters
Perognathus inornatus psammophilus	Salinas pocket mouse	Mammals	AMAFD01062	9	3	None	None	G4T2?	S1	null	CDFW_SSC-Species of Special Concern	Valley & foothill grassland
Phrynosoma blainvillii	coast horned lizard	Reptiles	ARACF12100	784	1	None	None	G3G4	S3S4	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon & juniper woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland
Plagiobothrys uncinatus	hooked popcornflower	Dicots	PDBOR0V170	14	1	None	None	G2	S2	1B.2	USFS_S-Sensitive	Chaparral, Cismontane woodland, Valley & foothill grassland
Plebejus icarioides moroensis	Morro Bay blue butterfly	Insects	IILEPG801B	12	2	None	None	G5T2	S2	null	null	Coastal dunes
Polyphylla nubila	Atascadero June beetle	Insects	IICOL68040	4	3	None	None	G1	S1	null	null	Interior dunes

Progne subis	purple martin	Birds	ABPAU01010	71	1	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Broadleaved upland forest, Lower montane coniferous forest
Pyrgulopsis taylori	San Luis Obispo pyrg	Mollusks	IMGASJ0A50	5	1	None	None	G1	S1	null	null	null
Rana boylii	foothill yellow-legged frog	Amphibians	AAABH01050	2468	1	None	Endangered	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rana draytonii	California red-legged frog	Amphibians	AAABH01022	1577	21	Threatened	None	G2G3	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable	Aquatic, Artificial flowing waters, Artificial standing waters, Freshwater marsh, Marsh & swamp, Riparian forest, Riparian scrub, Riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Senecio aphanactis	chaparral ragwort	Dicots	PDAST8H060	98	1	None	None	G3	S2	2B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	Chaparral, Cismontane woodland, Coastal scrub
Sidalcea hickmanii ssp. anomala	Cuesta Pass checkerbloom	Dicots	PDMAL110A1	4	1	None	Rare	G3T1	S1	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_SBBG-Santa Barbara Botanic Garden, USFS_S-Sensitive	Chaparral, Closed-cone coniferous forest, Ultramafic
Spea hammondii	western spadefoot	Amphibians	AAABF02020	1409	21	None	None	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland
Streptanthus albidus ssp. peramoenus	most beautiful jewelflower	Dicots	PDBRA2G012	103	2	None	None	G2T2	S2	1B.2	SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden, SB_UCBG-UC Botanical Garden at Berkeley, USFS_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Suaeda californica	California seablite	Dicots	PDCHE0P020	18	1	Endangered	None	G1	S1	1B.1	null	Freshwater marsh, Marsh & swamp, Wetland
Taricha torosa	Coast Range newt	Amphibians	AAAAF02032	88	9	None	None	G4	S4	null	CDFW_SSC-Species of Special Concern	null
Taxidea taxus	American badger	Mammals	AMAJF04010	594	16	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog & fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, lone formation, Joshua

												tree woodland, Limestone, Lower montane coniferous forest, Marsh & swamp, Meadow & seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley & foothill grassland
Trimerotropis occulens	Lompoc grasshopper	Insects	IIORT36310	8	1	None	None	G1G2	S1S2	null	IUCN_EN-Endangered	null
Valley Oak Woodland	Valley Oak Woodland	Woodland	CTT71130CA	91	6	None	None	G3	S2.1	null	null	Cismontane woodland
Vireo bellii pusillus	least Bell's vireo	Birds	ABPBW01114	503	2	Endangered	Endangered	G5T2	S2	null	IUCN_NT-Near Threatened, NABCI_YWL-Yellow Watch List	Riparian forest, Riparian scrub, Riparian woodland
Vulpes macrotis mutica	San Joaquin kit fox	Mammals	AMAJA03041	1018	17	Endangered	Threatened	G4T2	S2	null	null	Chenopod scrub, Valley & foothill grassland

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CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

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

Search Criteria

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

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Abies bracteata	bristlecone fir	Pinaceae	perennial evergreen tree		1B.3	S2S3	G2G3
Abronia maritima	red sand-verbena	Nyctaginaceae	perennial herb	Feb-Nov	4.2	S3?	G4
Agrostis hooveri	Hoover's bent grass	Poaceae	perennial herb	Apr-Jul	1B.2	S2	G2
Amsinckia douglasiana	Douglas' fiddleneck	Boraginaceae	annual herb	Mar-May	4.2	S4	G4
Antirrhinum ovatum	oval-leaved snapdragon	Plantaginaceae	annual herb	May-Nov	4.2	S3	G3
Arctostaphylos luciana	Santa Lucia manzanita	Ericaceae	perennial evergreen shrub	Dec-Mar	1B.2	S2	G2
Arctostaphylos obispoensis	Bishop manzanita	Ericaceae	perennial evergreen shrub	Feb-Jun	4.3	S3	G3
Arctostaphylos pilosula	Santa Margarita manzanita	Ericaceae	perennial evergreen shrub	Dec-May	1B.2	S2?	G2?
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S2	G5T2
Astragalus macrodon	Salinas milk-vetch	Fabaceae	perennial herb	Apr-Jul	4.3	S4	G4

Calochortus obispoensis	San Luis mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G2
Calochortus simulans	La Panza mariposa lily	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.3	S2	G2
Calycadenia villosa	dwarf calycadenia	Asteraceae	annual herb	May-Oct	1B.1	S3	G3
Calystegia subacaulis ssp. episcopalis	Cambria morning-glory	Convolvulaceae	perennial rhizomatous herb	(Mar)Apr-Jun(Jul)	4.2	S2?	G3T2?
Camissoniopsis hardhamiae	Hardham's evening-primrose	Onagraceae	annual herb	Mar-May	1B.2	S2	G2
Carex obispoensis	San Luis Obispo sedge	Cyperaceae	perennial herb	Apr-Jun	1B.2	S3?	G3?
Castilleja densiflora var. obispoensis	San Luis Obispo owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Mar-May	1B.2	S2	G5T2
Caulanthus lemmonii	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	1B.2	S3	G3
Ceanothus cuneatus var. fascicularis	Lompoc ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Apr	4.2	S4	G5T4
Chorizanthe breweri	Brewer's spineflower	Polygonaceae	annual herb	Apr-Aug	1B.3	S3	G3
Chorizanthe douglasii	Douglas' spineflower	Polygonaceae	annual herb	Apr-Jul	4.3	S4	G4
Chorizanthe palmeri	Palmer's spineflower	Polygonaceae	annual herb	Apr-Aug	4.2	S4	G4
Chorizanthe rectispina	straight-awned spineflower	Polygonaceae	annual herb	Apr-Jul	1B.3	S2	G2
Cirsium fontinale var. obispoense	San Luis Obispo fountain thistle	Asteraceae	perennial herb	Feb-Jul(Aug-Sep)	1B.2	S2	G2T2
Cirsium occidentale var. lucianum	Cuesta Ridge thistle	Asteraceae	perennial herb	Apr-Jun	1B.2	S2	G3G4T2
Clarkia exilis	slender clarkia	Onagraceae	annual herb	Apr-May	4.3	S3	G3
Convolvulus simulans	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	4.2	S4	G4
Deinandra paniculata	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov(Dec)	4.2	S4	G4
Delphinium gypsophilum ssp. parviflorum	small-flowered gypsum-loving larkspur	Ranunculaceae	perennial herb	(Mar)Apr-Jun	3.2	S2S3	G4T2T3Q
Delphinium parryi ssp. blochmaniae	dune larkspur	Ranunculaceae	perennial herb	Apr-Jun	1B.2	S2	G4T2
Delphinium parryi ssp. eastwoodiae	Eastwood’s larkspur	Ranunculaceae	perennial herb	(Feb)Mar-Mar	1B.2	S2	G4T2
Delphinium umbraculorum	umbrella larkspur	Ranunculaceae	perennial herb	Apr-Jun	1B.3	S3	G3
Dudleya abramsii ssp. bettinae	Betty's dudleya	Crassulaceae	perennial herb	May-Jul	1B.2	S2	G4T2
Dudleya abramsii ssp. murina	mouse-gray dudleya	Crassulaceae	perennial leaf succulent	May-Jun	1B.3	S2	G4T2
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	Crassulaceae	perennial herb	Apr-Jun	1B.1	S2	G3T2

Eleocharis parvula	small spikerush	Cyperaceae	perennial herb	(Apr)Jun-Aug(Sep)	4.3	S3	G5
Eriastrum luteum	yellow-flowered eriastrum	Polemoniaceae	annual herb	May-Jun	1B.2	S2	G2
Erigeron blochmaniae	Blochman's leafy daisy	Asteraceae	perennial rhizomatous herb	Jun-Aug	1B.2	S2	G2
Fritillaria ojaiensis	Ojai fritillary	Liliaceae	perennial bulbiferous herb	Feb-May	1B.2	S3	G3
Fritillaria viridea	San Benito fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	1B.2	S2	G2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Horkelia cuneata var. puberula	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	1B.1	S1	G4T1
Horkelia cuneata var. sericea	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	1B.1	S1?	G4T1?
Juncus luciensis	Santa Lucia dwarf rush	Juncaceae	annual herb	Apr-Jul	1B.2	S3	G3
Layia jonesii	Jones' layia	Asteraceae	annual herb	Mar-May	1B.2	S2	G2
Lepidium jaredii ssp. jaredii	Jared's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1S2	G2G3T1T2
Malacothamnus jonesii	Jones' bush-mallow	Malvaceae	perennial deciduous shrub	(Mar)Apr-Oct	4.3	S4	G4
Malacothamnus palmeri var. involucratus	Carmel Valley bush-mallow	Malvaceae	perennial deciduous shrub	Apr-Oct	1B.2	S2	G3T2Q
Malacothamnus palmeri var. palmeri	Santa Lucia bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	1B.2	S2	G3T2Q
Meconella oregana	Oregon meconella	Papaveraceae	annual herb	Mar-Apr	1B.1	S2	G2G3
Monardella palmeri	Palmer's monardella	Lamiaceae	perennial rhizomatous herb	Jun-Aug	1B.2	S2	G2
Monolopia gracilens	woodland woolythreads	Asteraceae	annual herb	(Feb)Mar-Jul	1B.2	S3	G3
Navarretia fossalis	spreading navarretia	Polemoniaceae	annual herb	Apr-Jun	1B.1	S2	G2
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2
Nemacladus secundiflorus var. secundiflorus	large-flowered nemacladus	Campanulaceae	annual herb	Apr-Jun	4.3	S3?	G3T3?
Plagiobothrys uncinatus	hooked popcornflower	Boraginaceae	annual herb	Apr-May	1B.2	S2	G2
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3
Senecio astephanus	San Gabriel ragwort	Asteraceae	perennial herb	May-Jul	4.3	S3	G3
Sidalcea hickmanii ssp. anomala	Cuesta Pass checkerbloom	Malvaceae	perennial herb	May-Jun	1B.2	S1	G3T1

Streptanthus albidus ssp. peramoenus	most beautiful jewelflower	Brassicaceae	annual herb	(Mar)Apr-Sep(Oct)	1B.2	S2	G2T2
Suaeda californica	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	1B.1	S1	G1

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Table D-1. Sensitive Plant and Animal Species Considered but Not Expected to Occur in the Proposed Project, Reasonably Foreseeable Distribution Components, and Alternatives Vicinity

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Plants			
Bristlecone fir *Abies bracteata*	--/--/1B.3	Perennial evergreen tree. Occurs on steep, rocky, fire-resistant slopes, generally in canyon-live-oak phase of mixed-evergreen forest. Elevation: 210-1600 meters above mean sea level (amsl).	**None.** Suitable mixed-evergreen forest is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. No CNDDB records exist within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Santa Lucia manzanita *Arctostaphylos luciana*	--/--/1B.2	Perennial evergreen shrub found on shale soils. Blooming period: Dec-Mar. Elevation: 350-850 meters amsl.	**Not expected.** Blue oak woodlands and chaparral on shale soil may provide habitat for this species; however, the species was not observed in the Proposed Project and alternative areas during surveys conducted in the appropriate season. There are no CNDDB records within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Marsh sandwort *Arenaria paludicola*	FE/SE/1B.2	Perennial stoloniferous herb with a shiny, angled or grooved stem and white flower. Occurs in wet meadows and marshes. Blooming period: May-Aug. Elevation: 3-170 meters amsl.	**None.** Suitable wet meadows and marshes are absent from the Proposed Project, reasonably foreseeable distribution components, and alternative areas. No CNDDB records exist within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Indian Valley spineflower *Aristocapsa insignis*	--/--/1B.2	Annual herb with a white/pink or rose-colored flower. Occurs in sand. Blooming period: May-Sep. Elevation: 300-600 meters amsl.	**None.** Suitable cismontane woodland and sand are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB records exist within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
San Luis mariposa lily *Calochortus obispoensis*	--/--/1B.2	Perennial bulbiferous herb found on serpentine soils. Blooming period: May-Jul. Elevation: 50-730 meters amsl.	**Not expected.** Suitable serpentine soils are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted during the appropriate season. No CNDDB records exist within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Santa Cruz Mountains pussypaws *Calyptridium parryi* var. *hesseae*	--/--/1B.1	Annual herb. Occurs in sandy or gravelly soils in vegetation openings. Blooming period: May-Aug. Elevation: 305-1530 meters amsl.	**Not Expected.** Blue oak woodlands may provide habitat; however, the Proposed Project, reasonably foreseeable distribution components, and alternatives areas appear to be out the range of this species. The species was not observed in the Proposed Project or alternatives areas during surveys conducted in the appropriate season, with the exception of the Creston and Estrella routes for which surveys were conducted outside of the blooming period. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
San Luis Obispo sedge *Carex obispoensis*	--/--/1B.2	Perennial herb found at serpentine seeps in clay or sometimes on gabbroic soils. Blooming period: Apr-Jun. Elevation: 10-820 meters amsl.	**Not expected.** Suitable serpentine soils are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted during the appropriate season. There is one CNDDB record (from a serpentine area southwest of Atascadero) within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Santa Lucia purple amole *Chlorogalum purpureum* var. *purpureum*	FE/--/1B.1	Perennial bulbiferous herb. Occurs in gravelly and clay soils in open woodland. Blooming period: Apr-Jun. Elevation: 205-385 meters amsl.	**Not Expected.** Gravelly and clay soils are largely absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Brewer's spineflower *Chorizanthe breweri*	--/--/1B.3	Annual herb found in serpentine soils in rocky or gravelly substrate. Blooms Apr-Aug. Elevation: 45-800 meters amsl.	**None.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternative areas during surveys conducted in the appropriate season. Three CNDDB occurrences (from serpentine outcrops southwest of Atascadero) are known within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Chorro Creek bog thistle *Cirsium fontinale* var. *obispoense*	FE/SE/1B.2	Perennial herb with nodding dark purple infloresence. Occurs in serpentine seeps and streams. Blooming period: Feb-Sep. Elevation: 35-385 meters amsl.	**None.** Suitable serpentine seeps and streams are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternative areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Cuesta Ridge thistle *Cirsium occidentale var. lucianum*	--/--/1B.2	Perennial herb found on serpentine soils, often on rocky slopes and disturbed roadsides. Blooms Apr-Jun. Elevation: 500-700 meters amsl.	**None.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. One CNDDB occurrence (from a serpentine outcrop southwest of Atascadero) is known within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
salt marsh bird's-beak *Cordylanthus maritimus* ssp. *maritimus* (=*Chloropyron maritimum* ssp. *maritimum*)	FE/SE/1B.1	Annual hemiparasitic (photosynthetic plant that consumes nutrients from host plant) found in salt marshes. Blooms May-Oct. Elevation 0-30 meters amsl.	**None.** Suitable salt marsh habitat is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in appropriate season. No CNDDB occurrences are known within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
dune larkspur *Delphinium parryi* ssp. *blochmaniae*	--/--/1B.2	Perennial herb that occurs on dunes and maritime chaparral. Blooms Apr-Jun. Elevation: 0-200 meters amsl.	**None.** Suitable dune and maritime chaparral habitat are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternative areas during surveys conducted in appropriate season. No CNDDB occurrences are known within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Eastwood's larkspur *Delphinium parryi* ssp. *eastwoodiae*	--/--/1B.2	Perennial herb. Occurs in coastal chaparral, grassland, on serpentine soils. Blooming period: Mar-May. Elevation: 75-500 meters amsl.	**None.** Suitable serpentine soils are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternative areas during surveys conducted in appropriate season. One CNDDB occurrence (from an observation near Atascadero) has been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
umbrella larkspur *Delphinium umbraculorum*	--/--/1B.3	Perennial herb with a purple flower. Occurs in moist oak forests. Blooming period: Apr-Jun. Elevation: 400-1,600 meters amsl.	**Not Expected.** Oak woodlands may provide habitat for this species, but habitat is not optimal (moist forest). The species was not observed in the Proposed Project and alternatives areas during surveys conducted in appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Betty's dudleya *Dudleya abramsii* ssp. *bettinae*	--/--/1B.2	Perennial succulent herb found on serpentine, rocky soils. Blooms May-Jul. Elevation: 20-180 meters amsl.	**None.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
mouse-gray dudleya *Dudleya abramsii* ssp. *murina*	--/--/1B.3	Perennial succulent herb found on serpentine soils. Blooms May-Jun. Elevation: 90-525 meters amsl.	**None.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	--/--/1B.1	Perennial herb found on rocky, clay, and serpentine soils. Blooms Apr-Jun. Elevation: 5-450 meters amsl.	**None.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Koch's cord moss *Entosthodon kockhii*	--/--/1B.3	Moss with small capsules and small pores that grows on riverbanks on newly exposed soils. Elevation: 180-1,000 meters amsl. Associated with cismontane woodlands.	**None.** Suitable riverbank soil is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas, as footprints will generally avoid disturbance of drainages. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Blochman's leafy daisy *Erigeron blochmaniae*	--/--/1B.2	Perennial rhizomatous herb found on Dunes and coastal scrub. Blooms Jun-Aug. Elevation: 3-45 meters amsl.	**None.** Suitable dune and coastal is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
San Joaquin spearscale *Extriplex joaquinana*	--/--/1B.2	Annual herb that occurs in seasonal alkali wetlands or alkali sink scrub with saltgrass (*Distichlis spicata*), alkali heath (*Frankenia*), and others. Blooms Apr-Oct. Elevation: 1-835 meters amsl.	**Not expected.** Suitable wetlands are present in the Proposed Project, reasonably foreseeable distribution components, and alternatives vicinity. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
San Benito fritillary *Fritillaria viridea*	--/--/1B.2	Perennial bulbiferous herb found on serpentine soils on slopes, and sometimes on streambanks, rocky soils, and roadsides. Blooms Mar-May. Elevation: 200-1,525 meters amsl.	**None.** Suitable serpentine soil is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
mesa horkelia *Horkelia cuneata* var. *puberula*	--/--/1B.1	Perennial herb with individually arranged white flowers. Occurs in dry, sandy to gravelly soil in coastal chaparral habitats. Blooming period: Feb-Jul. Elevation: 70-810 meters amsl.	**None.** Suitable coastal chaparral habitat is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. There are 2 CNDDB occurrences (near Templeton and north of Atascadero) that have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Kellogg's horkelia *Horkelia cuneata* var. *sericea*	--/--/1B.1	Perennial herb with a white flower. Occurs on old dunes and coastal sandy soils. Blooming period: Apr-Sep. Elevation: 10-200 meters amsl.	**None.** Suitable coastal dunes and coastal sandhills are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. There is 1 CNDDB occurrence (near San Miguel) recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Jones' layia *Layia jonesii*	--/--/1B.2	Annual herb found on clay or serpentine soils. Blooms Mar-May. Elevation: 5-400 meters amsl.	**Not expected.** Serpentine soils are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas, although clay soils in grassland may provide ostensibly suitable habitat. However, the species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Davidson's bushmallow *Malacothamnus davidsonii*	--/--/1B.2	Annual herb with a pale pink/white flower. Occurs in riparian areas and also on slopes and washes. Blooming period: Jun-Jan. Elevation: 185-1,140 meters amsl.	**None.** Suitable riparian woodland habitat is absent from the Proposed Project, reasonably foreseeable distribution components, and alternative areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Carmel Valley bushmallow *Malacothamnus palmeri* var. *involucratus*	--/--/1B.2	Perennial deciduous shrub typically in openings. Blooms Apr-Oct. Elevation: 30-1,100 meters amsl.	**Not expected.** Ostensibly suitable habitat occurs in the Proposed Project, reasonably foreseeable distribution components, and alternatives areas; however, the species was not observed in the Proposed Project and alternative areas during surveys conducted in the identifiable season. No CNDDB records of this species exist within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Carmel Valley malacothrix *Malacothrix saxatillis* var. *arachnoidea*	--/--/1B.2	Perennial rhizomatous herb with a white flower. Occurs on rocky, open banks, shale outcrops, and cliff faces. Blooming period: Mar-Dec. Elevation: 25-1035 meters amsl.	**None.** Suitable chaparral and coastal scrub are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Oregon meconella *Meconella oregana*	--/--/1B.1	Annual herb with a white flower. Occurs on sandy bluffs, meadows and partly sunny, moist banks. Blooming period: Mar-Apr. Elevation: 250-620 meters amsl.	**None.** Suitable coastal prairie and coastal scrub are absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Palmer's monardella *Monardella palmeri*	--/--/1B.2	Perennial herb typically found on serpentine soils. Blooms Jun-Aug. Elevation: 200-800 meters amsl.	**Not expected.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. There is one CNDDB occurrence (near a serpentine area southwest of Atascadero) within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
spreading navarretia *Navarretia fossalis*	FT/--/1B.1	Spreading (not prostrate) annual herb with long bracts and white flowers. Occurs in vernal pools and ditches. Blooming period: Apr-Jun. Elevation: 30-655 meters amsl.	**Not Expected.** Marginal habitat in the Proposed Project, reasonably foreseeable distribution components, and alternatives areas exists in ditches. The species was not observed in the Proposed Project and alternative areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
hooked popcornflower *Plagiobothrys uncinatus*	--/--/1B.2	Annual herb with stained pink flower and pale yellow appendanges. Fruit is an ovate nutlet with a rounded base (sometimes wrinkled). Occurs on canyon sides, rocky outcrops, and is sometimes a fire follower. Blooming period: Apr-May. Elevation: 300-600 meters amsl.	**Not Expected.** Suitable grassland habitat is present in the Proposed Project, reasonably foreseeable distribution components, and alternative areas; however, suitable microhabitat is absent. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
chaparral ragwort *Senecio aphanactis*	--/--/2B.2	Annual herb with an urn-shaped inflorescence and yellow ray flower. Occurs on alkaline flats, dry open rocky areas. Blooming period: Jan-May. Elevation: 15-800 meters amsl.	**None.** Suitable chaparral, cismontane woodland and coastal scrub habitat is absent in the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Cuesta Pass checkerbloom *Sidalcea hickmanii* ssp. *anomala*	--/SR/1B.2	Perennial herb that grows on strict serpentine soil. Blooms May-Jun. Elevation: 600-800 meters amsl.	**Not expected.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. There are no CNDDB occurrences within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Santa Cruz microseris *Stebbinsoseris decipiens*	--/--/1B.2	Annual herb with a yellow flower and hair-like bristles on the fruit. Occurs on open, sandy, shaly, or serpentine sites near the coast. Blooming period: Apr-May. Elevation: 10-500 meters amsl.	**Not Expected.** Suitable microhabitat is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas, and the region is out of the species' known range. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
most beautiful jewelflower *Streptanthus albidus* ssp. *peramoenus*	--/--/1B.2	Annual herb that grows on serpentine outcrops, on ridges and slopes. Blooms Apr-Sep. Elevation: 90-1040 meters amsl.	**Not expected.** Suitable serpentine substrate is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. There are two CNDDB occurrences (from serpentine soils southwest of Atascadero) recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
California seablite *Suaeda californica*	FE/--/1B.1	Shrub that grows on margins of coastal salt marshes. Blooms Jul-Oct. Elevation: 0-5 meters amsl.	**Not expected.** Suitable salt marsh habitat is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Animals			
Invertebrates			
Wawona riffle beetle *Atractelmis wawona*	--/--/--	Found in small to medium mountain streams with clear water from 2,000-5,000 feet amsl. Strongly associated with submerged mosses.	**Not expected.** Suitable clear mountain stream habitat is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas. The species was not observed in the Proposed Project and alternatives areas during surveys conducted in the appropriate season. There is one CNDDB occurrence recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives immediately northeast of Whale Rock Reservoir near Cayucos.
monarch butterfly *Danaus plexippus* (California overwintering pop. 1)	--/--/--	Butterfly with orange wings laced with black lines and bordered with white dots. Suitable overwintering habitat is within 1.5 miles of Pacific Ocean or San Francisco Bay from 200-300 feet above msl in wind-protected stands, typically of Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*), and blue gum eucalyptus (*Eucalyptus globulus*).	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives areas are out of the known overwintering range of this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Kern primrose sphinx moth *Euproserpinus euterpe*	FT/--/--	Medium-sized, stout-bodied moth with contrasting white band on the abdomen that occurs in sandy washes consisting of coarse to fine textured, decomposed granite soil in dominant vegetation such as: red-stemmed stork's beak (*Erodium cicutarium*), baby blue-eyes (*Nemophila menziesii*), rabbit brush (*Chyysothamnus nausseosus*), gold fields (*Lasthenia chrysostoma*), and brome grass (*Bromus Arenarius*).	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives are out of the known range of this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Morro shoulderband (=banded dune) snail *Helminthoglypta walkeriana*	FE/--/--	Small snail with a tightly coiled shell that is found in coastal dune scrub dominated by woody shrubs.	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives areas are out of the known range of this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Amphibians			
California tiger salamander *Ambystoma californiense*	FE or FT[1]/ST/--	Large, stocky, terrestrial salamander with a broad, rounded snout, and with white or pale yellow spots or bars on a black background on the back and sides of body. Found in grasslands and low foothill regions. They prefer natural ephemeral pools or ponds that mimic them (stock ponds that are allowed to go dry) (USFWS 2009).	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives areas are out of the known range of this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
lesser slender salamander *Batrachoseps minor*	--/SSC/--	Salamander that occurs in moist flats in mixed oak, tan oak (*Lithocarpus densiflorus*), California sycamore (*Platanus racemosa*), and California bay (*Umbellularia californica*) forests above 1,300 feet above msl. Endemic to the southern Santa Lucia Mountains in San Luis Obispo County.	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives areas are near, but outside, the known range of this species and there is a lack of suitable habitat. One CNDDB occurrence (west of Atascadero) has been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
foothill yellow-legged frog *Rana boylii*	--/CT, SSC/--	Frog that occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	**Not expected.** Ostensibly suitable habitat is present in the area; however, there are no CNDDB occurrences of the species within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Coast Range newt *Taricha torosa*	--/SSC/--	Stocky newt approximately 4.9-7.8 inches long and brown with orange undersides. Breeds and lays eggs in inundated wetlands that retain water for at least one month. Found up to two miles away from breeding habitat.	**Not expected.** Ostensibly suitable habitat is present. There are 3 CNDDB occurrences within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives; however, these records are all located in the Santa Lucia Mountains west of Highway 101.
San Joaquin whipsnake (=coachwhip) *Coluber* (=*Masticophis*) *flagellum ruddocki*	--/SSC/--	Slender snake with large head and eyes, typically brown, tan, or yellow-brown. Lacks neck bands and dark head seen in other subspecies of this genus. Active during the day and found in open, treeless areas.	**Not expected.** Open treeless areas within eastern San Luis Obispo County. There is one CNDDB record from an observation near Sandon in 1999, but the Proposed Project, reasonably foreseeable distribution components, and alternatives are outside of the species' range.
blunt-nosed leopard lizard *Gambelia silus*	FE/SE/--	Relatively large lizard with a long tail; short, blunt snout, and a yellowish or light gray-brown to dark brown body with rows of dark spots across the back, alternating with white, cream-colored or yellow bands. Typically found in open, sparsely vegetated areas of low relief on the San Joaquin Valley floor and in the surrounding foothills (USFWS 2010).	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives areas are out of the known range of this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
two-striped gartersnake *Thamnophis hammondii*	--/SSC/--	Snake that measures two-to-three feet long with an olive, brown, or dark gray colored body with a yellow stripe on each side (or no stripe at all). Occurs in streams and ponds in chaparral, oak woodland, and forest habitats, ideally in aquatic areas that are bordered by riparian vegetation with open spaces for basking (Los Padres Forest Watch 2013).	**Not Expected.** The Proposed Project, reasonably foreseeable distribution components, and alternatives construction activities would not take place in optimal habitat for this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Birds			
ferruginous hawk *Buteo regalis*	MBTA/--/--	Large hawk that forages for small rodents over grasslands and other open habitats. Found during winter over much of California except for the north coast and at high elevations Sierra Nevada Mountains.	**None.** While suitable foraging habitat is present and the species is known to occur in the region (ebird 2020e), the species does not nest in California.
western snowy plover *Charadrius alexandrines nivosus*	FT, MBTA/SSC/--	Seabird found at sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**None.** Suitable nesting habitat is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas, and there are no CNDDB records of the species within 5 miles.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE, MBTA/SE/--	Small bird with light-colored wingbars. Body is brownish-olive to gray-green above. Breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes and reservoirs (SWWF Recovery Team 2002).	**Not expected.** The Proposed Project, reasonably foreseeable distribution components, and alternatives area are out of the species core habitat range and only sporadic migrants are expected to occur within the region. No CNDDB or eBird occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives (eBird 2020i).
California Ridgway's rail *Rallus longirostris obsoletus*	FE, MBTA/SE, FP/--	Marsh-dwelling bird with short rounded wings, large feet, and long toes. Occurs only within the tidal salt and brackish marshes around San Francisco Bay.	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives area do not contain suitable habitat for this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Least bell's vireo *Vireo bellii pusillus*	FE, MBTA/SE/--	Small bird with short rounded wings and a short, straight bill. Faint white eye ring. Feathers are mostly gray above and pale below. Found in riparian vegetation along rivers of southern California. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, mesquite.	**Not Expected.** Suitable foraging and nesting habitat exist along the Salinas River, but outside of the direct footprint of the Proposed Project, reasonably foreseeable distribution components, and alternatives. Two CNDDB occurrences were recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives, the closest and most recent (2005) of which is approximately 0.6 mile north-northwest from the Proposed Project's 70 kV power line. Sightings of the species within the region are relatively rare (eBird 2020p).
Mammals			
Nelson's antelope squirrel *Ammospermophilus nelsoni*	--/ST/--	Burrowing squirrel found in sandy loam soils vegetated with widely spaced alkali scrub vegetation, typically interspersed with dry washes.	**Not expected.** Suitable habitat is present in the northeast extent of the Proposed Project, reasonably foreseeable distribution components, and alternatives region, but only one historic (1950) CNDDB occurrence of the species is known from north of the Estrella River near Shandon Valley. Significant agricultural development has occurred since the observation and the next nearest CNDDB occurrences of the species are from the San Joaquin Valley and immediately north of the Carrizo Plain.
Giant kangaroo rat *Dipodomys ingens*	FE/SE/--	Large rat with large, fur-lined cheek pouches, long tails, and five toes. They prefer annual grassland on gentle slopes with friable, sandy-loam soils. However, most remaining populations are on poorer, marginal habitats, which include shrub communities on a variety of soil types and on slopes (USFWS 2016).	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives are outside the known range of this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.

Common and Scientific Name	Legal Status Federal / State / CNPS	Description and Habitat	Potential to Occur
Tulare grasshopper mouse *Onychomys torridus tularensis*	--/SSC/--	Stout-bodied mouse with a short, relatively thick, club-like tail. Body is bicolored with the head and upperparts pale brown to gray or pinkish- cinnamon and the underparts white (N. L. Brown and D.F. Williams 2017). Occurs in arid shrubland communities in hot, arid grassland and shrubland associations, including blue oak woodlands.	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives areas are outside the known range of this species. No CNDDB occurrences have been recorded within 5 miles of the Proposed Project, reasonably foreseeable distribution components, and alternatives.
Fish			
tidewater goby *Eucyclogobius newberryi*	FE/SSC/--	Small, elongate, grey-brown fish rarely exceeding two inches in length, characterized by large pectoral fins. Requires full-strength sea water in coastal lagoons and brackish bays at freshwater stream mouths.	**None.** The Proposed Project, reasonably foreseeable distribution components, and alternatives are outside of the species' range.
steelhead (south-central California Distinct Population Segment – pop. 9) *Oncorhynchus mykiss irideus*	FT/--/--	Fish that is generally silver in color with pinkish cheeks, green backs, and silver, white or yellowish sides and back. Requires clean, cold water with near saturation dissolved oxygen levels over loose silt-free gravel beds with water temperatures between 15 and 24° C for spawning.	**None.** The Salinas River is listed as Critical Habitat for the species (see page 52578 in NOAA 2005), but the Proposed Project, reasonably foreseeable distribution components, and alternatives avoid the river. Suitable spawning, rearing, or migration habitat for the species is absent from the Proposed Project, reasonably foreseeable distribution components, and alternatives areas.

1. The Central Valley population is federally threatened, while the Sonoma and Santa Barbara populations are federally endangered.

List of Abbreviations for Federal and State Species-Status:

MBTA = Migratory Bird Treaty Act
DL = De-listed
FE = Federal endangered
FT = Federal threatened
FP = State fully protected species
SE = State endangered
ST = State threatened
CT = State candidate threatened
SSC = State species of special concern
SR = State rare
WL = Watch List
1B = plants are considered rare, threatened, or endangered in California and elsewhere.
2 = plants are rare, threatened, or endangered in California, but more common elsewhere.

Threat Ranks:

0.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 = Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

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Memorandums Supporting the Biological Resources Analysis

Note that memorandums discussing golden eagles in this appendix have been redacted to prevent disclosing nest location information publicly. This is a best practice to protect resources from possible harm.

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Memorandum

Subject: **Golden Eagle Survey of Prior Nest Location in Paso Robles, CA for the Estrella Substation and Paso Robles Area Reinforcement Project**

Date: April 2, 2019

To: Robert Peterson, California Public Utilities Commission

From: Eric Christensen, B.S., Horizon Water and Environment
Viktoria Kuehn, M.S., Horizon Water and Environment

On March 14 and 15, 2019, Horizon Water and Environment, LLC. (Horizon) biologists (Eric Christensen and Viktoria Kuehn) surveyed the approximate location of a golden eagle (*Aquila chrysaetos*) nest observation reported [redacted] and numerous eBird[2] observations of golden eagle individuals. The survey location and approximate past nest location [redacted] Golden eagle is federally protected by the Bald and Golden Eagle Protection Act (16 U.S. Code § 668) and the Migratory Bird Treaty Act (16 U.S. Code § 703-712) administered by the U.S. Fish and Wildlife Service (USFWS). The species is also Fully Protected by California Department of Fish and Wildlife (CDFW). This summary describes the survey methods, location, and results.

Methods and Area Surveyed

Surveys were conducted on March 14 and 15, 2019, during the times listed in **Table 1**. The survey location was selected based on golden eagle observation records of a past nest location generally consistent with the *Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations* (ground-based inventory and nesting habitat surveys) described by the USFWS[3]. Multiple surveys were conducted to maximize the potential of observing golden eagle while minimizing risk of potential nest disturbance. Weather conditions during the surveys were clear and sunny with temperatures ranging from 35 to 68 degrees Fahrenheit with minimal wind.

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[1] California Department of Fish and Wildlife. 2019. California Natural Diversity Database. Available: https://www.wildlife.ca.gov/data/cnddb/maps-and-data.

[2] Audubon and Cornell Lab of Ornithology. 2019. eBird Species Explorer: Observation Data for Golden Eagle (*Aquila chrysaetos*). Available: https://ebird.org/map/goleag?neg=true&env.minX=&env.minY=&env.maxX=&env.maxY=&zh=false&gp=false&ev=Z&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2019

[3] J.E. Pagel, D.M. Whittington, and G.T. Allen. 2010. Golden Eagle Inventory and Monitoring Protocols and Other Recommendations. U.S. Fish and Wildlife. Available: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83940&inline.

Table 1. Survey Details

Survey Date and Time	Surveyors
March 14, 2019 4:00 P.M. to 5:00 P.M.	Eric Christensen, Viktoria Kuehn
March 15, 2019 8:30 A.M. to 9:15A.M., and 1:00 P.M. to 1:30 P.M.	Eric Christensen, Viktoria Kuehn

Survey methodology entailed visually searching approximately 120 acres around the location of previously reported golden eagle nest (CDFW 2019) for the nest and suitable nesting substrate, as well as adjacent foraging habitat near the project. The survey focused on the known previously occupied golden eagle territory within the Paso Robles area, and consisted of visually surveying from numerous publicly accessible locations where the approximate nest location could best be seen (e.g., top of a bluff overlooking focal area).

Survey Results

One golden eagle was observed within one mile of the proposed project's transmission line alignment during both survey days foraging over the oak woodlands and adjacent grasslands along the bank of Huerhuero Creek. The golden eagle was observed from a bluff south of the Huerohuero Creek meander bend (e.g., ox-bow), northeast of the intersection of Engine Street and Wisteria Lane. The eagle was observed perching in two different oak trees, and flying and foraging above the oak woodland, riparian corridor, and adjacent grasslands and open areas. [redacted] Suitable nesting substrate for golden eagle is present in trees within the riparian oak woodlands along Huerohuero Creek, and suitable foraging habitat is present in the surrounding grasslands. Numerous grasslands in the vicinity supported California ground-squirrels (*Spermophilus beecheyi*), which are suitable prey for golden eagle[4, 5]. Based on this information, the presence of the golden eagle observed during surveys, and past records of this species nesting in the area, it is expected that the golden eagle pair will continue to nest in the same area in the future. A list of all bird species observed during the survey is included in **Table 2.**

[4] Van Horne, B.; J. Kim; and L. Salas. No Date. Suitability of Ground Squirrels as Prey for Golden Eagles in a Changing Climate. U.S. Forest Service and Point Blue. Available: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=132828

[5] Predatory Bird Research Group Long Marine Laboratory (University of California, Santa Cruz). 1999. Population Study of Golden Eagles in the Altamont Pass Wind Resource Area: Population Trend Analysis 1994-1997. June. National Renewable Energy Laboratory. Golden, CO. Available: https://www.nrel.gov/docs/fy99osti/26092.pdf

Table 2. Bird Species Observed

Common Name	Scientific Name	Common Name	Scientific Name
Golden eagle	*Aquila chrysaetos*	Yellow-billed magpie	*Pica nuttalli*
Turkey vulture	*Cathartes aura*	California scrub jay	*Aphelocoma californica*
Red-tailed hawk	*Buteo jamaicensis*	Northern mockingbird	*Mimus polyglottos*
American kestrel	*Falco sparverius*	Anna's hummingbird	*Calypte anna*
Common raven	*Corvus corax*	Acorn woodpecker	*Melanerpes formicivorus*
American crow	*Corvus brachyrhynchos*	Black phoebe	*Sayornis nigricans*
Eurasian collared-dove	*Streptopelia decaocto*	European starling	*Sturnus vulgarus*
Mourning dove	*Zenaida macroura*	Western meadowlark	*Sturnella neglecta*
Killdeer	*Charadrius vociferus*	White-crowned sparrow	*Zonotrichia leucophrys*
Double-crested cormorant	*Phalacrocorax auritus*	White-breasted nuthatch	*Sitta carolinensis*

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Memorandum

Subject: **California Red-Legged Frog Habitat Assessment in Paso Robles, CA for the Estrella Substation and Paso Robles Area Reinforcement Project**

Date: July 10, 2019

To: Robert Peterson, California Public Utilities Commission

From: Eric Christensen, B.S., Horizon Water and Environment
Viktoria Kuehn, M.S., Horizon Water and Environment

On March 14 and 15, 2019, Horizon Water and Environment, LLC. (Horizon) biologists Eric Christensen and Viktoria Kuehn surveyed nine ponds and streams within the greater Paso Robles area to assess their suitability to support California red-legged frog (*Rana draytonii*) (CRLF). The survey was conducted in support of the California Public Utilities Commission (CPUC's) California Environmental Quality Act (CEQA) analysis for the proposed Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project). The Proposed Project, which would include a new electric substation and 7-mile-long 70 kilovolt (kV) power line, is located in the current and historical range of CRLF, a federally threatened species protected by the U.S. Fish and Wildlife Service (USFWS) and a Species of Special Concern by the California Department of Fish and Wildlife (CDFW). The Proposed Project is not located within Critical Habitat for CRLF. This memorandum report describes the CRLF site assessment survey methods, locations, and results.

Background, Areas Surveyed, and Methods

SWCA Environmental Consultants (SWCA) (i.e., environmental consultants for the Proposed Project applicants, Horizon West Transmission, LLC and Pacific Gas & Electric Company) conducted a CRLF Site Assessment (SWCA Assessment) in November 2016, in which 18 sites were identified as potential CRLF habitat and, due to property access restrictions, 10 of these sites were surveyed[1]. The 2016 SWCA Assessment did not result in any CRLF observations, and nine of the sites surveyed were determined to have either no potential or an unlikely potential to support a breeding population of CRLF[1]. One pond (S6) supported suitable breeding habitat for CRLF. The results of this assessment were documented in the Proponent's Environmental Assessment (PEA) submitted to CPUC as part of the application for the Proposed Project.

Horizon's 2019 CRLF site assessment supplements the 2016 SWCA Assessment, focusing on the areas that were not previously surveyed due to property access restrictions. Prior to performing the assessment, Horizon reviewed the SWCA Assessment and also conducted a desktop analysis to review CRLF locality information and recorded California Natural Diversity Database (CNDDB) occurrences

[1] SCWA Environmental Consultants. 2017. Appendix Q: Biological Resources Technical Report for the 70kV Power Line. Proponent's Environmental Assessment Estrella Substation Project and Paso Robles Area Reinforcement Project. May.

within five miles of the Proposed Project. The CNDDB record search resulted in no CRLF occurrences within five miles of the Proposed Project. The nearest occurrence records were located in the Salinas River and its tributary (Graves Creek) approximately six miles south (upstream) of the Proposed Project[2] (**Figure 1**). No new CNDDB occurrences have been recorded since the 2016 SCWA Assessment.

Of the 8 sites with potential CRLF habitat in the Project vicinity that were not surveyed in 2016, Horizon and CPUC were able to obtain access to three of these sites through contacts with local landowners (note: these three sites are broken out into 6 distinct survey locations for the purposes of this assessment: S4, S8a, S8b, S8c, S13a, and S13b). Horizon also surveyed two new locations (S3a and S3b) of Huerhuero Creek, which had been surveyed in a different location by SWCA in 2016. Finally, Horizon re-surveyed three sites and that had previously been surveyed by SWCA in 2016 (S1a, S1b, S2). **Figure 2** shows the sites assessed by Horizon in 2019 as well as those surveyed by SWCA in 2016. The sites surveyed by Horizon in 2019 generally fall into five main categories: Salinas River, Huerhuero Creek, Unmaintained Ponds, Maintained Ponds, and Irrigation Ponds.

Surveys were conducted based on habitat requirements described in the *USFWS Revised Guidance on Site Assessment and Field Surveys for the California Red-legged Frogs*[3]. The physical and biotic qualities of identified aquatic features and their adjacent uplands were assessed for their suitability to provide breeding and non-breeding (e.g., foraging, refugia, and satellite dispersal) habitat for CRLF within one mile of the Proposed Project. Data sheets describing the physical characteristics of aquatic habitat, hydrologic connectivity, and their respective uplands; biotic aspects (e.g., potential predators, vegetation strata and composition, nearby refugia), and other characteristics were completed for each site. Site photographs were also taken.

Habitat Requirements for Species

CRLF is a highly aquatic ranid[4] frog that ranges from 1.5 to 5.1 inches in length[5]. This species has a varied diet, including mainly invertebrates, as it is a gape-limited predator. CRLF primarily breeds in ponds, although it also breeds in slow-moving, pond-like parts of streams, marshes, and lagoons[3,4]. Tadpoles and pre-metamorphs are typically associated with emergent vegetation, such as cattails (*Typha* spp.), rushes (*Juncus* spp.), or willows (*Salix* spp.), where they and adults seek refuge from predators. Water depth in suitable breeding habitat is generally greater than three feet, but breeding activity has been documented in 1.5 feet of water[6].

Results

[2] California Department of Fish and Wildlife. 2019. California Natural Diversity Database (CNDDB). Accessed on March 13, 2019. Available: https://www.wildlife.ca.gov/data/cnddb/maps-and-data.
[3] US Fish and Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-Legged Frog. August.
[4] Defined as "members of the amphibian family Ranidae", also known as "true frogs", which are semi-aquatic, possess relatively smooth moist skin, long hind legs, and typically extensively webbed hind feet.
[5] Stebbins, R.C. 1985. A Field Guide to Western Reptiles and Amphibians. Second Edition. Houghton Mifflin Company, Boston Mass.
[6] Lannoo, M. 2005. Amphibian Declines. University of California Press, Berkeley.

The results of the Horizon site assessment are categorized below, detailing the description of the aquatic feature and its ability to support CRLF habitat. Detailed descriptions of the habitat qualities at each site are recorded on individual data sheets (**Appendix A**) and correspond with the site names in Figure 2. Photographs of the assessed sites are included in **Appendix B**.

Salinas River

In the Paso Robles region, the Salinas River is the dominant aquatic feature that drains the Salinas Valley and generally flows south to north. The Salinas River is an intermittent braided river channel that has mean annual discharge of 1,178 cubic feet per second (cfs), with the highest flows in the winter to early spring wet season (February to May)[7]. It runs dry annually, typically in late spring, with low flows regulated by Santa Margarita Lake and, north of the Paso Robles region, by the San Antonio and Nacimiento reservoirs. Two locations along the Salinas River were assessed for their potential to support CRLF habitat (**S13a** and **S13b** in Figure 2) (see photographs 1-3 in Appendix B). The River stage was approximately bank-full height during the survey, and the main channels conveyed flow velocities too high to support CRLF egg disposition during the assessment.

The Salinas River supports a variety of microhabitats, including numerous degrees of side channels, discontinuous pools, and intermittently inundated riparian vegetation. Discontinuous pools in side channels that support standing water nearly year-round and over the summer provide suitable physical conditions for CRLF breeding habitat. However, the likely periodic introduction of predators into such discontinuous pools from the perennial portions of the River significantly reduces the potential for CRLF to successfully breed at such features. Aspects of the River that represented suitable non-breeding (i.e., movement) habitat for CRLF include the presence of late-season water, low flow velocity in backwater and side channels, and vegetation along stream margins. However, this River supports predatory fish (e.g., channel catfish [*Ictalurus punctatus*], largemouth bass [*Micropterus salmoides*], sunfish [*Lepomis* spp.], and mosquitofish [*Gambusia affinis*]) and American bullfrog (*Lithobates catesbeianus*), has high winter to early spring flow velocities, and is intermittently inundated over the year, all of which reduce the Salinas River's potential to represent suitable breeding habitat for CRLF. Overall, in spite of some adverse conditions in the Salinas River, it was determined that S13a and S13b provide suitable breeding and movement habitat for CRLF.

The Salinas River was not surveyed in the 2016 SWCA Assessment due to lack of access.

Huerhuero Creek

Huerhuero Creek is a sandy, ephemeral stream that remains predominantly dry aside from immediately following substantial rainfall events and associated runoff. Two locations along the Huerhuero Creek channel (**S3a** and **S3b** in Figure 2) (see photographs 4 and 5 in Appendix B) were assessed for their potential to support suitable CRLF habitat conditions. Aspects of these features that indicated suitable habitat conditions for CRLF included vegetation along stream margins, gradual banks, and undeveloped upland habitat. However, the stream lacks water throughout most of the year and emergent vegetation.

[7] U.S. Geological Survey. 2019. Water-Year Summary. Available: https://nwis.waterdata.usgs.gov/nwis/wys_rpt?

Therefore, it was determined that S3a and S3b provide suitable movement habitat for CRLF, but not suitable breeding habitat.

A segment of Huerhuero Creek south of Highway 46 was surveyed in the 2016 SWCA Assessment. Horizon's findings on Huerhuero Creek approximately 3 miles further downstream are generally consistent with SWCA's findings from their 2016 assessment.

Unmaintained Ponds

Two ponds are located in topographic valleys between hills vegetated with grassland and oak woodland on residential properties and retain intermittently ponded water due to earthen berms impeding flow at the downstream end (**S8b** and **S8c** in Figure 2) (see photographs 6-8 in Appendix B). These ponds hold water throughout the wet season and the larger one (S8c) retains water until August or September, according to the property owner. Both ponds have unconsolidated substrate, and are surrounded by annual grassland. Aspects of these features that indicate suitable habitat conditions for CRLF include ponded water, and unmaintained grassland uplands with partial shade from oak (*Quercus* spp.) trees. However, both features lack perennial water, lacked emergent vegetation, and exhibited algal growth (i.e., suggesting the presence of excess nutrients and low dissolved oxygen), which reduces the ability of the ponds to support breeding CRLF. As a result, it was determined that S8b and S8c provide suitable movement habitat for CRLF, but not breeding habitat.

These ponds were not surveyed in the 2016 SWCA Assessment due to lack of access.

Maintained Ponds

There are various ponds that are regularly maintained through vegetation removal along pond margins, including in the pond at Circle B HOA (**S8a** in Figure 1) (see photographs 9-11 in Appendix B) and at the Hunter Ranch Golf Course (**S4** in Figure 2) (see photographs 12 and 13 in Appendix B). Aspects of these features that indicate suitable habitat conditions for CRLF include the presence of perennial water, emergent vegetation, gradually sloped banks, and partial shading along pond margins. However, both features support an abundance of predatory species (crappie [*Pomoxis* spp.], carp [*Cyprinus carpio*], and American bullfrog), partially mowed/maintained pond margins and concrete-lined portions of the features, all of which significantly reduce the features' suitability for CRLF habitat. As a result, it was determined that S4 and S8a provide suitable movement habitat for CRLF, but not breeding habitat.

These ponds were not surveyed in the 2016 SWCA Assessment due to lack of access.

Irrigation Ponds

Three manmade perennial ponds (**S1a**, **S1b** and **S2** in Figure 2) (see respective photographs 14, 15, and 16 in Appendix B) located within vineyards were assessed. The ponds are used for vineyard irrigation and possess associated pump structures. Aspects of S1a and S1b features that indicate suitable CRLF habitat conditions included perennial water, emergent vegetation (bulrush [*Schoenoplectus* spp.], rush), gradually sloped banks, and partial shading from adjacent trees (i.e., willow, oak [*Quercus* spp.]). However, both features contain predatory fish (largemouth bass, bluegill), various waterfowl (American

coot and Clark's grebe), and limited upland habitat, which affect the ability to support CRLF breeding activity. It was determined that S1a and S1b provide suitable movement habitat for CRLF, but not breeding habitat.

Irrigation pond S2 is located behind an earthen berm that impedes water within a topographic valley surrounded by vineyards. This pond is plastic-lined and included an algal skimming arm, and a strong odor, which suggest that it is used for agricultural wastewater treatment. Based on these factors, this pond does not represent suitable habitat (i.e., movement or breeding) for CRLF.

These three sites were surveyed in the 2016 SWCA Assessment. Horizon's findings are generally consistent with SWCA's findings made in the 2016 assessment.

Conclusions/Summary

Similar to the 2016 SWCA Assessment, Horizon's 2019 survey did not identify any CRLF individuals, tadpoles, or egg masses. Of the 11 sites surveyed (8 of which were not surveyed during the 2016 SWCA Assessment), 10 provided suitable movement (i.e., non-breeding) habitat, while only two (Salinas River; S13a and S13b) provided suitable breeding habitat (see **Table 1**). Habitat aspects affecting the suitable habitat determinations for CRLF include the following:

- annually high winter/spring velocity and abundance of predators in the main channels of the Salinas River;
- degree of isolation from predators and non-native competitors;
- predominantly dry conditions in Huerhuero Creek during much of the year;
- lack of emergent vegetation and abundance of predators in the unmaintained ponds;
- the abundance of predatory fish and invasive competitors in maintained and irrigation ponds; and,

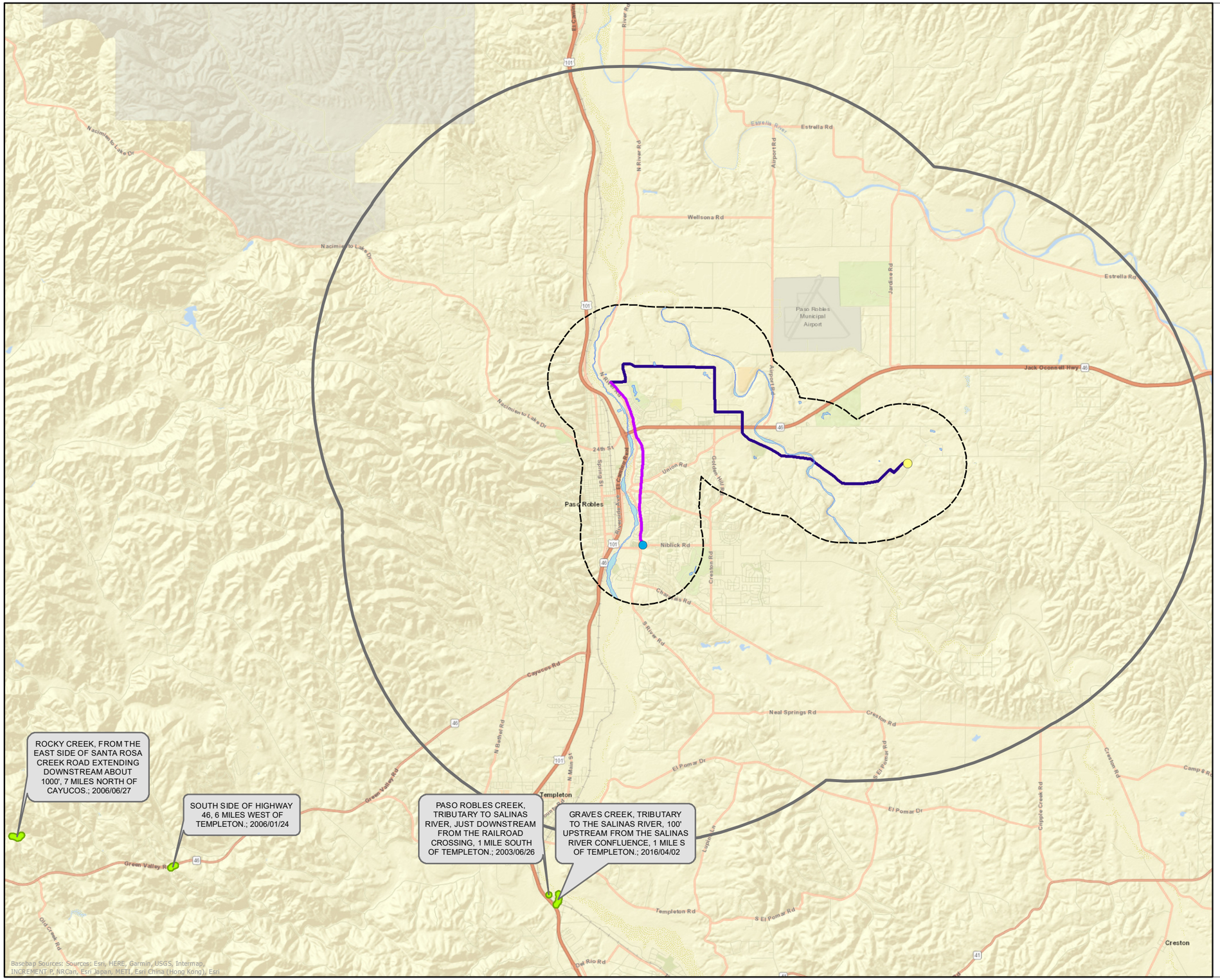
For the S2 site (the only site found to have neither suitable breeding nor movement habitat), the determination was based on poor water quality, ongoing use in vineyard management activities, plastic-lining, and actively maintained vineyards in the surrounding uplands of the site.

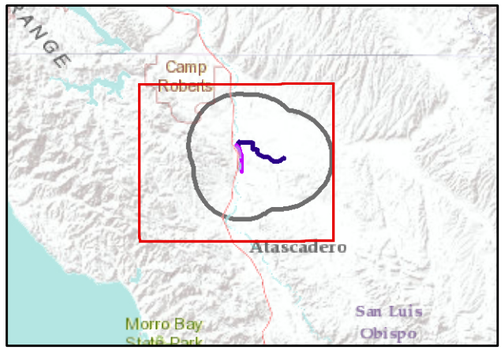
Overall, the likelihood for CRLF to occur in the Proposed Project area is considered low given the paucity of CRLF occurrence records within the surrounding region and the significant distance of these occurrences to the Proposed Project. However, in spite of these facts, the possibility for CRLF to be present in the Proposed Project region remains. CRLF may use aquatic features other than S2 as dispersal locations or aquatic refugia when travelling to other nearby aquatic features.

Table 1. California Red-legged Frog Habitat Determination for Assessed Sites

Site Assessed[1]	Surveyed in 2016? (Y/N)	Suitable Breeding and Movement Habitat	Suitable Movement Habitat	Unsuitable Breeding or Movement Habitat[4]
Salinas River (S13a)	N	X	X	
Salinas River (S13b)	N	X	X	
Huerhuero Creek (S3a)	N		X	
Huerhuero Creek (S3b)	N		X	
Unmaintained Pond (S8b)	N		X	
Unmaintained Pond (S8c)	N		X	
Maintained Pond (S8a)	N		X	
Maintained Pond (S4)	N		X	
Irrigation Pond (S1a)	Y		X	
Irrigation Pond (S1b)	Y		X	
Irrigation Pond (S2)	Y			X
Notes: [1] The sites assessed are shown in Figure 2.				

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Project Component

- Paso Robles Substation location
- Estrella Substation Location
- Reconductoring and Wood Pole Replacement Segment
- New 70kV Power Line Segment
- 1-mile buffer
- 5-mile buffer

CRLF Potential Habitat and Occurrences

- California red-legged frog CNDDB Records
- Potential Aquatic/Riparian Habitat for CRLF*

*As determined by SWCA Environmental Consultants 2017

N

0 1 2 4

Miles

Figure 1
California Red-Legged Frog CNDDB Records within 5 Miles of the Project Area

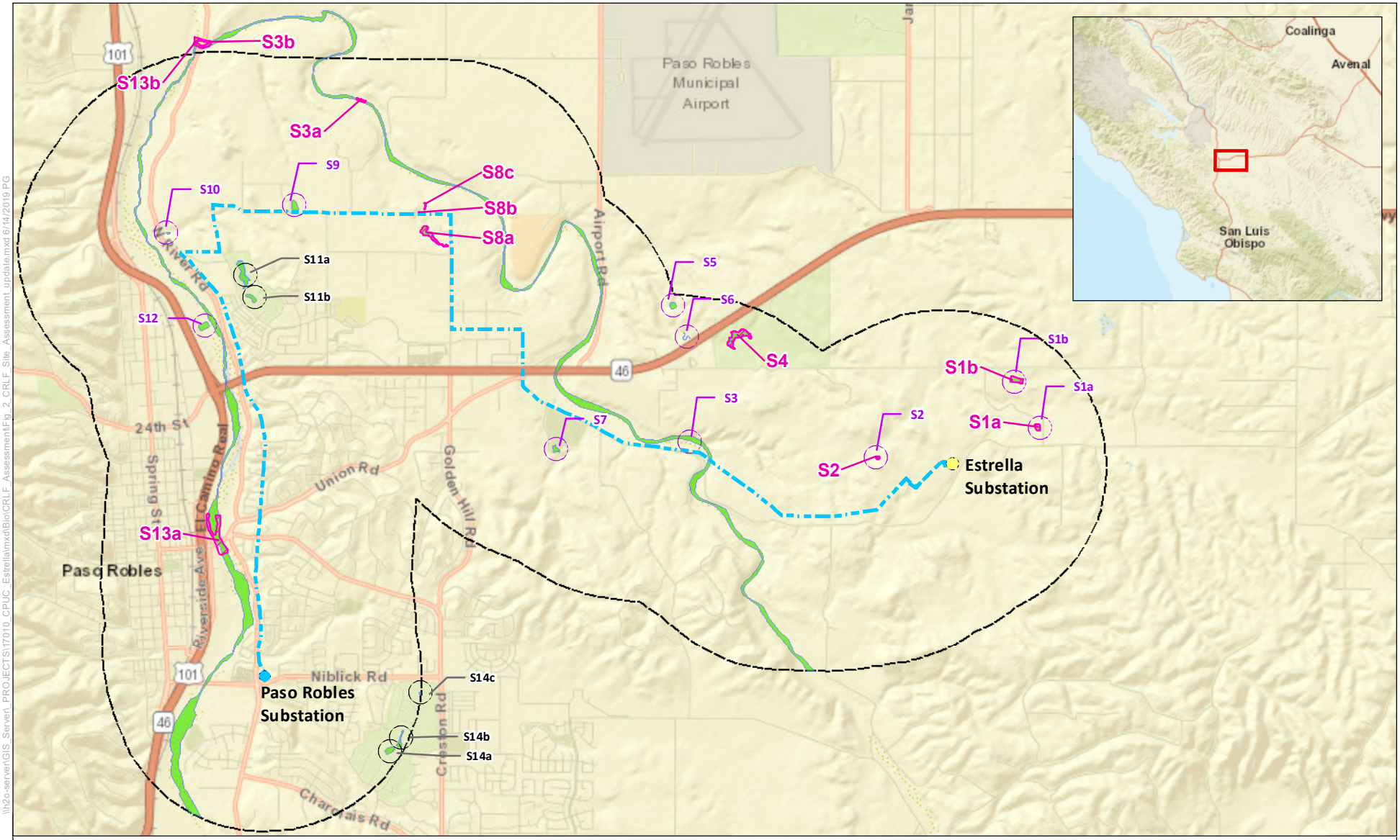
Horizon WATER and ENVIRONMENT

Estrella Substation and Paso Robles Area Reinforcement Project

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Basemap Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong),

N

0 0.25 0.5
Miles

Horizon WATER and ENVIRONMENT

Project Components

- Proposed Estrella Substation
- Paso Robles Substation
- Proposed 70kV Power Line Segment
- 1-mile buffer

CRLF Assessment

- Sites Surveyed in 2019
- Sites Surveyed in 2016*
- No Access Granted
- CRLF Potential Aquatic & Riparian Habitat

*2016 survey areas were approximated based on SCWA Environmental Consultants Assessment in 2016.

Source: SCWA 2017 and PG&E 2017

Figure 2
California Red-legged Frog Site Assessement Locations

Estrella Substation and Paso Robles Area Reinforcement Project

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Appendix A—California Red-legged Frog Habitat Site Assessment Data Sheets

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Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/15/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S1a; 35°38'21.59"N, 120°35'26.12"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project
Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 0.74 acres Maximum depth: 4 feet

Vegetation: emergent, overhanging, dominant species: Emergent: rushes, cattail
Dominant: rushes, annual grasses

Substrate: sand to fines

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: n/a

Maximum depth of stream pools: n/a

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Pond created using earthen berm by vineyard owners. Water was clear. Emergent vegetation provides refuge from predators. Little shading available aside from emergent vegetation.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/15/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S1b; 35°38'37.37"N, 120°35'35.41"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project

Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 1.6 acres Maximum depth: 4 feet

Vegetation: emergent, overhanging, dominant species: Emergent: rushes
Overhanging: weeping wollow. Dominant: rushed, annual grasses

Substrate: Fines

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: n/a

Maximum depth of stream pools: n/a

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Pond created using earthen berm by vineyard owners. Water was very clear, allowing predators to spot potential frogs. Emergent vegetation provides refuge from predators. American coot and Clark's grebe observed on the pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/15/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S2; 35°38'11.20"N, 120°36'32.20"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project
Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 0.2 acres Maximum depth: unknown

Vegetation: emergent, overhanging, dominant species: none

Substrate: sand to fines

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: n/a

Maximum depth of stream pools: n/a

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Pond created using earthen berm by vineyard owners. Water may have been used as a treatment basin.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S3a; 35°40'11.48"N, 120°40'6.34"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project
Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

species:
1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: Not a pond Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Flashy system; only flows shortly after large storm events

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 58 feet

Depth at bank full: _____

Stream gradient: 1%

Are there pools (circle one)? YES (NO)

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Straight segment of Huerhuero with cobbles to boulders in channel, included expected run, riffle, and glide.

Vegetation: emergent, overhanging, dominant species:

Califronia annual grassland along the bank margins with occasional oaks and shrubs

recent fire burned most of the vegetation along this segment of the creek

Substrate: sand to boulders

Bank description: Gradual

Perennial or (Ephemeral *circle one).* If ephemeral, date it goes dry: _____

The Huerhuero Creek was dry and only flash flows after large storm events seem to activate the creek. There were no pools or ponds observed.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S3b; 35°40'11.48"N, 120°40'6.34"W)
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project
Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: Not a pond Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: Flashy system; only flows shortly after large storm events

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 96 feet

Depth at bank full: _____

Stream gradient: 1%

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: Mouth of Huerhuero Creek with sand and loam substrate with saturated areas and one pool less than 1 foot deep. Primarily riffle and glide.

Vegetation: emergent, overhanging, dominant species:

California annual grassland along the bank margins with blue oaks and willows near the Salinas River. Herbs included poison hemlock, Himalayan blackberry, broadleaved pepperweed

Substrate: sand to loam

Bank description: Gradual

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: shortly after rain event

The Huerhuero Creek mouth was dry and only flash flows after large storm events seem to activate the Creek. One shallow pool observed that was less than 1 foot deep and also seemed ephemeral.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S4; 35°38'52.28"N, 120°37'31.55"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project

Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 2.42 acres Maximum depth: >6 feet

Vegetation: emergent, overhanging, dominant species: Emergent: cattails, rush
Overhanging: arroyo willow, blue oak. Dominant: blue oak, rush, and non-native grasses

Substrate: Fine unconsolidated

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

n/a

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Pond created by golf club and is perennial. Surrounding banks are gradual and non-native grasses are frequently mowed. Pond supports carp fish, and bullfrogs. Emergent vegetation is often clipped and thinned. Frequent pedestrian traffic on the bridge crossing the pond. Bird species on the pond include American coot and ducks.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S8a (Circle B Pond); 35.65736944, -120.66111111
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project

Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 2.42 acres Maximum depth: >6 feet

Vegetation: emergent, overhanging, dominant species: Emergent: cattails, rush, water lilies.
Overhanging: arroyo willow, blue oak. Dominant: arroyo willow, water lilies, cattails.

Substrate: Fine unconsolidated

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 3 feet

Depth at bank full: 1 foot

Stream gradient: -1.55% (-3/194 feet)

Are there pools (circle one)? YES (NO)

If yes,

Size of stream pools: n/a

Maximum depth of stream pools: n/a

Characterize non-pool habitat: run, riffle, glide, other: Dry during assessment. Expect glide and run, as channel is entirely vegetated with non-native grasses.

Vegetation: emergent, overhanging, dominant species: Channel is vegetated with non-native grasses. Overhanging: blue oaks and coyote brush. Dominant: non-native annual grasses, blue oak trees.

Substrate: Fine to gravel, vegetated with non-native grasses.

Bank description: Very broad, gradual slopes.

Perennial or (Ephemeral) *(circle one)*. If ephemeral, date it goes dry: Within 1-2 days after rain storm.

Other aquatic habitat characteristics, species observations, drawings, or comments:
Pond created in 1927 for cattle through placement of dam impeding water flow from upstream ephemeral drainage and uplands. Pond is perennial and retains water except when depth of water exceeds height of dam and spills into northern topographic valley. Surrounding banks are gradual, support multiple burrow complexes, and non-native grasses are routinely mowed. Upstream portion of pond is concrete-lined and separated from lower, natural portion of pond by a series of concrete drop structures that range from approximately 1 to 4 feet high. Both pond portions support bass, crappie, bluegill, and bullfrogs. Ground squirrels, desert cottontails, and deer scat observed in adjacent uplands. Residents have observed foxes and bobcat near pond. Birds observed include American coot, red-winged blackbird, American crow, great horned owl, turkey vulture, red-tailed hawk, great egreat, double-crested cormorant, and mallard.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S8b (North of Circle B); 35°39'33.87"N, 120°39'42.00"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project

Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 80 sq. feet Maximum depth: 3 feet

Vegetation: emergent, overhanging, dominant species: Emergent: none
Overhanging: blue oak. Dominant: Blue oak, annual grasses

Substrate: Fine unconsolidated

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: after rainy season has ended

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Pond created in a topographically low valley between two hillsides. The ponding occurs due to an earthen berm created along the downstream portion. The hillsides do not appear to be mowed regularly. The pond only temporarily holds water after storm events according to the property owner. No emergent vegetation was observed, no burrows or fish species were observed in or around the pond. The oaks almost entirely shaded the pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S8c (North of Circle B); 35°39'36.35"N, 120°39'39.41"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

ATTACH A MAP (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project

Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: 0.12 acres Maximum depth: >6 feet

Vegetation: emergent, overhanging, dominant species: Emergent: none
Overhanging: blue oak. Dominant: Blue oak, annual grasses

Substrate: Fine unconsolidated

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: late summer (approx. September)

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

_____

_____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Bank description: _____

_____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Pond created in a topographically low valley between two hillsides. The ponding occurs due to an earthen berm created along the south of the adjacent road. The hillsides do not appear to be mowed regularly. The pond dries out in late summer annually according to the property owner. Limited to no emergent vegetation was observed, no burrows or fish species were observed in or around the pond. There were deer observed north of the pond.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S13a; 35°37'43.65"N, 120°41'5.56"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project
Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: Not a pond Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry:

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 224 feet
Depth at bank full: >6 feet
Stream gradient: 2%

Are there pools (circle one)? YES NO
If yes,
Size of stream pools: 50 feet x 20 feet
Maximum depth of stream pools: >6 feet

Characterize non-pool habitat: run, riffle, glide, other: Run and glide

Vegetation: emergent, overhanging, dominant species: Arroyo willow banks and overhanging cottonwoods. Shrub/ herb layer consisted of poison hemlock, and broadleaved pepperweed

Substrate: Fine to cobble with loamy sand along the banks at the wetted channel

Bank description: Gradual captured

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

The Salinas River is wider with more sediment bars throughout than compared to S13b. Some backwater pools and slower velocity side channels were observed along the margins. In current conditions the stream velocities in the main channel and most side channels were too fast for CRLF.

Various predatory fish species and bullfrogs present in the Salinas River.

Trees lining the stream provide perches for predators.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix A.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by_____ _____ _____
(FWS Field Office) **(date)** **(biologist)**

Date of Site Assessment: 03/14/2019
(mm/dd/yyyy)

Site Assessment Biologists: Kuehn, Viktoria (Last name) (first name); Christensen, Eric (Last name) (first name)

_____ (Last name) (first name); _____ (Last name) (first name)

Site Location: San Luis Obispo County, Paso Robles; S13b; 35°40'31.78"N, 120°41'14.31"W
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Estrella Substation and Paso Robles Area Reinforcement Project
Brief description of proposed action:
The Proposed Project would primarily involve construction and operation of a new 230 kilovolt (kV)/70 kV substation and a new approximately 7-mile-long 70 kV transmission line, and replacement/reconductoring of approximately 3 miles of an existing 70 kV transmission line. These facilities would be located in unincorporated San Luis Obispo and within the City of Paso Robles. The Proposed Project is intended to address identified deficiencies in the electrical grid system in the Paso Robles area, and to accommodate projected new growth in the area.

1) Is this site within the current or historic range of the CRF (circle one)? YES NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: Not a pond Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry:

Appendix A.

California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 99 feet

Depth at bank full: >6 feet

Stream gradient: 1%

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: 50 feet x 40 feet

Maximum depth of stream pools: >6 feet

Characterize non-pool habitat: run, riffle, glide, other: Primarily run.

Vegetation: emergent, overhanging, dominant species: Arroyo willow banks and overhanging cottonwoods. Shrub/ herb layer consisted on poison hemlock, mugwort, broadleaved pepperweed, and milkthistle

Substrate: Fine to cobble with loamy sand along the banks at the wetted channel

Bank description: Gradual captured

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Assessment location where Huerhuero Creek flows into the Salinas River. The Huerohuero Creek was dry during assessment. Some backwater eddies provided refugia for Pacific tree frog tadpoles along the Salinas River margin. Trees and shrubs create backwater pools during high stage winter flow events. In current conditions the in-stream velocity was too fast for CRLF within the main channel.

Various predatory fish species and bullfrog present in the Salinas River.

Trees lining the stream provide perches for predators.

Burrows were observed along banks of Huerohuero Creek.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix B—Site Photographs

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Appendix B. Site Photographs

Photo No. 1	Date: 3/14/2019

Description:
Site S13a:
Salinas River facing south, upstream, from the 13th Street Bridge. A side channel is visible in the foreground.



Photo No. 2	Date: 3/14/2019

Description:
Site S13a:
Salinas River facing south, upstream, with the 13th Street Bridge in the background. Exposed roots and vegetation along the margins are present.



Appendix B. Site Photographs

Photo No. 3	Date: 3/14/2019

Description:
Site S13b:
Salinas River at the mouth of Huerhuero Creek, facing northwest downstream of Salinas River. Emergent vegetation creates refugia from the increased channel velocity.



Photo No. 4	Date: 3/14/2019

Description:
Site S3a:
Huerhuero Creek facing west, downstream.



Appendix B. Site Photographs

Photo No. 5	Date: 3/14/2019

Description:
Site S3b:
Mouth of Huerhuero Creek facing east, upstream. The channel bottom is saturated, but doesn't support substantial discontinuous pools.



Photo No. 6	Date: 3/14/2019

Description:
Site S8b:
Unnamed unmaintained pond in a topographic valley, facing northeast, downhill.



Appendix B. Site Photographs

Photo No. 7	Date: 3/14/2019

Description:
Site S8c:
Unnamed unmaintained pond, facing north from the uphill side.



Photo No. 8	Date: 3/14/2019

Description:
Site S8c:
Unnamed unmaintained pond, facing south from the downhill side.



Appendix B. Site Photographs

Photo No. 9	Date: 3/14/2019

Description:
Site S8a: Maintained portion of the upper pond in the Circle B Pond complex. Southeastern portion of the feature, facing southeast.



Photo No. 10	Date: 3/14/2019

Description:
Site S8a: Concrete-lined stream segment connecting the upper pond to the lower pond within the Circle B Pond complex. Photograph facing west, downstream.



Appendix B. Site Photographs

Photo No. 11	Date: 3/14/2019

Description:
Site S8a:
The lower pond in the Circle B Pond complex facing concrete-lined upper/lower pond connection segment. Photograph taken from northwestern extent of the feature facing southeast. Gradual slopes and partially maintained margins and surrounding uplands evident.



Photo No. 12	Date: 3/14/2019

Description:
Site S4:
Large maintained pond in the Hunter Ranch Golf Course photographed from a bridge facing northeast. A carp and emergent vegetation are evident.



Appendix B. Site Photographs

Photo No. 13	Date: 3/14/2019

Description:
Site S4:
A large bullfrog observed on the margin of the maintained pond within the Hunter Ranch Golf Course photographed from the bridge.



Photo No. 14	Date: 3/15/2019

Description:
Site S1a:
A manmade perennial irrigation pond within a vineyard and associated outbuildings facing northwest.



Appendix B. Site Photographs

Photo No. 15	Date: 3/15/2019

Description:
Site S1b:
A manmade perennial irrigation pond within a vineyard facing west.



Photo No. 16	Date: 3/14/2019

Description:
Site S2:
A manmade pond within a vineyard facing northwest. The pond is lined with plastic and exhibited a skimming mechanism, aeration device, and an odor suggesting poor water quality.



Memorandum

Subject: **Biological Resources and Golden Eagle Nest Surveys in Paso Robles, CA for the Estrella Substation and Paso Robles Area Reinforcement Project**

Date: August 12, 2019

To: Robert Peterson, California Public Utilities Commission

From: Eric Christensen, B.S., Horizon Water and Environment
Viktoria Kuehn, M.S., Horizon Water and Environment

On July 11 and 12, 2019, Horizon Water and Environment, LLC (Horizon) biologists Eric Christensen and Viktoria Kuehn surveyed 11 specific locations (four parcels along alternative power line route alignments, four golden eagle nests, and three potential battery storage locations) as well as several areas along publicly-accessible portions of various alignments within the greater Paso Robles-Templeton-Atascadero area to field verify land cover types, wetlands and waters of the U.S., vegetation communities, and potential habitat for special-status species; and survey golden eagle (*Aquila chrysaetos*) nests recently active in 2019 and active in past years. The survey was conducted in support of the California Public Utilities Commission (CPUC's) California Environmental Quality Act (CEQA) analysis for the Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project), proposed by Horizon West Transmission (HWT) (formerly NextEra Energy Transmission West [NEET West]) and Pacific Gas & Electric Company (PG&E).

The Proposed Project, which would include a new electric substation and 7-mile-long 70 kilovolt (kV) power line and 3-mile-long reconductoring segment, is located in a region known to support special-status plant and wildlife species, nesting raptors, and other protected biological resources. The eastern portion of the Proposed Project is located within Critical Habitat Unit 29C for vernal pool fairy shrimp (*Branchinecta lynchi*). Additionally, the eastern portions of Alternative Power Line Route (PLR)-1A and PLR-1C (including Minor Route Variations [MRVs] 1 and 2) are located within the same Critical Habitat Unit (refer to the Draft Alternatives Screening Report [ASR] for alternative numbering/coding and descriptions). This memorandum report describes the biological survey methods, locations, and results, and discusses the results and provides recommendations.

Background, Areas Surveyed, and Methods

Horizon's 2019 biological resources reconnaissance surveys supplement the biological surveys conducted by SWCA Environmental Consultants (SWCA) (environmental consultants for HWT and PG&E) to support the 2017 Proponent's Environmental Assessment (PEA)[1], and subsequently to support analysis of project alternatives. The Draft ASR, released for public comment in March 2019, identified a

[1] NEET West and PG&E. 2017. Proponent's Environmental Assessment – Estrella Substation and Paso Robles Area Reinforcement Project. Prepared by SWCA Environmental Consultants. Available: www.cpuc.ca.gov/environment/info/horizonh2o/estrella/docs/Revised_PEAOnly_May2017.pdf.

number of new project alternatives and alternatives that had not been fully evaluated in the PEA. CPUC and Horizon requested biological survey information for these alternatives from SWCA, HWT, and PG&E as part of Data Request #2. Although SWCA, HWT, and PG&E ultimately provided vegetation mapping and other biological information for some of the alternatives, Horizon performed the July 2019 surveys to obtain more information about the alternatives carried forward for analysis in the Project environmental impact report (EIR), confirm SWCA's vegetation mapping in the field, and verify information about reported golden eagle nests near the Proposed Project and alternatives.

Horizon focused on areas that were not previously surveyed due to property access restrictions and/or areas that were determined to potentially support habitat for special-status species based on review of aerial imagery. Horizon contacted property owners to request access to these parcels, and only parcels to which access was granted were surveyed (**Figure 1**). Horizon also surveyed some publicly-accessible areas along alternatives and surveyed some alignments by vehicle from the roadway. Additionally, Horizon coordinated directly with staff at the City of Paso Robles to survey a parcel adjacent to the Paso Robles Municipal Airport where a 4.3-Megawatt (MW) solar field is planned, which has been suggested as a potential battery storage location for the Proposed Project. Horizon also surveyed two other potential battery storage sites. **Table 1** summarizes the survey locations.

Table 1. Survey Locations

Survey Location	**Location Description**	**Relationship to Proposed Project or Alternatives**
[redacted]	[redacted]	[redacted]
Sunshine Ag Property	Approx. 1.7 miles north of Highway 46, south of Estrella Road	Alternative PLR-1A and PLR-1C pass through middle of property; Alternative PLR-1C MRV #2 passes through northern portion of property
Testerman Property	Approx. 2 miles north of Highway 46, south of Estrella Road and east of Jardine Road	Alternatives PLR-1A and PLR-1C pass through southern edge of property
Bonel Ranch Property / PG&E Easement	Portion of PG&E's easement for its 230 / 500 kV transmission lines that pass through Bonel Ranch property, south of Estrella Road	Alternative PLR-1C follows this alignment / easement
Estrella Road	Section of Estrella Road that extends from the Bonel Ranch Substation Site (Alternative SS-1) to the intersection with Jardine Road	Alternative PLR-1C MRV #1 would follow this section of Estrella Road
Golden Hill Industrial Park	Publicly-accessible areas within Golden Hill Industrial Park in	Alternative PLR-3A (Strategic Undergrounding, Option 1) and PLR-

Survey Location	Location Description	Relationship to Proposed Project or Alternatives
	proximity to the undergrounding alternatives	3B (Strategic Undergrounding, Option 2) would pass through the Golden Hill Industrial Park
Pirih Property	Along (to the northwest/north) Neal Springs Road and Vaquero Road	Alternative SE-PLR-2 would pass through the property following the existing 230 / 500 kV transmission corridor
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Potential Battery Storage Site #1	Approx. 700 feet west of the CAL FIRE Air Attack Base at the Paso Robles Municipal Airport	This site is under consideration for a battery storage installation under Alternative BS-1, BS-2, or BS-3
Potential Battery Storage Site #2	Approx. 780 southwest of the intersection of Niblick and South River roads (within the Woodland Plaza II shopping center)	This site is under consideration for a battery storage installation under Alternative BS-1 or BS-2
Potential Battery Storage Site #3	Immediately southwest of the existing Atascadero Substation	This site is under consideration for a battery storage installation under Alternative BS-1 or BS-2

Note: The surveys did not cover all of the potential battery storage sites under consideration. The numbering of golden eagle nests and battery storage sites is simply for clarity for the purposes of this memorandum.

Prior to performing the assessment, Horizon biologists conducted a desktop analysis to review special-status species' locality information and current recorded California Natural Diversity Database (CNDDB) occurrences within five miles of the Proposed Project and alternatives. The CNDDB record search resulted in numerous special-status plant and wildlife occurrence records within five miles of the Proposed Project and Project alternatives that were used to inform determinations of suitable habitat during the survey effort. Surveys were conducted on-foot and by vehicle during July 11 and 12, 2019, between 8:00am and 4:00pm to ensure optimal visibility. Binoculars and spotting scope were used to visually aid observations as necessary. Hardcopy and digital (iPad) notes and locations were collected in the field. Site photographs were also taken.

Survey Results

The results of the Horizon biological surveys are provided below and are discussed based on applicability to the Proposed Project or alternatives. Photographs of the assessed sites are included in **Appendix A**.

Proposed Project

On July 12, Horizon biologists surveyed a reported golden eagle nest [redacted] The nest was inactive at the time of the survey, but the property owners reported that the fledglings left the nest approximately 2 to 3 weeks prior. Recent whitewash (e.g., raptor excrement) was visible on the side of the nest. During the survey one adult and two juvenile golden eagles were observed flying in the general vicinity of the nest and each periodically perched on a tree about 400 feet northeast of the nest tree. The property owners indicated that the nest was used by golden eagles in 2018 as well.

Alternative PLR-1A: Estrella Route to Estrella Substation

Two parcels (Sunshine Ag Property and Testerman Property) along Alternative PLR-1A (refer to Figure 1) were surveyed by vehicle and on-foot on July 11. These parcels also encompass a portion of Alternative PLR-1C, which is the same as Alternative PLR-1A in this location, as well as Alternative PLR-1C MRV 2 (see further discussion below). The Sunshine Ag Property is primarily vineyards, but the northern portion includes an intermittent drainage and cottonwood (*Populus fremontii*) trees, immediately south of Estrella Road. A residence is located in the northwest portion of the parcels and California annual grassland (synonymous with non-native annual grassland) occurs on portions of the parcel where vineyards do not occur. Two ephemeral drainages that drain west are surrounded by blue oak (*Quercus douglasii*) trees and are located within the southwest portion of the parcel. Numerous turkey vultures (*Cathartes aura*) were observed foraging over open portions of this parcel. One Swainson's hawk (*Buteo swainsonii*), a California threatened species, was observed perched on a transmission pole in the northwestern corner of this parcel.

The Testerman Property included a residence surrounded by California annual grassland that continues to the southern boundary in the central and eastern portion of the parcel. Other portions of the parcel support blue oak woodland and an intermittent drainage feature that enters at southcentral portion of the southern boundary, flows east immediately north of the southern parcel boundary, turns north and continues east of the residence near the eastern boundary, and meanders northwest through the northeast to northwest portion of the parcel. The blue oak woodland that occurs immediately along the banks of the intermittent drainage is considered riparian woodland and it partially shades the majority of the intermittent drainage feature. The drainage feature is accurately shown in National Wetland Inventory (NWI) data and land cover observed on the parcel is generally consistent with the prior biological studies. Numerous western fence lizards (*Sceloporus occidentalis*), desert cottontails (*Sylvilagus audubonii*) and turkey vultures, as well as a red-tailed hawk (*Buteo jamaicensis*) were observed on the parcel.

Alternative PLR-1C: Estrella Route to Bonel Ranch

As noted above, in the area of the Sunshine Ag Property and Testerman Property, the Alternative PLR-1C alignment is identical to Alternative PLR-1A. In addition to these parcels (discussed above), Horizon surveyed a portion of Alternative PLR-1C that follows the existing 230/500 kV transmission corridor through the Bonel Ranch Property (see Figure 1). This area was surveyed on July 11 on-foot and by vehicle. The survey area supports primarily California annual grassland and, in the southcentral and southeastern portions, mixed valley and blue oak woodland. One ephemeral and two intermittent drainages occur in the southwest and central portions of the survey area, respectively, all of which generally drain northwest toward the Estrella River. [redacted] One large seasonal wetland feature, which receives flow from the ephemeral drainage, is located in the southwestern portion of the survey area and it exhibits a gradual drainage trend north toward the Estrella River.

The portion of the Bonel Ranch Property located north of Estrella Road where the substation would be placed under Alternative Substation Site (SS)-1 was previously used as agricultural row crop fields approximately two years ago, but the vegetation has only been grazed as needed to reduce thatch accumulation and currently supports California grassland. [redacted] Several turkey vultures and red-tailed hawks were also seen foraging throughout the survey area. Numerous California ground squirrel burrows occur in California grassland (north and south of Estrella Road) and represent suitable habitat for western burrowing owl.

Alternative PLR-1C: Estrella Route to Bonel Ranch, MRV 1

As shown on Figure 1, Alternative PLR-1C, MRV 1 would follow Estrella Road all the way from the Bonel Ranch Substation Site to Jardine Road, where the power line alignment would turn south down Jardine Road and then join the Alternative PLR-1C route to the west towards Wellsona Road. On July 11, Horizon biologists surveyed this MRV by vehicle and periodically stopped at locations of biological interest. Estrella Road is surrounded by California grassland, which supports numerous California ground squirrel (*Otospermophilus beecheyi*) burrows, and portions are located immediately south of the Estrella River, a sandy intermittent drainage that flows from east to west towards the Salinas River. The Estrella River supports riparian woodland comprised by cottonwood and valley oak (*Quercus lobata*) trees, as well as willow (*Salix*) shrubs, and patches of invasive giant reed (*Arundo donax*). Ground squirrel burrows in treeless areas offer suitable habitat for western burrowing owl (*Athene cunicularia hypugaea*), a California species of special concern, where grassland is grazed or mowed so it is generally not more than 12 inches tall, but no burrowing owls were observed. Numerous turkey vultures and red-tailed hawks were observed foraging over the grasslands and Estrella River adjacent to this MRV.

Alternative PLR-1C: Estrella Route to Bonel Ranch, MRV 2

Alternative PLR-1C, MRV 2 starts at the “zig zag” northwest through agricultural lands and, instead of continuing the zig zag all the way to the point where the PLR-1C/-1A route veers west towards Wellsona

Road, goes further to the north and follows an existing distribution line through agricultural lands to Jardine Road (see Figure 1). At Jardine Road, Alternative PLR-1C, MRV 2 turns south and joins the remainder of the PLR-1C/-1A route to the west towards Wellsona Road. As noted above, this MRV route is generally located within vineyards and the northern portions of the Sunshine Ag Property and Testerman Property; please refer to the discussion above under Alternative 1A for a description of observations and land cover characterizations.

Alternative PLR-3A: Strategic Undergrounding, Option 1

Publicly-accessible portions of Alternative PLR-3A were surveyed by vehicle and areas of biological interest were surveyed on-foot on July 12. The surveyed portions of this alternative are located within industrial and commercial development, and adjacent undeveloped lots support ruderal vegetation and small patches of California grassland. Numerous California ground squirrel burrows occur in the patches of California grassland within the alignment, but the presence of large valley oak trees on an adjacent ridge, which are used as perches for raptors, make these burrows unlikely to support western burrowing owl. Turkey vultures and red-tailed hawks were observed foraging over the undeveloped portions of Alternative PLR-3A.

Alternative PLR-3B: Strategic Undergrounding, Option 2

Publicly-accessible portions of Alternative PLR-3B were surveyed by vehicle and areas of biological interest were surveyed on-foot on July 12. This alternative is identical to Alternative PLR-3A, but instead of following Wisteria Lane, the underground alignment goes north and then west behind the San Antonio Winery and adjacent parcels (the same as the Proposed Project overhead 70 kV alignment). The surveyed portions of this alternative are partially located on the periphery of industrial and commercial development, with adjacent undeveloped lots that support ruderal vegetation and small patches of California grassland. A potential seasonal wetland was also observed within an undisced portion of an undeveloped lot within the alternative as evidenced by the presence of small patches of hydrophilic obligate and facultative species. [redacted] Numerous California ground squirrel burrows occur in the patches of California grassland within the alignment, but the presence of large valley oak trees on an adjacent ridge, which are used as perches for raptors, make these burrows unlikely to support western burrowing owl. Turkey vultures and red-tailed hawks were observed foraging over the undeveloped portions of this alternative.

Alternative Substation Expansion (SE)-PLR-2: Templeton-Paso South River Road Route

Horizon surveyed several locations near Alternative SE-PLR-2 on July 12. First, the peripheries of the Pirih Property (refer to Figure 1), which primarily supports California grassland, were surveyed by vehicle. This portion of the Alternative SE-PLR-2 follows the existing 230/500 kV transmission corridor. The southern half of the parcel is interspersed by numerous potential seasonal wetlands that generally tend to drain southeast. Patches of coyote brush (*Baccharis pilularis*) scrub and scattered valley oak trees occur on hills in the southern half of the parcel. The northern half of the parcel includes a large hill

that supports several valley and blue oak trees. Numerous turkey vultures and red-tailed hawks were observed foraging over the grasslands of this parcel. Numerous California ground squirrel burrows occur in California grassland in this parcel and represent suitable habitat for western burrowing owl.

[redacted] Male and female hooded orioles (*Icterus cucullatus*) were observed at this location as well [redacted]

Additionally, four western pond turtles (*Emys marmorata*), a California species of special concern, were observed within Santa Ysabel Lake and one additional western pond turtle was observed basking on a concrete spring structure in Sulphur Spring approximately 2,900 feet southeast of Santa Ysabel Lake. Numerous American coots (*Fulica americana*), acorn woodpeckers (*Melanerpes formicivorus*), canvasbacks (*Aythya valisineria*), great egrets (*Ardea alba*), and red-tailed hawks, as well as a great blue heron (*Ardea herodias*), were seen in and around the Santa Ysabel Lake.

Potential Battery Storage Site #1

One potential battery storage location (Potential Battery Storage Site #1) approximately 700 feet west of the CalFire Air Attack Base within the Paso Robles Municipal Airport was surveyed on July 11. This location consisted of disced fields surrounded by California grassland on the north. Turkey vultures were observed foraging over the potential battery storage location site during the survey. The adjacent California grassland supported numerous California ground squirrel burrows that represent suitable western burrowing owl habitat.

Potential Battery Storage Site #2

Potential Battery Storage Site #2, located approximately 780 feet southwest of the intersection of Niblick and South River roads (within the Woodland Plaza II shopping center), was surveyed on July 12. This location consisted of landscaped grasses within a commercial development (i.e., mall and parking lots). Evidence of Canada goose (*Branta canadensis*) (i.e., excrement) was present.

Potential Battery Storage Site #3

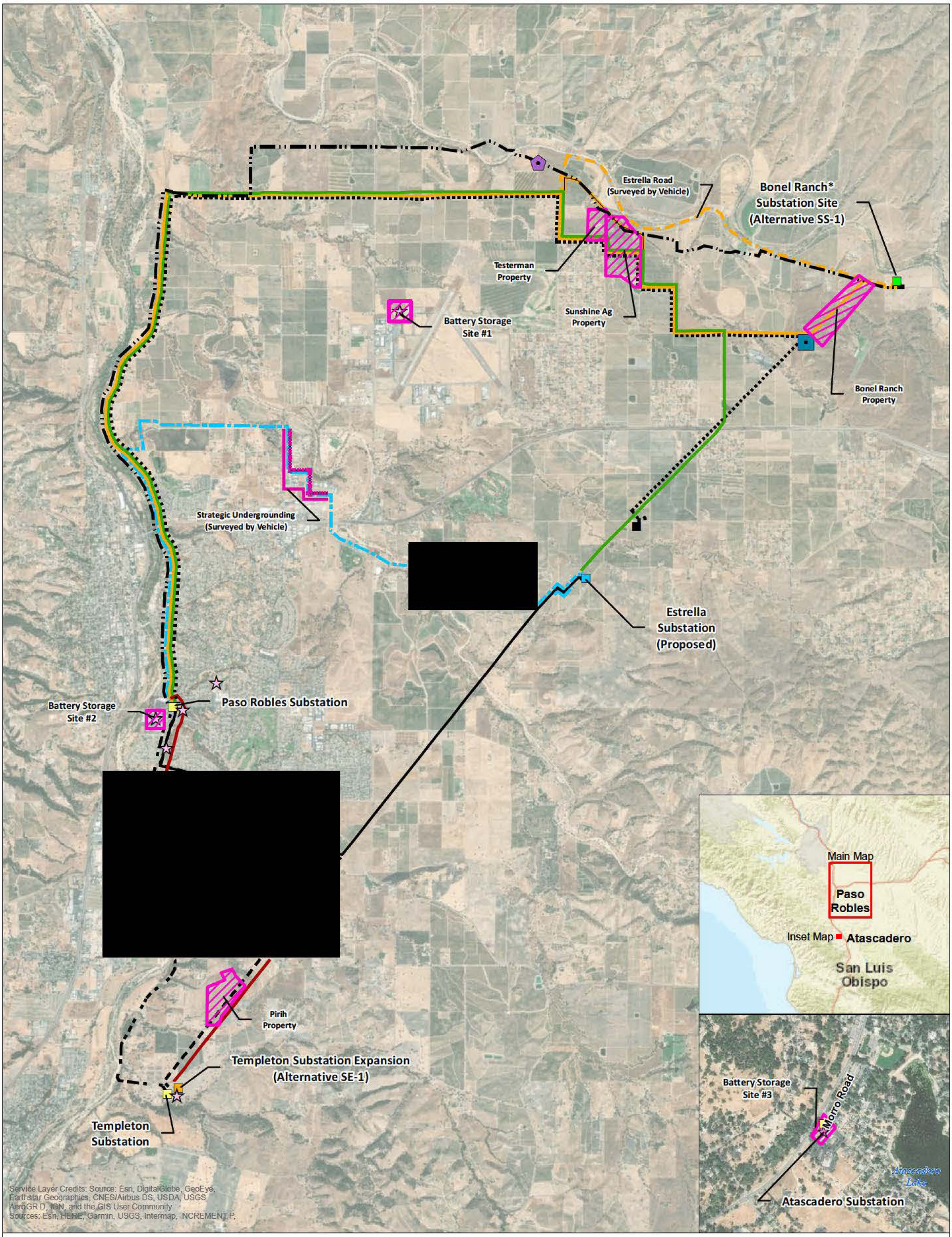
Potential Battery Storage Site #3, located immediately southwest of the existing Atascadero Substation was surveyed on July 12. Vegetation in this located consisted primarily of numerous valley oak, blue oak, and pine (*Pinus* spp.) trees with an understory of California blackberry (*Rubus ursinus*), Himalayan

blackberry (*Rubus armeniacus*), and poison oak (*Toxicodendron diversilobum*) shrubs along the margins. The central portion of the potential battery storage site was disturbed and included sparse tree stumps.

Discussion

Overall, Horizon's July 2019 surveys confirmed that SWCA's vegetation mapping from the PEA and other technical documents provided to Horizon/CPUC was largely accurate, as Horizon's observations of species composition and land features on the ground were largely consistent with SWCA's mapping. Additionally, the surveys confirmed that the reports of golden eagle nests near the Proposed Project and alternatives by members of the community appear to be accurate. Although all the nests observed by Horizon were inactive at the time, the nests themselves were observed and golden eagle individuals (juveniles and adults) were also observed in the vicinity in many instances, supporting the community members' claims that the nests were recently active. The potential battery storage sites that were surveyed showed no apparent biological resources constraints that would prevent development of a battery storage facility on the site.

With respect to the golden eagle nests and potential impacts from the Proposed Project and alternatives, we recommend coordinating with the California Department of Fish Wildlife.


Estrella Road
(Surveyed by Vehicle)
Bonel Ranch*
Substation Site
(Alternative SS-1)
Testerman
Property
Sunshine Ag
Property
Battery Storage
Site #1
Bonel Ranch
Property
Strategic Undergrounding
(Surveyed by Vehicle)
Estrella
Substation
(Proposed)
Paso Robles Substation
Battery Storage
Site #2
Pirih
Property
Templeton Substation Expansion
(Alternative SE-1)
Templeton
Substation
Main Map
Paso
Robles
Inset Map
Atascadero
San Luis
Obispo
Battery Storage
Site #3
Morro Road
Atascadero
Lake
Atascadero Substation
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGR D, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, NCREMENT P,
Survey Locations
Golden Eagle Nest
Parcels Accessed
Species Sightings
Western Pond Turtle
Swainson's Hawk
Golden Eagle Activity
Project Alternatives Carried Forward for Full Analysis
Alternative SS-1: Bonel Ranch Substation Site
Alternative PLR-1A: Estrella Route to Estrella Substation
Alternative PLR-C: Estrella Route to Bonel Ranch, Option #1
Alternative PLR-1C: Minor Route Variation 1
Alternative PLR-1C: Minor Route Variation 2
Alternative PLR-3A: Strategic Undergrounding, Option 1
Alternative PLR-3B: Strategic Undergrounding, Option 2
Alternative SE-1: Templeton Substation Expansion
Alternative SE-PLR-2: Templeton-Paso South River Road Route
Potential Front-of-the-Meter Battery Storage Locations (Alternative BS-1 & BS-2)
Other Project Alternatives Considered
Alternative SS-2: Mill Road West Substation Site
Alternative PLR-1B: Estrella Route to Mill Road West
Alternative PLR-2: Creston Route (Variations not shown; not carried forward)
Alternative SE-PLR-1:Templeton-Paso 70kV Route (Existing)
Alternative SE-PLR-3: Templeton-Paso Creston Route
Alternative PLR-1D: Estrella Route to Bonel Ranch, Option #2
Figure 1
Survey Locations & Species Observations
Estrella Substation
Existing Substation
Proposed Project 70-kV Route
N
0
1
Miles
Horizon WATER and ENVIRONMENT
Source: NEET West and PG&E 2017.
Note: The route variations shown are offset in order to display the alignments of the alternative routes that may overlap in places.
* formerly McDonald Ranch
Estrella Substation and Paso Robles Area Reinforcement Project

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Appendix A.
Representative Photographs

[redacted]

[redacted]

Photo No. 2	Date: 07/12/19

Description: Grassland and blue oak woodland with intermittent drainage along southern boundary of Testerman Property to right. Photo taken from driveway at southwest corner looking east.



Appendix A.
Representative Photographs

Photo No. 3	Date: 07/11/19

Description: Bonell Ranch looking northeast along existing transmission corridor toward the Estrella River. Valley oak trees in foreground and California grassland evident in background.



Photo No. 4	Date: 07/12/19

Description: Western pond turtle basking on log within western portion of Santa Ysabel Lake.



Appendix A.
Representative Photographs

Photo No. 5	Date: 07/12/19

Description: Potential battery storage location west of the Paso Robles Municipal Airport. Photo facing southwest from northeast corner of potential battery storage site.



Photo No. 6	Date: 07/12/19

Description: Potential battery storage location southwest of the intersection of Niblick and South River roads (Battery Storage Site #2). Photo facing north-northeast.



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To: **Molly Peterson**
Wildlife Biologist
Pacific Gas and Electric Company

From: **Eric Jepsen**

Date: **July 9, 2020**

RE: **Golden Eagle and Raptor Survey Memo for the Estrella Substation & Paso Robles Area Power Connect Project**

Garcia and Associates (GANDA) was contracted by Pacific Gas and Electric Company (PG&E) to conduct golden eagle territorial occupancy and nesting surveys within existing and proposed transmission line corridors for the Estrella Substation and Paso Robles Area Power Connect Project (Project) in Paso Robles, California.

In central California, the courtship period for golden eagles usually extends from December through January. Final nest site selection and nest building generally start in early February, with egg laying and incubation commencing in mid-to-late February. Golden eagles are most visible during courtship and up until incubation commences, at which point their behavior becomes cryptic and the potential for detection is reduced. Eagle activity increases after hatching, and by the middle of the nestling phase both parents become more visible off the nest, hunting and provisioning their offspring. During the fledgling phase, both adults and juveniles may be seen off of the nest.

Methods

GANDA conducted multiple rounds of ground-based surveys of suitable habitat. The first round of surveys took place during the week of February 17 to February 21, 2020 (summary in Appendix A). The survey area included all areas of suitable habitat and historic eagle observations within 1 mile of the Project area (Figure 1). Previous surveys had identified historic nest locations,

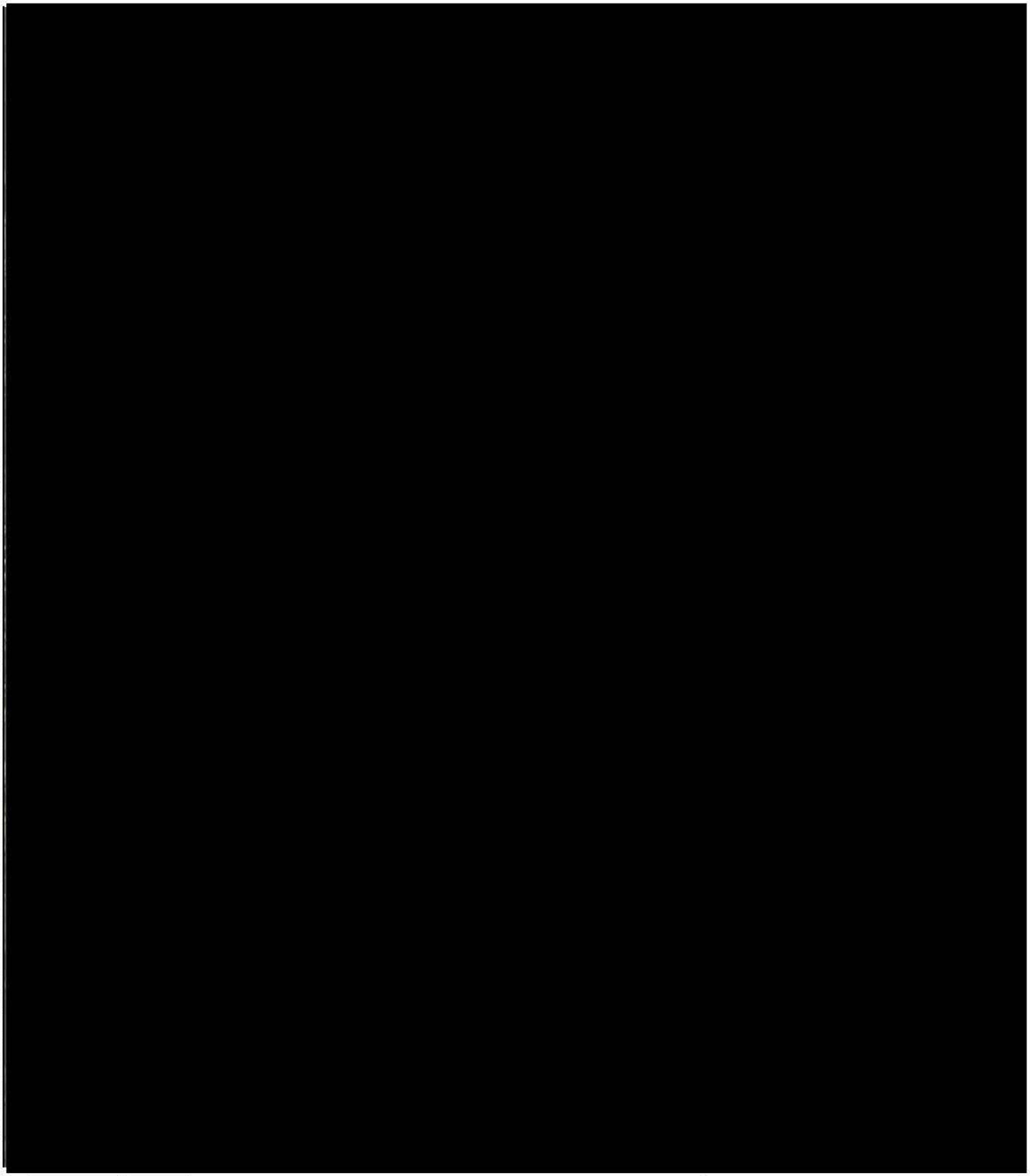
identified as GOEA Nests #1 through #4 (i.e., Huerhuero Creek territory and Santa Ysabel Ranch territory, see below), as well as two potential nest locations identified as Potential GOEA Nest (Estrella Road) and Potential GOEA Nest (Union Road). All of these nest locations were included within the surveyed area shown in Figure 1. The assigned territory name was taken from landscape features in the vicinity of identified nest areas. Full characterization of territory boundaries based on direct observations of soaring, undulations, hunting areas, or disputes with neighbors and interlopers was beyond the scope of this study. To facilitate our visualization golden eagle territory occupancy, territories are shown as half-mile buffers around the 2020 active nests in Figure 1. The half-mile buffer gives an idea of a golden eagle pair's activity center around the nest, but does not strictly define the eagles' use of the landscape.

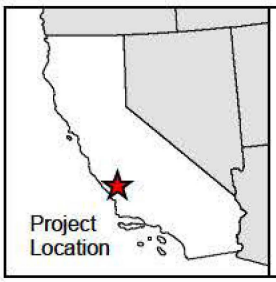
The surveys were designed to provide information on territory occupancy, courtship, nest-building behavior, and nest locations. All observations of golden eagles — including date, time, age, number, location, activity, flight patterns, perch and nest substrate, and nesting status — were recorded onto field notes and maps. From the results of these surveys, we mapped golden eagle centers of activity as well as nest sites.

Mid-to-late season surveys were conducted to confirm remaining questions regarding nesting status within established territories. GANDA conducted additional ground surveys on May 8, 2020 and June 18 and 19, 2020 (Appendix A). Incidental observations of empty stick nests, nesting raptors, and ravens along existing and proposed transmission corridors were also recorded (Appendix B).

Results

Figure 1, below, shows the results of the February, May, and June surveys. Two occupied golden eagle nesting territories were observed in 2020 (GOEA Nest #2 and Nest #3). Both nests found were within areas of previously known golden eagle nesting territories. These two territories are identified as the Huerhuero Creek territory and Santa Ysabel Ranch territory. Based on the observations summarized below, 2020 nesting at Huerhuero Creek appears to have failed, and the Santa Ysabel Ranch territory successfully fledged one juvenile golden eagle in 2020. No golden eagle activity was observed in the vicinity of the potential golden eagle nests at Estrella Road or Union Road. Red-tailed hawks were observed at both nest locations.





Source: Bing Maps

0 1 2 Miles

0 2 4 Kilometers

N

Scale 1:126,720

Figure 1. Nest Locations
Estrella Golden Eagle Surveys
San Luis Obispo County, California

GANDA

Huerhuero Creek Territory

[redacted] In 2006, a single nestling was observed in the nest with adults hunting nearby. There are two nest locations that have been previously identified within this area. Following naming precedent from earlier communications with PG&E, those locations were identified as GOEA Nest #1 and GOEA Nest #2. All Huerhuero Creek 2020 nest observations are presented below and in Table 1.

On February 17, 2020, an adult golden eagle was observed in the vicinity of GOEA Nest #2, perched in the trees close to the nest location making quiet, rattling chirps. Due to the potential for disturbance to an active nest, the surveyor did not get close enough to directly observe GOEA Nest #2. Later in the day, two adult golden eagles were observed soaring south of the airport, in the vicinity of this area. No nest was observed at the mapped location for GOEA Nest #1.

On February 20, 2020, an adult golden eagle was observed perched overlooking GOEA Nest #2. Again, to reduce potential impacts to the active nest, the surveyor did not get close enough to confirm nesting. However, based on the history of this territory and the consistent presence of the adult, including observed vocalizations, this nest was assumed to be active.

On May 8, 2020, an adult golden eagle was observed perched at several locations in the vicinity of the GOEA Nest #2 grove, including above an old, unnumbered, eagle-sized nest approximately 600 feet east of the mapped location for GOEA Nest #2. The adult golden eagle was vocalizing throughout the survey period. The active nest at GOEA Nest #2 was not confirmed during this survey, however the behavior of the adult indicated that it may no longer have been active.

On June 17, 2020, an adult golden eagle was again observed perched within the GOEA Nest #2 stand. The GOEA Nest #2 appeared to have failed. It was partially collapsed, with half of it on the ground below the nest tree (Photos 1 and 2). Several molted eagle feathers were observed on the ground in the vicinity of the nest, however there was no evidence of egg shells or nestling remains in the vicinity of the nest.

Table 1. Huerhuero Creek 2020 observations

Date	Time	Observation
2/17/2020	6:00	Golden eagle adult perched in vicinity of Nest #2, quiet "rattling chirp" vocalization, nest not observed.
2/17/2020	12:45	Two golden eagles soaring south of the airport not far from GOEA Nest #2.
2/20/2020	15:10	Adult golden eagle perched in Nest #2 grove.
5/8/2020	8:45	Adult female golden eagle perched in nest grove, flew east to perch above old nest, to north side of arroyo, then back to nest grove, regularly vocalizing.
6/19/2020	6:00	Adult golden eagle flushed from nest grove, flew across arroyo and perched in an oak.



Photo 1. Huerhuero Creek 2020 golden eagle nest (GOEA #2).



Photo 2. Partial remains of 2020 Huerhuero golden eagle nest (GOEA #2).

Santa Ysabel Ranch Territory

[redacted] The two previously identified eagle nests within this territory are GOEA Nest #3 and GOEA Nest #4. All 2020 Santa Ysabel Ranch nest observations are presented below and in Table 2.

On February 18, 2020, GOEA Nest #3 was identified as "active." An adult female golden eagle was observed in incubation posture on built-up nest [redacted] The male adult golden eagle of this pair was observed perched overlooking the nest area. The nest at GOEA Nest #4 was also observed and appeared to be fallen apart with age.

On May 8, 2020, both adults were observed perched in the vicinity of the nest and a single, approximately five-week-old nestling was observed in the nest (Photo 4). No other eagles were observed.

On June 18, 2020, both adults were observed perched and gliding along the hills overlooking the nest tree. The nest was empty with copious whitewash covering it and on the ground below.

On June 19, 2020, both adults and the recently fledged juvenile golden eagle were all observed perched in a valley oak north of the nest tree (Photo 5). The juvenile eagle was regularly making begging or hunger calls to the adults. Eventually both adults flew to perch uphill from the juvenile, which continued to vocalize.

Table 2. Santa Ysabel Ranch 2020 Observations

Date	Time	Observation
2/18/2020	6:00	Adult female golden eagle prone on Nest #3[redacted]adult male golden eagle perched in oak overlooking nest.
5/8/2020	8:00	Two adult golden eagles perched [redacted] five-week-old nestling in nest.
6/18/2020	19:15	Adult golden eagle pair gliding along hills north of nest, cruising over nest, then gliding into trees southeast of nest.
6/19/2020	10:15	Adult golden eagle pair and single fledgling perched in valley oak approximately 500 feet north of the nest, with the fledgling constantly begging. One adult flew to the ground for a while, [redacted] soon followed by second adult. Juvenile remained vocalizing in the oak tree.

[redacted]



Photo 4. Approximately five-week-old nestling in nest (GOEA #3).



Photo 5. Adult and single fledgling golden eagle in live oak near GOEA #3.

In addition to occupied territories and confirmed active nest locations, GANDA documented two observations of soaring individual golden eagles (one adult and one subadult) and one distant kettle of six soaring golden eagles that could not be identified to age or with any known nesting territory.

Other observations included seven red-tailed hawk nests, two great horned owl nests, and four common raven nests within or adjacent to existing and proposed transmission corridors. Two red-tailed hawk nests occurred at locations that had previously been identified as potential golden eagle nests [redacted] A table of 2020 observations is included in Appendix B.

Discussion

Habitat suitable for golden eagle nesting surrounds the Paso Robles area. This is especially true for undeveloped rangelands and oak savannah that occur to the north and east of the Project area. The golden eagle nesting sites documented in 2020 appear to be within fragmented remnants of these types of habitats. Areas that are characterized by urban sprawl and agriculture—especially vineyards—dominate much of the Project area and are unsuitable for golden eagle nesting. These areas include Wellsona and River roads at the northwest side of the Project area, Buena Vista Drive between River and Golden Hills roads at the western central part of the Project area, Union Road between Paso Robles Boulevard and Highway 46 at the eastern central part of the Project area, and areas that pass through the central, urbanized portion of Paso Robles.

Suitable habitat predominantly occurs in the Huerhuero Creek territory at the center of the Project area, the Santa Ysabel Ranch territory just south of Paso Robles, and patchy areas of nesting habitat in the southeast and northeast portions of the Project area. However no other evidence of nesting was observed at any areas other than the first two aforementioned locations.





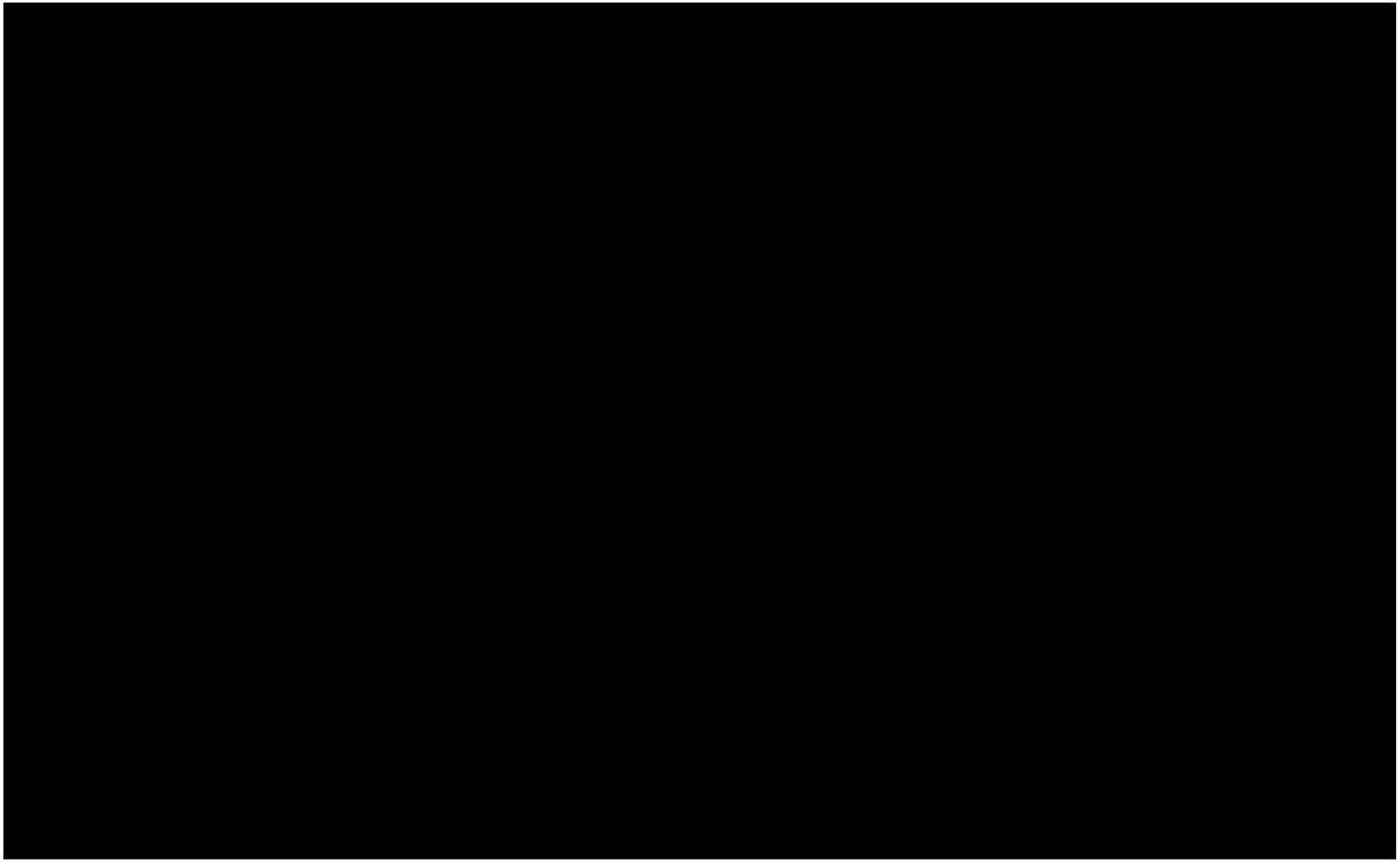


APPENDIX A
Estrella Substation and Paso Robles Area Reinforcement Project
2020 Golden Eagle and Raptor Summary

Date	Time	Area Surveyed
2/17/2020	5:30	Huerhuero Creek Territory, GOEA Nest #2 and vicinity
2/17/2020	9:10	[redacted]
2/17/2020	10:15	Proposed 70-kV route from GOEA nest #2 to the proposed Estrella substation
2/17/2020	12:00	Branch Road – southernmost portions of PLR-1A and PLR-1B up to a Hwy 46
2/17/2020	15:05	Proposed McDonald Ranch Substation, western ends of PLR 1C and PLR-1D
2/18/2020	6:00	[redacted]
2/18/2020	10:00	SE PLR-1
2/18/2020	1230	SE PLR-3 and southern portion of SE PLR-1 and Templeton Substation
2/19/2020	6:00	SE PLR-2, SE PLR-3
2/19/2020	8:00	PLR-2
2/19/2020	12:00	Proposed MacDonald Substation and four proposed routes west of there, up to Jardine Road
2/19/2020	1500	Rest of Project routes
2/20/2020	6:00	Four proposed routes running north of the Paso Robles substation to the point where four routes turn east
2/20/2020	13:20	Unfinished portion of proposed 70-kV route
2/20/2020	15:10	GOEA Nest #2
2/21/2020	6:00	PLR-1D and potential GOEA nest off Estrella Rd. Also PLR-1A, PLR-1B, and PLR-1C
5/8/2020	8:00	Santa Ysabel Ranch Territory, GOEA Nest #3 and vicinity
5/8/2020	8:45	Huerhuero Creek Territory, GOEA Nest #2 and vicinity
5/8/2020	12:30	[redacted]
5/8/2020	13:00	Branch Road – southernmost portions of PLR-1A and PLR-1B up to a Hwy 46
5/8/2020	14:00	[redacted]
5/8/2020	15:00	Estrella Road to Wellsona to River Road
6/18/2020	19:15	Santa Ysabel Ranch Territory, GOEA Nest #3 and vicinity
6/19/2020	6:00	Huerhuero Creek Territory, GOEA Nest #2 and vicinity
6/19/2020	7:00	Estrella Road to Airport Road
6/19/2020	9:45	Union Road, Penman Springs Road
6/19/2020	10:15	Santa Ysabel Ranch Territory, GOEA Nest #3 and vicinity
6/19/2020	11:45	South River Road to Neil Spring Road, Templeton Substation and vicinity

APPENDIX B
Estrella Substation and Paso Robles Area Reinforcement Project
2020 Golden Eagle and Raptor Survey Observations

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Pacific Gas & Electric Company's Avian Protection Plan

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Avian Protection Plan
For External Distribution

PG&E's Program to Address Avian Electrocutions, Collisions, and Nesting Birds

Updated April 2018

Avian Protection Plan
For External Distribution

PG&E's Program to Address Avian Electrocutions, Collisions, and Nesting Birds

Pacific Gas & Electric Company
9575 Victor Road
Victor, CA 95240
Contact: Mike Best
209-942-1426

Updated April 2018

Pacific Gas & Electric Company. 2017. *Avian Protection Plan for Public Distribution: PG&E's Program to Address Avian Electrocutions, Collisions, and Nesting Birds.* Public Version. Updated April 2018. Victor, CA.

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Acronyms and Abbreviations

AMM	Avoidance and Minimization Measures
APLIC	Avian Power Line Interaction Committee
APP	Avian Protection Plan
BGEPA	Bald and Golden Eagle Protection Act
CCS	California Condor Conservation Strategy
CDFW	California Department of Fish and Wildlife
ECP	Eagle Conservation Plan
GPS	Global Positioning System
HCP	Habitat Conservation Plan
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
NBMP	Nesting Bird Management Plan
PG&E	Pacific Gas and Electric Company
RCZ	Raptor Concentration Zone
USFWS	U.S. Fish and Wildlife Service

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Chapter 1
Introduction

1.1 Introduction and Corporate Policy

PG&E is committed to being an environmental leader. Our environmental policy reflects our environmental commitment and challenges us to find ways to produce, deliver, and use energy as safely and sustainably as possible. It is our policy to:

- Comply fully with the letter and spirit of all applicable environmental laws and regulations;
- Maintain an environmental management system that (1) fosters environmental excellence and innovation, (2) ensures that regular independent reviews of all environmental aspects of our business are conducted through a risk-informed process, (3) train all employees on applicable environmental requirements and the importance of environmental leadership to achieving our vision, and (4) strives for continuous improvement;
- Lead by example and reduce our impact on the environment by delivering clean energy, building more sustainable and climate-resilient facilities, and serving as responsible stewards of land, wildlife and cultural resources;
- Proactively engage with our customers to help them use less energy and better manage their energy footprint;
- Advocate for public policies that create greater environmental benefits while balancing the needs of our customers, communities and shareholders;
- Partner with our stakeholders as we strive to meet our environmental commitment; and
- Publicly communicate our progress and performance.

As one component of PG&E's environmental commitment, PG&E has developed this Avian Protection Plan (APP) to address key issues surrounding impact avoidance, management, and conservation of avian species as related to PG&E's operations and maintenance activities.

1.2 Document Organization

This Avian Protection Plan (APP) is organized as follows:

- Chapter 1, *Introduction*, provides background information for the development, implementation, and the goals of the APP.
- Chapter 2, *Risk Assessment and Risk Reduction*, provides an overview of the risk assessment approach, as well as a summary of the proactive and reactive steps taken to prevent avian electrocutions and collisions. It also provides an overview of PG&E's approach to nesting bird management plan.
- Chapter 3, *Training, Permits, Quality Control and Reporting*, provides an overview of the training conducted for PG&E employees and contractors, permits held by PG&E, the quality control process to ensure that the APP is effective, and a summary of reporting requirements.

- Chapter 4, *Avian Enhancement, Outreach, and Research Programs*, provides an overview of the programs and partnerships PG&E engages in and funds to support habitat restoration or other enhancements for birds. It also describes efforts to promote avian protection and conservation, including support of bird research.
- Chapter 5, *References Cited*, provides a list of sources used in preparing this plan.
- Appendix A, *Public Awareness Program*, contains a publicly distributed brochure explaining PG&E's *Avian Protection Plan* and links to information on PG&E's website.
- Appendix B, *Avian Protection Plan Field Guide*, contains a quick reference guide about PG&E's APP for employees who work in the field.

1.3 Background and Purpose

Birds may be affected by a variety of activities, including activities associated with the construction, operation, and maintenance of electric, natural gas, and power generation infrastructure. PG&E's service territory stretches from Eureka in the north to Bakersfield in the south and from the Pacific Ocean in the west to the Sierra Nevada in the east, in addition to gas transmission pipelines in the Mojave Desert. The service area spans more than 74,000 square miles in 48 of California's 58 counties and is home to many wildlife species and important natural communities. The service area contains habitat for more than 300 species of migratory birds that live in northern and central California either permanently or seasonally, and for the numerous waterfowl that migrate in the Pacific Flyway corridor.

Birds often use utility poles, transmission towers, and power lines for perching, hunting, and nesting because these features are often the highest and most prominent points in the landscape. Birds that come in direct contact with electric current while also touching a grounded element of a facility may be electrocuted, resulting in injuries or death (Figure 1). These electrocutions, in turn, may result in electric outages and fires. Bird collisions with facilities include strikes with wires (transmission and distribution lines), with most collisions occurring with the smallest diameter wires and typically mid-span of the line (i.e. these wires are typically the shield wire located above the phase conductors on transmission lines or the phase conductor and neutral wires on distribution lines). If issues arise, the APP program manager, in conjunction with company biologists, investigates the situation, assesses the methods to deter and prevent future occurrences, and prescribes the measures needed to avoid and minimize impacts. Ongoing PG&E maintenance activities, including vegetation management activities, may also affect birds. Nest abandonment can result directly or indirectly from nearby disturbances, depending on the timing, duration, and extent of the work performed.

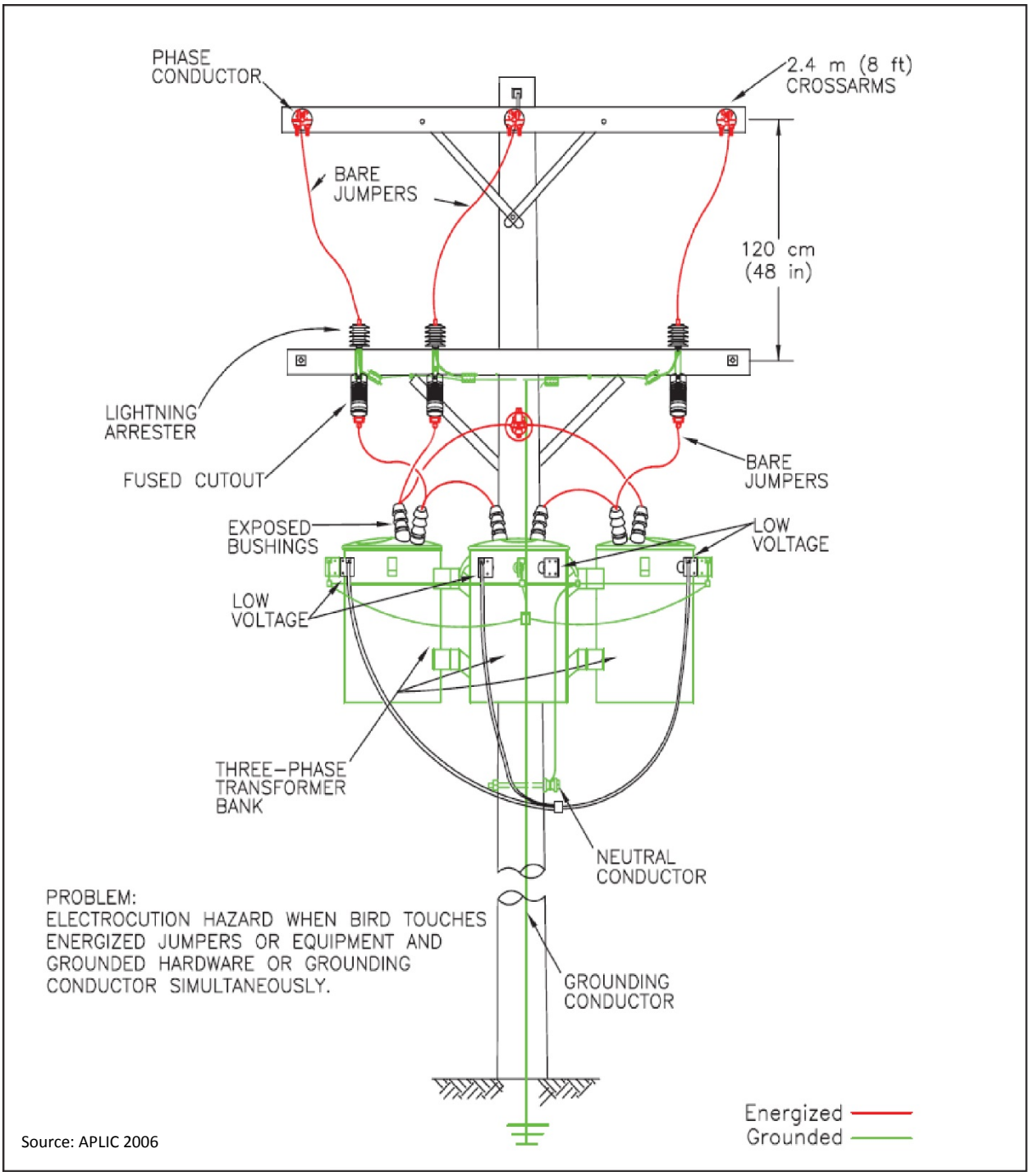


Figure 1. High-risk pole showing the locations where perching birds are vulnerable to electrocutions.

This plan is intended to describe PG&E's efforts to avoid and reduce electrocutions and collisions of birds with electric facilities, and to avoid and minimize impacts on nesting birds from PG&E's maintenance activities. PG&E's APP has evolved over many years and some of the key dates related to the program are described in Table 1.

Table 1. Summary of Key Events Related to Avian Protection Plan Development and Implementation

Year	Key Event
1989	Avian Power Line Interaction Committee (APLIC) established; PG&E is a cofounder.
1994	PG&E and U.S Fish and Wildlife Service (USFWS) enter into a settlement agreement regarding raptor fatalities and pole retrofitting.
1995	PG&E responds to requirements of 1994 settlement agreement.
2002	PG&E develops Raptor Concentration Zone (RCZ) maps and begins implementing pole retrofit program.
2003-2004	PG&E works with APLIC to develop APP guidelines.
2005	APLIC and USFWS provide guidelines to all utilities on APP development.
2006	APLIC issues *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*.
2007	PG&E adopts comprehensive APP as a *Utility Standard*. Settlement agreement with USFWS expires and PG&E continues implementation of retrofitting program. Bald eagle delisted.
2008	PG&E revises and expands RCZ maps. PG&E initiates condor conservation strategy.
2012	USFWS releases *2012 Final Land Based Wind Energy Guidelines* and proposed Eagle Rule. PG&E begins developing Eagle Conservation Plan (ECP). PG&E develops its *Nesting Bird Management Plan*. APLIC issues *Reducing Avian Collisions with Power Lines: State of the Art in 2012*.
2013	PG&E updates standards and procedures including its *Raptor Safe and Wildlife Protection* standards. Eagle Rule revised.
2015	PG&E updates its APP.
2016	Eagle Rule revisions.
2018	PG&E updates its APP.

PG&E finalized its APP in 2007 to better protect migratory, threatened, and endangered birds while improving safety and reliability for its customers. As policies and science evolve, and as PG&E monitors the plan's effectiveness, PG&E will continue to improve the plan to address current issues and trends.

In conjunction with the electric transmission standards team, the APP program manager is responsible for providing oversight, implementing an effective quality assurance program to assess compliance with the APP, establishing the overall program approach and annual work plan, procuring necessary funding, identifying training needs, establishing reporting criteria and

structure, and serving as the central point of contact with resource agencies involved in avian protection.

The primary objective of this APP is to provide a description of all approaches, based on accepted practices of wildlife management to 1) reduce avian electrocutions and collisions with electric facilities and 2) to avoid and minimize impacts of PG&E activities on nesting birds. Implementation of this plan allows for consistent application of avoidance and minimization measures (AMMs) for birds across PG&E's service area and for compliance with state and federal laws and regulations protecting birds.

According to the Avian Power Line Interaction Committee (APLIC), an APP is a utility-specific program designed to reduce the operational and avian risks that result from avian interactions with electric utility facilities. Although each utility's APP may vary, the overall goal of any APP should be to reduce avian mortality. In 2005, APLIC and the U.S. Fish and Wildlife Service (USFWS) jointly released Avian Protection Plan Guidelines. The guidelines provide a framework along with principles and examples to aid utilities in APP development. Although not all APP elements may be included in every APP because of specific utility circumstances or geographical area, these guidelines represent an overview of elements that should be considered for inclusion in an APP. PG&E's APP follows these guidelines. An APP should be a "living document" that is evaluated and modified over time to improve its effectiveness.

Avian Power Line Interaction Committee

The Avian Power Line Interaction Committee (APLIC) leads the electric utility industry in protecting avian resources while enhancing reliable energy delivery. APLIC works in partnership with utilities, resources agencies and the public to:

- Develop and provide educational resources
- Identify and fund research
- Develop and provide cost-effective management options, and
- Serve as the focal point for avian interaction utility issues

The following components are encouraged by APLIC to be included in an APP, all of which are included in PG&E's APP:

- **Corporate Policy** identifying the company's commitment to work cooperatively toward the protection of migratory birds.
- **Training** for all appropriate utility personnel on company APP policies and procedures.
- **Permits**, both federal and state, that may be required for nest management, incidental take, or listed species recovery or management.
- **Construction Design Standards** for avian protection that meet or exceed APLIC recommendations.
- **Nest Management Procedures** for nests that may pose fire or safety risks, as well as methods for installing nest platforms.
- **Avian Reporting System** to track bird mortalities, remedial actions, and nest management.
- **Risk Assessment Methodologies** to aid in the identification of avian mortality risk areas.
- **Mortality Reduction Measures** that can be implemented to minimize bird electrocution and collision risks.
- **Avian Enhancement Options** to benefit bird populations or habitat.

- **Quality Control Methods** to monitor and improve APP effectiveness and efficiency.
- **Public Awareness Efforts** to educate the public about avian/power line issues and solutions.
- **Key Resources**, both internal and external, that are integral to successful APP implementation.

1.4 Objectives of the APP

The APP is intended to ensure compliance with legal and regulatory requirements while improving system reliability and reducing overall avian mortality. PG&E employees are responsible for managing bird interactions with power lines and are committed to reducing the detrimental effects of these interactions. To fulfill this commitment, the APP is designed to do the following:

1. Ensure that company operations comply with applicable laws, regulations, permits, and PG&E procedures.
2. Ensure that company operations follow APLIC recommendations and guidance.
3. Work cooperatively and collaboratively with state and federal wildlife agencies.
4. Provide annual training to targeted staff and contractors on how to implement the APP.
5. Document avian mortalities, high-risk poles and lines, and nests with risk to nesting pairs or infrastructure operations.
6. Construct all new or rebuilt facilities in Raptor Concentration Zones to current avian-safe standards.
7. Retrofit or modify power poles reactively where a raptor or other large bird has been injured or killed.
8. Participate with public and private organizations in programs and research to reduce the detrimental effects of avian interactions with power lines.
9. Prepare an annual plan summarizing the yearly strategy to fulfill the key APP components.
10. Ensure that procedures describing a proactive retrofit program for utility poles are implemented with the goal of reducing avian electrocutions and collisions. This retrofit program includes annual evaluations and retrofits of high-risk poles throughout the service area using multiple variables described in Chapter 2, *Risk Assessment and Risk Reduction*.
11. Ensure that nest protection measures, including seasonal restrictions (i.e., limited operating periods) or exclusion buffers, are implemented in areas where PG&E undertakes projects and other maintenance activities near bird nests.

1.5 Avian Task Force

1.5.1 Overview

PG&E has an avian task force to coordinate the protection, mitigation, and conservation of birds in relation to PG&E's facilities, activities and lands. A primary goal of the task force is to oversee and guide implementation of the APP. Other goals include prioritizing future management actions, addressing other areas of risk, and supporting regional avian conservation efforts. The task force includes the APP program manager, management and staff from environmental management (i.e., principals and wildlife biologists that represent multiple lines of business), Law, and engineers from transmission and distribution departments. This diverse team helps ensure that biological, legal, and governance issues are addressed when implementing the APP. This task force is responsible for reviewing the APP and ensuring the governance structure is in place and that budget is secured to implement the APP.



Ferruginous Hawk

1.5.2 Program Manager

The APP program manager is responsible for implementation of the APP.

In addition, the program manager oversees and ensures that PG&E adheres to the guidelines and conditions of the U.S. Fish and Wildlife Special Purpose Utility Permit MB057942-0, administered by the USFWS Office of Migratory Birds. The APP program manager is responsible for reporting, as required by the Special Purpose Utility Permit, to the USFWS Office of Law Enforcement and Migratory Bird Permit Office. As part of the APP, the program manager is responsible for the following programs:

- **Training and Education.** The APP requires that the appropriate identified employees are trained on the permit conditions and other key elements of the program. Online training is provided for approximately 5,500 employees and contractors annually.
- **Avian Reporting System and Corrective Actions**. All birds found killed or injured because of electrocutions or collisions with PG&E facilities are required to be reported via a web-based reporting system. In the case of raptors, the incident pole and adjacent pole(s) will be retrofitted within 90 days. Other poles are also retrofitted for reliability and for concerns with high-profile species. The program manager is responsible for securing the necessary budget and ensures that work is completed in compliance with the APP. Managing budget includes establishing unit cost, geographic area division targets, and determining which area divisions will participate in the annual retrofit plans.
- **Avian-Safe Construction Design Standards.** The program manager works closely with the engineering and standards group to design facilities that meet industry guidelines for avian protection. This also includes development of new standards as necessary. In addition, any new ancillary equipment or facilities attached to power poles are evaluated for potential risks.

- **Risk Assessment Methodology and Retrofit Program.** The program manager is responsible for identifying, planning, and working with the area divisions and reliability group to proactively retrofit approximately 2,000 poles annually. As required for reliability and/or threatened or endangered species, annual retrofit work also targets high-risk transmission structures and substations.
- **Nest Management and Permit Compliance.** The program manager, in conjunction with PG&E biologists, is involved in developing project-specific measures to address nesting bird issues for various types of projects (gas, electric, facility, renewable). The program manager also takes the lead in discussions with the California Department of Fish and Wildlife (CDFW) and USFWS to discuss nesting bird issues.
- **Quality Control.** The program manager performs periodic division audits to assess compliance with the related standards, work procedures, and overhead construction techniques. Quality control audits also ensure that all bird incidents are reported to the regulatory agencies as required. This audit is completed by verifying electrical distribution and transmission outage data and correlating with bird incident reports on a monthly basis.
- **Avian Enhancement.** Certain species of birds may benefit from using utility structures. The program manager works closely with USFWS on protection projects to reduce bird mortality. This can be accomplished by installing bird flight diverters, or more commonly through installing bird nesting structures. The program manager also works to partner with environmental and conservation organizations as well as identify charitable contribution opportunities to nonprofit groups.

The APP program manager also responds to unusual situations that arise regarding birds. For example, the APP program manager maintains partnerships with not-for-profit wildlife rehabilitation groups that may care for injured birds or wildlife that are affected by electric facilities. PG&E works with the following groups to provide care for injured and orphaned wildlife resulting from encounters with PG&E facilities: Injured and Orphaned Wildlife, International Bird Rescue, WildCare, Lindsey Wildlife, U.C. Davis Raptor Center, and Wildlife Center of Silicon Valley.

1.5.3 Environmental Staff

As part of the avian task force, environmental management staff provides direction to the program based on state and federal laws, regulations, or policies, and direction from senior management. Environmental management staff participates in strategy and program development for the APP. Environmental management staff also participates in APLIC meetings and works to share the latest information with PG&E staff.



Killdeer

1.5.4 Biological Staff

Biological staff provides technical biological input for non-routine avian issues, such as study design, proposal development and review, data analysis and interpretation. Biological staff advises on technical biological issues affecting bird species, and participates in agency consultations as needed.

1.5.5 Line of Business Staff

The avian task force includes staff members from engineering within PG&E's transmission and distribution lines of business. Engineering staff provides input on the effectiveness of the APP as it relates to asset engineering design, maintenance, and operations. Assigned staff updates engineering documents, work procedures, and other materials to support avian program implementation. They also approve new methods and materials for use on electric transmission or distribution systems. Transmission and distribution representatives support implementation of the APP and provide guidance on what is working in the field.

1.5.6 Legal Staff

PG&E Law Department staff provides legal advice and counsel to the avian task force on various legal and regulatory matters. Law reviews implementation of the APP and regulations affecting bird species, including compliance with state and federal laws and PG&E's special purpose utility permit.

1.6 Avian Reporting System

PG&E trains field staff to identify and report avian mortalities and any other relevant avian concerns. Staff is directed to contact the APP program manager when there is a nesting bird, electrocution, collision, or other avian issue. The APP program manager maintains a comprehensive database of reported bird incidents and uses this information to help direct PG&E's avian risk reduction efforts. When a dead or injured bird is found, PG&E collects information on the date, location, type of bird, type of injury, where the bird was found in relation to PG&E facilities, photos (if possible), the equipment involved, and need for repairs. This information is used to plan retrofits and to identify and evaluate facility risk over time.



Swainson's Hawk

The APP program manager responds to incidents from the public when calls are received directly or through PG&E's general service hotline. PG&E has developed systems to standardize the reporting of avian fatalities including a detailed phone log, a script outlining responses and procedures based on the type of incident or issue experienced by the public, and an automatic notification process to ensure the APP program manager is aware of pressing issues related to avian management as reported by the public.

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Chapter 2
Risk Assessment and Risk Reduction

The APP is intended to ensure compliance with legal and regulatory requirements while improving system reliability and reducing overall avian mortality. Its primary components are risk assessment and risk reduction.

2.1 Retrofits

Avian-safe power pole retrofits reduce the potential for mortality from electrocution by reducing or eliminating the risk when raptors and other birds encounter energized components when landing on power poles. PG&E's Raptor-Safe Construction and Wildlife Protection guidelines specify construction methods and special materials used by PG&E to ensure retrofits are safe for birds and other wildlife. For example, protective coverings or guards are constructed such that birds, squirrels, and other wildlife are deterred or protected from contacting energized conductors. In addition, all power pole retrofits are completed using APLIC guidance (Avian Power Line Interaction Committee 2006).

As part of the proactive retrofitting process, careful attention is paid to high-risk poles, lines, and structures, including the following:

- Older and non-retrofitted equipment
- Riser, tap, and corner poles
- Locations where raptors are known to perch or nest
- Lines that traverse open fields, farmlands, orchards, or rolling hills with signs of ground squirrels (i.e., a high prey base) or that are near a body of water
- Poles or structures that are higher than the surrounding terrain, providing a vantage point from which raptors may perch

Reactive retrofits are made to poles or equipment that has electrocuted a raptor or other migratory bird. Avian electrocution also triggers a risk assessment of the five adjacent poles (or 1,000 feet of power line for 60- or 70-kilovolt [kV] wood transmission poles) in all directions away from the incident pole. Adjacent pole evaluations assess bird use, pole type, and habitat near the incident pole. On average, about five adjacent poles are retrofitted for every incident pole. Repairs to facilities with high risk to raptors and other birds are generally completed within 90 days of an electrocution on distribution facilities.

2.2 Risk Assessment – Proactive Retrofits

PG&E is committed to reducing avian mortality in a cost-effective manner by focusing efforts on the areas that pose the greatest risk to birds. PG&E considers areas with the highest avian use, established flyways, adjacent wetlands, and other information (e.g. electric equipment type, configuration, perceived risk of electrocution for larger birds) when assessing risk. Biological

assessments, outage investigations, and anecdotal evidence are also helpful in determining where potential incidents are most likely to occur.

PG&E's risk assessment for prioritizing proactive retrofits considers historical mortality data, facility nesting data, wildfire risk, and effectiveness of existing risk reduction efforts. To aid in visualizing where at-risk facilities are located, PG&E developed a detailed Raptor Concentration Zone (RCZ) map (Figure 2) that identifies areas where raptors are most likely to occur. The RCZ map is based on raptor mortality data, presence of poles as preferred perch locations, proximity to water and wetlands, and the history of outages resulting from raptor collisions. The RCZ map is used as a planning tool to prioritize proactive retrofit efforts throughout the service territory. When old poles in the RCZs reach their maximum service life, they are replaced with poles that are automatically built to raptor-safe standards. The RCZ is reviewed periodically to assess if it needs to be modified based on bird-caused outages and reported mortalities.

The risk assessment process requires consistent reporting, analyzing, and tracking of corrective work. These duties are performed by the APP program manager and the local area compliance employees. Unusual situations regarding birds may arise, including nesting birds in parking areas, powerhouses, and service garages. These issues are brought to the attention of the APP program manager, who then investigates these issues and works with local staff and other experts to develop solutions to prevent reoccurrence.

2.2.1 Existing Facility Repairs

When existing facilities are repaired, PG&E will often make other avian-safe repairs, including relocating exposed jumper wires, reconductoring with insulated conductors, or adding other bird protection devices. PG&E makes hundreds to thousands of repairs each year that reduce risk to raptors and other bird species.

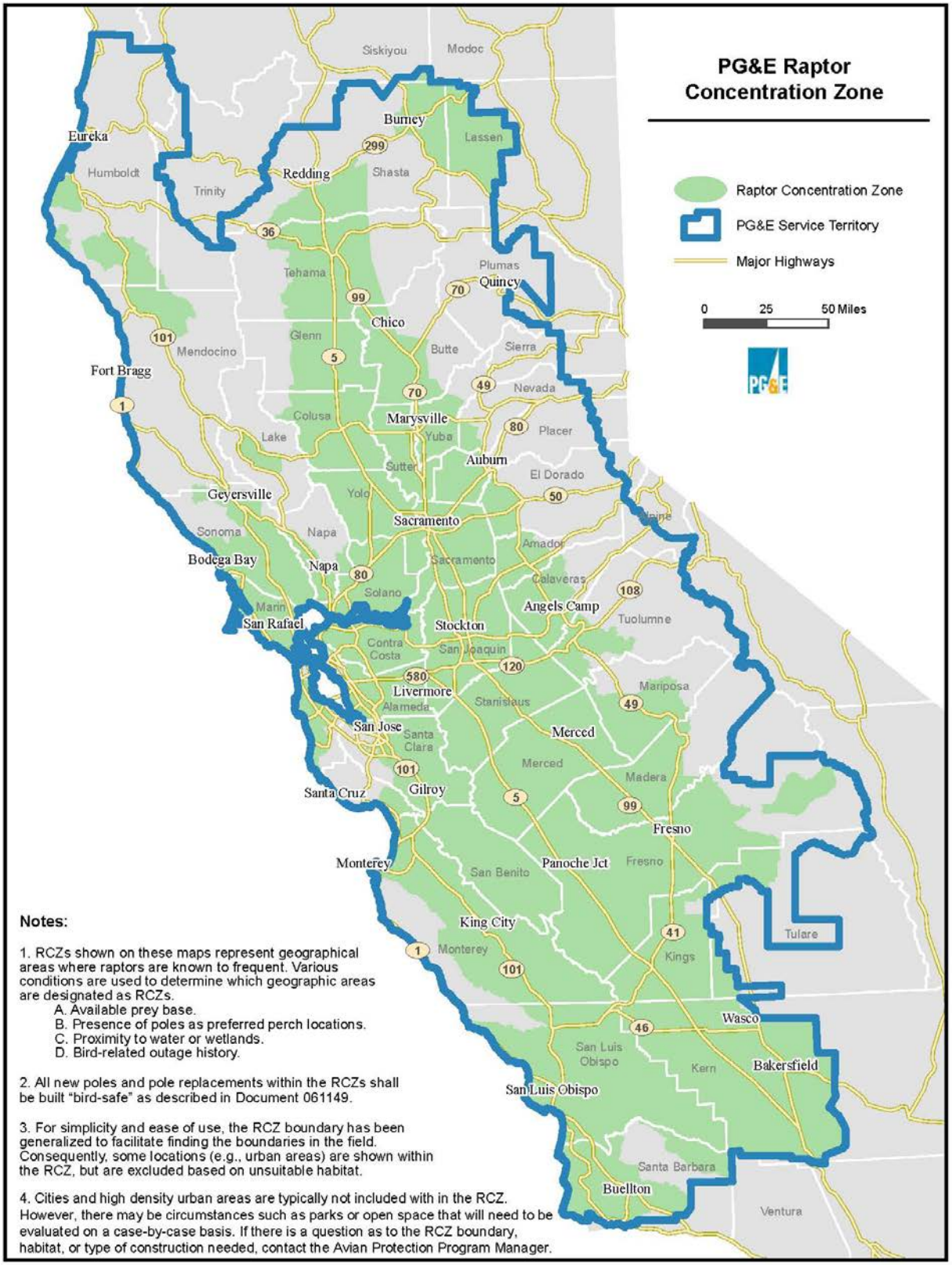


Figure 2. Raptor Concentration Zone

2.3 Risk Reduction

Risk reduction is achieved by constructing new facilities to the current avian-safe standards, assessing existing facilities that pose the greatest risks, repairing facilities, and retrofitting facilities. PG&E also implements risk reduction techniques for nesting birds, California condor, bald and golden eagles, and other birds as described below.

2.3.1 New Construction

PG&E's construction design standards are state-of-the-art and are based on APLIC's *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (Avian Power Line Interaction Committee 2006).[1] PG&E has developed additional avian-safe construction details, clearance distance requirements for new construction, equipment prescriptions, and construction methods based on the APLIC practices. Avian-safe construction is based on two principles:



Peregrine falcon

- Provide birds with a safe place to land
- Prevent incidental contact with energized conductors

Avian-safe construction in a RCZ is typically implemented by leaving 60 inches of separation (phase to phase) between energized components, and leaving 60 inches of separation (phase to ground) between an energized component and a grounded component. Where separation is not practical, PG&E insulates equipment and conductors to guard against bird electrocutions. Avian-safe construction includes the following measures, depending on pole and equipment configurations:

- Installation of bushing covers
- Interruption of ground links (floating grounds)
- Increased phase separation (reframing)
- Installation of perch deterrents and conductor covers
- Installation of bird flight diverters
- Siting and routing of new facilities away from high-risk areas to minimize impacts (e.g., waterways, wildlife refuges, and foraging habitat).

Examples of some of these retrofits are illustrated in Figure 3. PG&E maintains a catalogue of bird protection devices, material, and equipment approved for use in PG&E operations, maintenance, and construction. Durability and effectiveness of these items are continually monitored as part of facility inspections and maintenance. Whenever new bird protection equipment, devices or materials are introduced by any manufacturer, PG&E must rigorously test this equipment to ensure it does not pose a safety or other risks to facilities and the public before deploying it in the field.

[1] APLIC has 2012 standards for guidance on collisions; the 2006 standards are the latest standards for electric distribution infrastructure.



Figure 3. Important Avian Protection Hardware on Electric Facilities

2.3.2 Nesting Bird Management

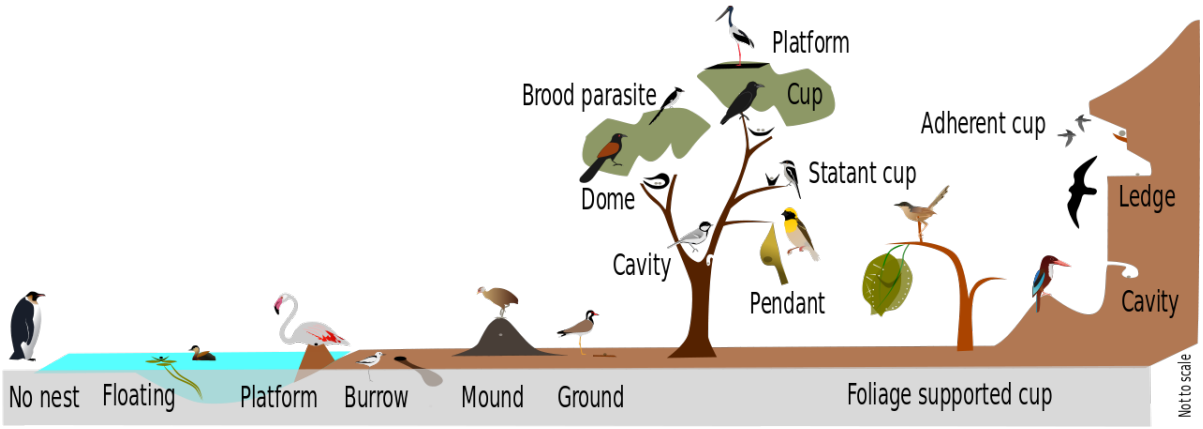
PG&E is focused on reducing potential impacts from its operations and maintenance activities on nesting birds. To address these impacts, and to maintain compliance with the MBTA and state statute, PG&E has developed a comprehensive plan to avoid and minimize impacts on nesting birds: PG&E's *Nesting Bird Management Plan* (NBMP). The NBMP is intended to do the following:



Hummingbird nest

- Maintain compliance with applicable federal and state bird protection regulations.
- Avoid and minimize disturbance to nesting birds within PG&E's service area.
- Standardize PG&E's approach to managing nesting bird conflicts using accepted wildlife management practices.

The NBMP is implemented by biologists working on PG&E activities and projects near active bird nests. The NBMP defines an active nest as one containing eggs or young. PG&E is required to comply with federal and state laws and regulations that prohibit take of birds, including eggs or young, in active nests or for special-status protected species.



Nest Forms and Locations

Implementation of the NBMP allows for consistent application of avoidance and minimization measures for nesting birds across PG&E activities, provides structured and standardized decision making, and allows PG&E to comply with federal and state regulations applicable to nesting birds.

A step-wise compliance approach guides implementation of the NBMP:

- **Step 1: Conduct desktop review** as part of the environmental review and planning process prior to initiating activities in locations that provide suitable habitat for nesting birds. A qualified biologist determines if there is potential for the activity to impact nesting birds.
- **Step 2: Conduct preconstruction nesting bird surveys,** if there is potential to impact active nests in or near construction areas. Pre-construction surveys can detect recent or established nests and identify the need to implement or adjust standard exclusion buffers.
- **Step 3: Assign nest exclusion buffers** or other applicable AMMs around active nests. The NBMP provides standard species-specific nest exclusion buffers; assigned buffers may be standard or reduced and may include periodic nest monitoring.
- **Step 4: Confer** with the USFWS and/or CDFW as necessary. PG&E may confer with USFWS and/or CDFW when the standard buffer cannot be observed for a nesting threatened, endangered or fully protected species.

PG&E also created EarlyBird, a mobile application and website, to improve data collection and tracking for nesting bird surveys and species detections. Every year, nesting season surveys locate active nests for many bird species across California. Communicating the results of these survey efforts is a critical aspect of managing work near nests and retaining survey information is an important part of PG&E's Nesting Bird Management Plan. EarlyBird offers PG&E biologists a way to standardize the information they collect, streamline reporting, and save data for future projects and research. As an example, PG&E can use EarlyBird to support the management and protection of burrowing owls located at or near PG&E facilities.

2.3.3 California Condor Risk Reduction

Portions of PG&E's electric service area fall within the current and historic range of the California condor (*Gymnogyps californianus*), one of the rarest avian species worldwide. PG&E works with condor managers to identify potential areas of electrocution and collision risk for condors in California. As areas of risk are identified and refined, PG&E develops action plans to reduce these risks by making power lines more visible to condors (reduce collisions), covering the wire with insulation (reduce electrocutions), and, in special cases, undergrounding the power line altogether (reduce collisions and electrocutions). In addition, company biologists are working with condor partners to develop a predictive risk model to identify and prioritize future areas for additional proactive work as condors continue to expand their territory.

PG&E is in the process of developing a long-term California Condor Strategy (CCS) for the express purpose of providing a clear and predictable program for avoiding and minimizing hazards to California condors that may be associated with the design, construction, operation, and maintenance of electric facilities. The CCS achieves the following objectives:

- Reviews and summarizes the status of California condors in relation to utility facilities, including movement patterns and range, general ecology and status, management practices, recovery efforts, and power line interactions.
- Maps and evaluates California condor movements to determine condor density zones based on available satellite or cellular GPS (Global Positioning System) tracking data through partnerships with agencies and condor management teams.
- Overlays available satellite telemetry data with PG&E electric facilities to establish a repeatable process for evaluating tracking data for periodic assessment within the range of PG&E facilities.
- Defines risk through assessment of condor telemetry data to provide new tools for evaluating California populations to better understand and define areas of risk.
- Develops a long-term strategy to identify, plan, and prioritize retrofits for facilities that have the greatest potential to reduce the risk of California condor electrocutions or collisions.

As described in Chapter 4, *Avian Enhancement, Outreach, and Research Programs*, PG&E also contributes to the Ventana Wildlife Society to help with the condor release program including training young condors to avoid perching on electric poles (also known as aversion training).

2.3.4 Bald and Golden Eagle Risk Reduction

For years PG&E has worked closely with USFWS and other federal land managers to address bald and golden eagle management issues on its hydroelectric power facilities and throughout its service area. In 2013, PG&E developed an Eagle Conservation Plan (ECP) to address bald and golden eagle mortalities, both of which are protected under the Bald and Golden Eagle Protection Act (BGEPA). The ECP evaluates effects at the landscape level, estimates mortalities on a yearly basis, and identifies minimization and mitigation measures. PG&E



Bald Eagle

submitted the ECP to the USFWS to obtain a long-term incidental take permit for bald and golden eagles. PG&E is working closely with the USFWS on the ECP. Issuance of this permit is anticipated in 2019. The ECP addresses the take of bald and golden eagles associated with above-ground transmission and distribution lines and facilities and emergency eagle nest disturbance.

The incidental take of eagles is the result of infrastructure that has, in most cases, existed for many decades, and, consequently, is part of the baseline mortality for eagles in the ECP area. Issuance of the requested permit would not increase mortality in the ECP area. Rather, PG&E's avoidance and mitigation measures, including annual pole and line retrofits, will continue to significantly reduce take relative to baseline levels, resulting in a net benefit to bald and golden eagles. For example, avian-safe power pole retrofits will continue to reduce the potential for eagle mortality from electrocution by eliminating the risk that eagles and other raptors would encounter energized components when landing on power poles.

Pole Retrofits for Wind Developers

USFWS's Eagle Conservation Plan Guidance for wind developers details current guidelines regarding minimizing impacts on eagles. Eagle take permits issued by the USFWS require compensatory mitigation to offset eagle take. Actions to retrofit, reframe, or rebuild power poles to avian-safe designs have been identified by USFWS as an option for offsetting eagle take occurring at wind facilities. PG&E is working with USFWS, the National Fish and Wildlife Foundation, and specific wind developers to facilitate retrofits on PG&E facilities to meet compensatory mitigation requirements for these third-party entities. To provide mitigation options to third party wind developers, PG&E identifies areas with suitable poles for modification, provides the USFWS and the third-party entity with a cost estimate and schedule to conduct the appropriate retrofits, and, once an agreement is reached between the parties, PG&E executes the work plan. This work is in addition to PG&E's reactive and proactive power pole retrofitting work.

2.3.5 Other Bird Species Risk Reduction

As needed, the APP program manager assists PG&E staff with other risk reduction issues. This includes consulting with staff on the timing of work activities, the installation of materials and equipment to avoid and minimize the potential impact on birds of work activities, and the rescue and relocation of birds. The APP program manager has assisted with wild turkeys, nesting cormorants, nesting sparrows, among other species.

Chapter 3
Training, Permits, Quality Control and Reporting

3.1 Training

PG&E delivers biannual training on the APP to more than 5,000 operations and management staff to ensure employees and contractors are aware of their obligations to report incidents and protect active nests or special-status species. Managers, supervisors, line crews, engineers, dispatch, and design personnel receive biannual training as well. The training covers the need for an APP, the methods by which employees should report an avian mortality or injury, and protocols to follow to avoid and minimize impacts on nests. Three APP trainings are offered: APP Overview, APP Comprehensive Review, and APP for Vegetation Management. All trainings are available for delivery to staff in-person or via the web. Descriptions and target audience of each training course are as follows:

Code: ENVR-0400
Name: Avian Protection Plan Overview
Type: Mandated
Description: This course provides an overview of PG&E's APP

Objectives: Overview level of the following subjects: The twelve components of the APP – Employees' roles and responsibilities to comply with the APP – How birds interact with electric distribution and transmission facilities – Laws that protect migratory birds and threatened and endangered birds and their nests – Reporting procedure for bird incidents – Selection of incident and adjacent poles – Pole risk assessment and retrofit program – Raptor Concentration Zone (RCZ) – Avian safe construction – Nest management – Avian enhancement – Public awareness – Working safely – How to obtain additional information about the program.

Target Audience: Senior Management, Control Center Ops, etc.
Duration: 15 minutes plus discussion
Repeat Interval: 24 months

Code: ENVR-0401
Name: Avian Protection Plan Comprehensive Review
Type: Mandated
Description: This course provides a comprehensive presentation of PG&E's APP.

Objectives: Overview and detailed information for the following subjects: The twelve components of the APP – Employees' roles and responsibilities to comply with the APP – How birds interact with electric distribution and transmission facilities – Laws that protect migratory birds and threatened and endangered birds and their nests – Reporting procedure for bird incidents – Selection of incident and adjacent poles – Pole risk assessment and retrofit program – Raptor Concentration Zone – Avian safe construction – Nest management – Avian enhancement – Public awareness – Working safely – How to obtain additional information about the program.

Target audience: M&C Field Employees, Supervisors, Quality Assurance, etc.

Duration: 40 minutes plus discussion
Repeat Interval: 24 months

Code: ENVR-0402
Name: Avian Protection Plan for Vegetation Management
Type: Mandated
Description: This course provides an overview of PG&E's APP as well as detailed information about managing nests encountered by Vegetation Management activities.

Objectives: Overview information for the following subjects: The twelve components of the APP – Employees' and responsibilities to comply with the APP – How birds interact with electric distribution and transmission facilities – Laws that protect migratory birds and threatened and endangered birds and their nests – Reporting procedure for bird incidents – Selection of incident and adjacent poles – Pole risk assessment and retrofit program – Raptor Concentration Zone – Avian safe construction – Nest management – Avian enhancement – Public Awareness – Working safely – How to obtain additional information about the program – Details information is provided about managing nests encountered by Vegetation Management activities.

Target Audience: Foresters, Vegetation Management Program Managers, VM Specialists, etc.
Duration: 20 minutes plus discussion
Repeat Interval: 24 months

PG&E distributes educational materials to the public. Appendix A, *Public Awareness Program*, provides an example of these materials.

PG&E has developed the *Avian Protection Plan Field Guide* (Appendix B), a quick reference tool used by field crews to understand their responsibilities to the APP. The field guide contains information on how to report bird incidents, identifies additional actions required for raptors, contains photos and brief descriptions of some of the common bird species typically encountered in the field, specifies methods for managing nests, and provides common examples of raptor-safe construction techniques.

3.2 Permits

PG&E maintains a Special Purpose Utility Permit with the USFWS. The permit authorizes PG&E to collect, transport, and temporarily possess migratory birds found injured or deceased on electric facilities including property, structures, and rights-of-way for avian mortality monitoring or disposal purposes; in certain emergency situations, the permit also allows PG&E to remove active nests. The permit requires that PG&E maintain records of mortalities and injuries, and that the results be reported annually to the USFWS. This permit enhances PG&E's ability to accurately monitor migratory bird mortalities and enables PG&E to retain specimens to confirm identification. Collecting and reporting data to the USFWS contributes to collective knowledge and understanding of the impacts of utilities on migratory birds. PG&E also obtains other project-specific permits as needed. This has included permits for moving and removing raptor nests. PG&E's San Joaquin Valley operation and maintenance (O&M) Habitat Conservation Plan (HCP) and the Bay Area O&M HCP also serve as a special purpose permit for non-ESA listed birds covered in the HCP.

3.3 Quality Control

PG&E evaluates the progress and effectiveness of the APP annually. The APP program manager ensures that project engineers use the guidance required to design facilities, and that crews know how to respond when deceased birds or active nests are discovered in the field. The APP program manager is involved in all major decisions affecting birds or their nests, reviews key incidents, and evaluates and plans for PG&E's annual avian protection needs. Where information on incident forms is incomplete or illegible, the APP program manager contacts staff to complete and clarify the information reported. Based on the annual review of the program, PG&E's avian task force discusses, modifies, expands, and provides recommendations to improve the APP to address issues that arise.

3.4 Reporting

PG&E maintains detailed records of each year's avian incidents. PG&E reports this information, consistent with its Special Purpose Utility Permit, to USFWS. The annual report provides an opportunity for PG&E to review the previous year's data, summarize incidents, and evaluate further needs.



Common Raven and Nest

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Chapter 4

Avian Enhancement, Outreach, and Research Programs

4.1 Avian Enhancement Programs and Partnerships

PG&E implements a series of efforts that are designed to enhance avian habitat and benefit migratory birds. These efforts include providing ongoing wildlife habitat grant funding, obtaining wildlife habitat certification at several of our properties, installing nesting platforms for osprey, and making habitat acquisitions to benefit many species. Wildlife Habitat Council certifies submitted PG&E properties that benefit wildlife species and natural habitats. PG&E has developed partnerships for over 15 years with Audubon California, local Audubon chapters, Ducks Unlimited, San Francisco Bay and Central Valley Joint Ventures, Santa Cruz Predatory Bird Research Group, Migratory Bird Partnership (Audubon California, The Nature Conservancy, and Point Blue Conservation Science), Ventana Wildlife Society, WildCare, and other organizations whose mission is to promote the protection of avian species and further the conservation of birds. PG&E will continue to support and fund avian enhancement programs to advance the protection and conservation of avian species.

4.1.1.1 Migratory Bird Conservation Partnership

PG&E supports the Migratory Bird Conservation Partnership, a collaboration of Audubon California, Point Blue Conservation Science, and The Nature Conservancy that is addressing the loss of wetland habitat in California's Central Valley and its impact on bird populations. The projects PG&E has supported between 2015 and 2017 clear barriers to providing additional water on the landscape and are complementary in nature—building off previous work supported by PG&E and leveraging the expertise and engagement of each partnership organization. The projects complement each other by creating additional tools and data for land managers to use in their efforts to most effectively and efficiently manage wetlands for migratory birds, flooding protection, and other wildlife.

4.1.1.2 Migratory Bird Joint Ventures

PG&E has been an active member of the Management Boards for both the San Francisco Bay Joint Venture and the Central Valley Joint Venture—part of the National Migratory Bird Joint Ventures across the country that work collaboratively with federal, state and local regulatory agencies, environmental nonprofit organizations, businesses, and landowners to conserve and restore habitat for migratory birds. PG&E works with partners to develop restoration plans and ensure that electric utility infrastructure is integrated into final designs.

Migratory Bird JOINT VENTURES

Migratory Bird Joint Ventures are cooperative, regional partnerships that work to conserve habitat for the benefit of birds, other wildlife, and people. There are twenty-two habitat-based Joint Ventures, each addressing the bird habitat conservation issues found within their geographic area.

4.1.1.3 Tricolored Blackbird Memorandum of Understanding

PG&E was an original signatory to the multi-agency and environmental stakeholder group Memorandum of Understanding (MOU) in 2007 that was developed to promote voluntary conservation measures to save this species. PG&E continues to be an active member of the Tricolored Blackbird Working Group to encourage and support actions by all stakeholders to

safeguard the long-term welfare of tricolored blackbirds (*Agelaius tricolor*) by supporting secure breeding, foraging, and wintering populations and their associated habitat in California. The Working Group has developed and is implementing a Conservation Plan and Research and Monitoring Programs. Signatories to the MOU include Audubon California, California Association of Resource Conservation Districts, California Farm Bureau, California Cattlemen's Association, CDFW, California Department of Food and Agriculture, Central Valley Bird Club, Central Valley Joint Venture, Natural Resources Conservation Service, PG&E, Point Blue Conservation Science, Sonoran Joint Venture, Sustainable Conservation, U.C. Berkeley Agriculture and Natural Resources, USFWS, and Western United Dairymen.

4.1.1.4 Peregrine Falcon Nest Box

Since the late 1980s, PG&E has partnered with U.C. Santa Cruz Predatory Bird Research Group to provide safe nesting habitat on the roof of the company's headquarters in downtown San Francisco. The scientists at U.C. Santa Cruz Predatory Bird Research Group knew that peregrine falcons (*Falco peregrinus*) were attempting to nest on the Bay Bridge and other bridges with poor results. They identified a good location to install a nest box on the roof of 77 Beale Street that would provide a safe location and one that could be easily monitored. A webcam was installed to allow interested employees and the public to view progressive peregrine pair nesting activities including egg incubation and fledging of nestlings. PG&E has also supported the U.C. Santa Cruz Predatory Bird Research Group education and outreach efforts in local schools.

4.1.1.5 Osprey Nest Platforms

Native osprey (*Pandion haliaetus carolinensis*) populations are expanding in Northern California and often favor building their large nests on PG&E's power poles. PG&E developed a program to install osprey nest platforms to move osprey nests out of harm's way and to prevent fires from nests initiated on live power poles. Hundreds of osprey nest platforms have been installed throughout PG&E's service area.



Installation of Osprey Nesting Platform

4.1.1.6 Barn Owl Nest Boxes

PG&E has partnered with Central Coast Vineyards and the Lodi Wine Grape Commission to aid grape growers in the Central Coast and Central Valley to maintain sustainable pest control and keep birds safe around power lines. PG&E's charitable grants funded the purchase of owl nest boxes for grape growers to install with the goal of attracting barn owls, a natural predator of rodents. The nest boxes are intended to provide a safe home for the owls and replace the boxes that growers often attach to power poles that can create unintended problems such as electrocution of the birds, outages, and potential fires.



Barn Owl Nest Boxes

4.1.1.7 California Condor Recovery Efforts

Since 2003, PG&E has continued to promote protection and recovery of California condor populations. PG&E helped form an external Condor Recovery Plan Powerline Subcommittee, comprising multiple California utilities, resource agencies, and other condor recovery stakeholders, to determine the risk of power structures to California condors in California and to develop and implement plans to minimize that risk. In 2016, PG&E signed an MOU with multiple condor recovery partners (USFWS, National Park Service, Yurok Tribe, CDFW, Bureau of Land Management, Redwood National Park, U.S. Forest Service, and Ventana Wildlife Society) focused on condor reintroduction efforts in Redwood National Park. In addition to providing insight on PG&E facilities that could pose a risk to the condors, PG&E donated $200,000 over a 3-year period to the National Parks Foundation for condor reintroduction and recovery, which directly supports the Redwood Condor Reintroduction Project.

PG&E continues to actively support the Ventana Wildlife Society to help with the reintroduction of condors on the Central Coast of California, including efforts such as developing joint educational displays, hosting fundraising events and technical meetings, developing risk mitigation strategies, and has served on the Board of Directors.

Since 2002, PG&E and the PG&E Corporate Foundation have contributed more than $7.5 million to programs that benefit migratory birds. Table 2 lists the organizations that have received PG&E contributions.

Table 2. Summary of Partner Organizations That Have Received Charitable Contributions

California Wine Education Foundation
Center for Land-Based Learning
Central Coast Vineyard Team
Ducks Unlimited
Friends of the Swainson's Hawk, Inc.
Golden Gate Audubon Society
Injured & Orphaned Wildlife
Lodi Sandhill Crane Association
National Audubon Society
National Fish and Wildlife Foundation
National Park Foundation (Washington office)
Redwood National Park
U.C. Santa Cruz Foundation
Ventana Wildlife Society

4.1.1.8 Supporting National, State and Local Chapters of the Audubon Society

PG&E has had a long-standing relationship with the National Audubon Society, California Audubon, and local Audubon chapters throughout our service area. PG&E employees volunteer, are members, have held leadership positions in these organizations.

4.1.1.9 Avian Power Line Interaction Committee

In the mid-1980s, PG&E was an original founder of APLIC, which was formed to address bird electrocutions and collisions with power lines. APLIC develops guidelines for utility companies to minimize risk to birds from infrastructure and develops education and outreach to others. PG&E has supported APLIC by serving as the Chair and on the Executive Committee, assisting with the development of utility standards and guidelines, supporting and attending educational workshops, supporting and developing research grant efforts, and implementing APLIC's recommendations.

4.2 Research

PG&E has contributed to multiple research efforts. Some of these key efforts are:

- Identifying Electric Distribution Poles for Priority Retrofitting to Reduce Bird Mortality. California Energy Commission. PIER Final Project Report. December 2007. P500-04-052.
- Testing the Effectiveness of an Avian Flight Diverter for Reducing Avian Collisions with Distribution Power Lines in the Sacramento Valley, California. PIER Final Project Report. January 2008. CEC-5000-2007-122.
- Evaluating Diverter Effectiveness in Reducing Avian Collision with Distribution Lines at San Luis National Wildlife Refuge Complex, Merced County, California. PIER Final Project Report. August 2009. CEC-500-2009-078.

This research has informed PG&E's maintenance and retrofitting practices.

Chapter 5
References Cited

5.1 Printed References

Avian Power Line Interaction Committee (APLIC). 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.

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Appendix A

Public Awareness Program

Going beyond compliance and building "best practices" for our industry.

PG&E has a long history of protecting habitat and species, including bird populations. For example, we were a founding member of the Avian Power Line Interaction Committee, a collaboration between utilities and the U.S. Fish and Wildlife Service that began nearly 20 years ago.

In 2002, PG&E and the U.S. Fish and Wildlife Service entered into an agreement that required PG&E to implement various measures to protect migratory, threatened, and endangered birds. When this agreement expired in 2007, PG&E voluntarily adopted a proactive Avian Protection Plan that expands PG&E's commitments in public outreach, collaborative research, and "bird safe" technology demonstration projects. This plan has set the standard for our industry and is one of the most comprehensive in the nation.

BIRD PROTECTION PROGRAM (BIRD-SAFE RETROFITS)

	2002	2003	2004	2005	2006	2007
Poles Planned	2,000	2,011	2,000	2,050	2,075	2000
Poles Completed	1,930	2,089	2,023	2,073	2,117	2000
% Poles Completed	97%	103%	101%	101%	102%	100%

Since 2002, in compliance with the agreement, PG&E has retrofitted more than 12,230 existing utility poles and towers with "bird-safe" equipment (see chart above). We have also retrofitted more than 11,100 poles in high-risk areas where bird injuries or fatalities have occurred previously, or where there have been bird-related power outages. All new poles and replacement poles in "Raptor Concentration Zones" are also built "bird-safe."





Many bird species build nests on power poles and structures; unfortunately, this behavior increases risks for both the birds and our electric system. PG&E's Avian Protection Plan minimizes these risks by protecting birds and their nests, while improving safety and reliability for our customers.

SOME OF OUR PARTNERS:

Ventana Wildlife Society
Avian Power Line Interaction Committee (APLIC)
Wildcare
Audubon California
UC Santa Cruz Predatory Bird Research Group

Since 2003, PG&E has contributed over $500,000 to support bird conservation organizations.

In 2008, PG&E earned Audubon California's Corporate Achievement Award for protecting California's birds and important habitat.

For more information,
visit **www.pge.com/environment**

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AVIAN PROTECTION PLAN

Helping protect California's birds and keep customer service flying high.



AVIAN PROTECTION PLAN

Pacific Gas and Electric Company's (PG&E) service area spans over 70,000 square miles and is home to wildlife and other important natural resources. More than 300 species of migratory birds live in northern and central California either permanently or during migration along the "Pacific Flyway."

Since utility poles are often the highest and most prominent point in a landscape, birds often perch on the poles to hunt or rest. Also, it is often easier for birds to build nests on the flat surfaces of electric equipment than in trees.

When birds seek out power lines for perching and various other uses, they can come into direct contact with live electric wires and become electrocuted, which, in turn, can cause electric outages and fires. Birds can also collide with power lines while in flight. PG&E's Avian Protection Plan seeks to protect migratory, threatened, and endangered birds, while improving safety and reliability for our customers.



Breeding bald eagles in California have increased from a low of only about 30 pairs in the early 1980s to more than 200 pairs today due to a variety of federal, state, and private protection efforts.

A plan designed to take wing.

PG&E's Avian Protection Plan consists of several key components:

- **Employee training and compliance:** We educate our employees to ensure we comply with all federal and state bird protection laws. PG&E has developed training in "bird-safe" construction practices and in the proper reporting and tracking of all avian electrocutions or collisions.
- **Making our poles "bird-safe":** Since 2002, we have proactively retrofitted a growing number of our utility poles. Each year, we identify high-risk poles based on the type of electric equipment, risk of electrocution, local biology, geography, and regional conservation initiatives. When needed, we also install platforms above or near our equipment to give birds a safe place to build a nest.
- **Public education and partnerships:** We promote the need for migratory bird and habitat conservation in cooperation with federal and state agencies and non-profit organizations. We also partner with a variety of bird conservation organizations to raise awareness about sensitive bird species, such as the Purple Martin in Lake County or the Tricolored Blackbird in Tulare County.



A PG&E crew installs a nest platform near Clear Lake. Nest platforms reduce outages and are preferred by large birds, such as ospreys.

Together, we can make a difference to Californians on the ground—and in the air.

Targeted species enhancement programs: For the past 25 years, PG&E has led various bird species conservation initiatives.

- **Bald Eagle:** PG&E has put in place tailored plans to protect bald eagles at our facilities as part of a long-term, statewide effort to monitor our national symbol. PG&E has surveyed more than 50 bald eagle nesting territories and provided scientific research and data to the U.S. Fish and Wildlife Service. Today, PG&E's hydroelectric watershed lands support about one-quarter of the state's entire breeding population of bald eagles.

"PG&E's avian protection efforts give us hope for the California Condor's recovery in Big Sur and elsewhere," said Kelly Sorenson, executive director of the Ventana Wildlife Society.

- **California Condor:** Endangered California Condors have a risk of colliding with PG&E's power lines in remote Big Sur locations. Inadequate scientific data on Condors makes it difficult to resolve this challenge. Yet, PG&E has taken a number of steps, including developing a cutting-edge long-lining helicopter technique to install special "bird flight diverters" along these area power lines. In 2007, PG&E partnered with Monterey County, the Ventana Wildlife Society, California State Parks, the U.S. Forest Service, and the U.S. Fish and Wildlife Service on one of the largest installations of these innovative devices.
- **Peregrine Falcon:** PG&E's support of peregrine falcon conservation efforts reached new heights in 2005 by funding the UC Santa Cruz Predatory Bird Research Group (SCPBRG) "nest cam" to broadcast the daily routine of a pair of peregrines and their young perched high on the company's headquarters building in San Francisco. In 2007, the famous peregrines laid new eggs on the central anchorage of the San Francisco-Bay Bridge, requiring a dramatic rescue by the SCPBRG scientists with financial support from PG&E. Our continued financial support also funds the group's educational outreach to hundreds of high schools and middle schools throughout California.



A golden eagle soars above a PG&E transmission tower near San Juan Bautista. Innovative new products, such as the red transmission line covers pictured (at left), protect eagles and greatly increase service reliability.

"Voluntary industry cooperation has long been essential to our conservation efforts, and many electric power companies have already taken steps to protect migratory birds," said former U.S. Fish and Wildlife Service Director Matt Hogan. "The new [industry] guidelines build on and strengthen that tradition."



In 2007, PG&E crews rescued a barn owl, entangled in a kite string, in Anderson, California.

"Thank you PG&E for helping us save the owl. We definitely couldn't have done it without your help."

Karlene Stoker, PR Coordinator,
Shasta Wildlife Rescue & Rehabilitation, Inc.

Avian Protection Plan—Helping Protect California's Birds and Keep Customer Service Flying High

Avian Protection Plan
Field Guide



A Field Guide to PG&E's Avian Protection Plan. This Field Guide can be used as a quick reference to the Avian Protection Plan. This Field Guide contains information on how to report bird incidents, additional actions required for raptors, photos and brief description of some of the common species of birds typically encountered in the field, guidelines for nests, and common examples of "raptor safe" construction techniques.

For additional information on the Avian Protection Plan please refer to documents S2321, WP2321, 061149, and 068181 located in the Technical Information Library.

cover photo:

Golden Eagle:

WINGSPAN: 79 inches

Golden eagles have a shiny, "golden" plumage on the nape of the neck. Adults are brown with some lighter feathers at the base of the underside of the tail and juveniles have a white patch on the underside of their wings. Golden eagles tend to be found in open areas.

Reporting Bird Incidents

An employee shall complete F2321-3, "Bird Incident Reporting Form" (type of information on form shown below), whether or not an outage occurred, for any of the following conditions:

1. The employee discovers and/or confirms a bird electrocution or collision.
2. The employee receives notification from the public or other source regarding a bird electrocution or collision.

The employee shall hand-deliver, email, or fax a copy of the completed form to the construction first line supervisor or the division compliance department.

The completed form, including the bird incident number, shall be entered into the "Bird Incident Reporting Web Site" at **http://dbird/HomePage.aspx** within 5 working days of the incident.

Bird Incident Reporting Form

Electric T&D Engg.
06/07
F2321-3

Email the completed form to Division Bird Coordinator. Enter completed form on "Bird Incident Reporting Site" within 5 working days of incident.
For additional information or a copy of this form call: (415) 973-WILD or 223-9453.

Report Date: / / **Incident #** **WorkType**

Date Found: / / **Time (FNL):** : **Outage?** ☐No ☐Yes=**Outage/Log#**

Bird Found By: **CorpID** **Cell** ( ) -

Sender: **CorpID** **Phone** ( ) -

GPS coordinates of pole: **Latitude N** **Longitude W**

Address:

Cross Street: **Nearest City:**

Where is bird now and in whose possession?

Number of birds found = __ and type of bird(s) involved (use check boxes or enter the species below):

☐ Raptor: ☐ golden eagle ☐ bald eagle (Collect eagle, and call 24-hour line at 415-973-9453.)
☐ hawk ☐ owl ☐ vulture ☐ other bird with curved beak and sharp talons
☐ Waterfowl
☐ Perching bird
☐ Undetermined bird

Type/species, if known: _____

Condition of bird(s) ☐ dead **OR** ☐ injured (check below all that apply):
☐ burned ☐ broken appendage ☐ decayed ☐ maggots present ☐ other observation _____

Suspected cause of injury or death: ☐ electrocution ☐ collision ☐ unknown/other _____

Bird was found: ☐ base of pole ☐ on pole ☐ mid-span ___ of incident pole _____ ☐ other location _____

Photos? ☐ bird ☐ pole (file locally with original form)

Additional Info. (e.g., band #, other persons) _____

Incident Pole Information (*PG&E Field Use*)

Division: **Circuit name:** **Voltage:** kV

Pole/Tower #: _____

Pole /Tower Design: ☐ tangent ☐ line/buck ☐ dead end ☐ slack span ☐ other_____

Conductor Spacing: ☐ <44" ☐ 44 – 59" ☐ ≥60" **Number of Phases** = __

Circuit Design:
☐ horizontal
☐ vertical
☐ triangular

Support:
☐ 9" brackets ☐ wood x-arm
☐ 20" brackets ☐ fiberglass bracket
☐ metal riser bracket
☐ metal x-arm

Equipment: and **Equip. ID#**: _____
☐ transformer ☐ capacitor
☐ cutouts bushing mounted ☐ recloser
☐ cutouts on x-arm ☐ switch
☐ riser ☐ other _____

Protection	None	Bushing covers	Insulated jumpers	Perch guard	Raptor framing	Other (Describe)
Existing:	☐	☐	☐	☐	☐	☐
Needed:	☐	☐	☐	☐	☐	☐

EC/EL# **Construction Supervisor CorpID:**

U.S. Fish and Wildlife Service (USFWS) will provide the information requested, if available, at the time the form is completed. Any use by USFWS of this form is not a final determination of the issues addressed. The form, or its use, does not constitute rulemaking by the USFWS and may not be relied upon to create a right or benefit, substantive or procedural, enforceable at law or equity by any person.

Raptor Incidents

Raptor Electrocution: **Distribution**

The incident investigator shall follow the protocol in, "Adjacent Pole Determination Form, and perform the following steps:

1. Identify other nearby structures posing a high risk of bird electrocution.
2. Enter the information from the "Adjacent Pole Determination Form" into the Bird Incident Reporting web site.
3. Create one Electric Corrective (EC) work form notification per pole.
4. Set the priority and completion date of each notification to 90 DAYS.
5. Enter the EC notification number on the Bird Incident Reporting web site.
6. Include the bird incident number on all forms and notifications.
7. File copies of the "Adjacent Pole Determination Form," including EC notification numbers, for auditing purposes.
8. Raptor-related EC notifications shall not be reassessed.

Raptor Electrocution: **Transmission Line**

The incident investigator shall perform the following steps:

1. Create an LC Work Management (WM) notification to schedule investigative work regarding the incident.
2. If the incident involved a raptor, the incident pole/tower shall be retrofit with avian-safe devices.
3. Create a Plant Maintenance (PM) order to retrofit the incident pole.
4. Set the priority and completion date of the order to 6 months.
5. If the incident pole/tower cannot be made avian-safe, provide the reason to avian program management.

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6. For 60 kilovolt (kV) and 70 kV wood pole lines, evaluate nearby adjacent poles within 1,000 feet of the incident pole. Only evaluations of the adjacent poles and data gathering are required. The information on adjacent poles should be included on the outage Event Report.
7. Schedule any retrofit work to be completed as soon as practical, based on material availability, facility accessibility, clearances, etc.
8. Provide any PM order number to avian program management, and include the bird incident number on all forms, notifications, or PM orders.
9. Enter the PM order number in the "Additional Data" field on the Bird Incident Reporting website.

Incidents Involving Non-Raptors

Bird electrocutions or mid-span incidents involving non-raptor or non-T&E bird species shall be monitored, addressed, and prioritized within the structured retrofit program or included in mitigation work recommended through the outage review process.

Reliability

Capital work performed to proactively improve reliability, as the result of an outage review team recommendation, shall be charged against MWC 08 using existing capital project review and approval processes.

Date: ____/____/____ **Name:** _____ **Corp ID:** _____ **Incident#** M M D D d d m m y y h h m m

Notes: It is required to make the incident pole avian-safe. For mid-span raptor and T&E bird *electrocutions*, the nearest pole becomes the incident pole (IP).
Construction supervisor or delegate: Perform work verification on a representative sample of avian related work to ensure the work was completed correctly.

Pole Location Number	Equip Label	Bird Sign	Habitat (check one per row)				Existing Protection (Check all that apply)					Needed Protection (Check all that apply)					Lat/Long (or pole #)		EPCM /EL or PM								
			Res.	Com.	Ag.	Nat.	Bushing Cover	Jumper Insul.	Perch Guard	Other (Describe)		Bushing Cover	Jumper Insul.	Perch Guard	Other (Describe)													
IP																											

Comments: _____
Attach a copy of the distribution map or a sketch depicting the circuit(s) within the work area adjacent to the incident pole.

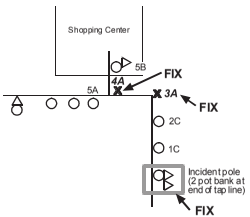
[a] Label key: Transformer (TF), Capacitor (CAP), Riser (RI), Fuse (FU), Recloser (RE), Line & Buck or Corner (L&B), Other (specify here) _____

[b] **For Audit Only:** Use this form to record the date when the audit was performed (in the rightmost column) following the job completion. If possible, take a digital picture labeled with the EPCM/EL number for reference.

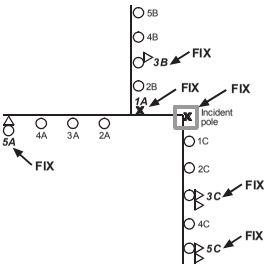
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Examples of Locating Adjacent Distribution Poles for Fixing

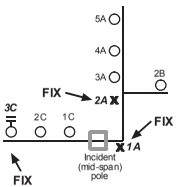
In the examples below, assume all the poles were found within Natural or Agricultural habitats, unless noted otherwise.



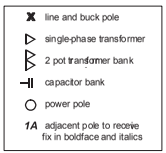
Example: Found line and buck poles (3A and 4A). Pole 5B in the shopping center is excluded because habitat is not suitable for raptors.



Example: Found two pot banks (3C and 5C), line and buck (1A) and single phase transformer poles (5A and 3B).



Example: Found two line and buck poles (1A and 2A) and capacitor bank (3C). Nearest pole (1A) becomes the incident pole.



For a complete copy of this report, go to www/techlib/default.asp



Bald Eagle

WINGSPAN: 80 inches

Prominent features of adults are a white head and tail as well as uniformly brown wings and breasts. Juveniles do not have white heads. Bald eagles are often found near bodies of water.



Osprey

WINGSPAN: 63 inches

An osprey's underside has white breasts and a white tail with many black bands. Ospreys nest in tall, dead trees and utility poles near water.



Swainson's Hawk

WINGSPAN: 51 inches

The Swainson's hawk has a reddish brown band across its breast and is otherwise brown with a light underside. The species lives in grassland and agricultural land.



Red-tailed Hawk

WINGSPAN: 49 inches

Adults of this species have a red tail and are otherwise brown with a pale underside. Red-tailed hawks have wide distributions and can be found year-round in fields, hunting from trees or utility poles.



Peregrine Falcon

WINGSPAN: 41 inches

Dark grey wings and head with a light underside streaked with black. Often found near marshes and tends to nest on cliff ledges or tall buildings.



Barn Owl

WINGSPAN: 42 inches

This owl has a distinct white, heart-shaped face and a mostly white underside. Barn owls sleep during the day in barns, caves, or dense trees, hunting at night in marshes, agricultural land, and brushy areas.



Great Horned Owl:

WINGSPAN: 44 inches

Perching individuals exhibit "ear tufts" of feathers. Overall plumage is mottled brown. A nocturnal owl that sleeps in trees and sheltered areas, the great horned owl hunts in forests and fields.



Turkey Vulture

WINGSPAN: 67 inches

Turkey vultures have featherless heads. The turkey vulture has a widespread distribution and can be seen in rural and suburban areas.



Great Blue Heron

WINGSPAN: 72 inches

A tall, slender bird, the great blue heron can easily be identified by its size and blue color. Usually found near water, but can forage in wet meadows or fields.



Great Egret

WINGSPAN: 51 inches

A crane-like, white bird with a yellow beak and black legs. Lives in marshes, but can also be found in wet agricultural fields.



Sandhill Crane

WINGSPAN: 77 inches

A distinct character of the sandhill crane is the red feathers on top of its head. This species can be found in open meadows, marshes, and farmland.



Tundra Swan

WINGSPAN: 66 inches

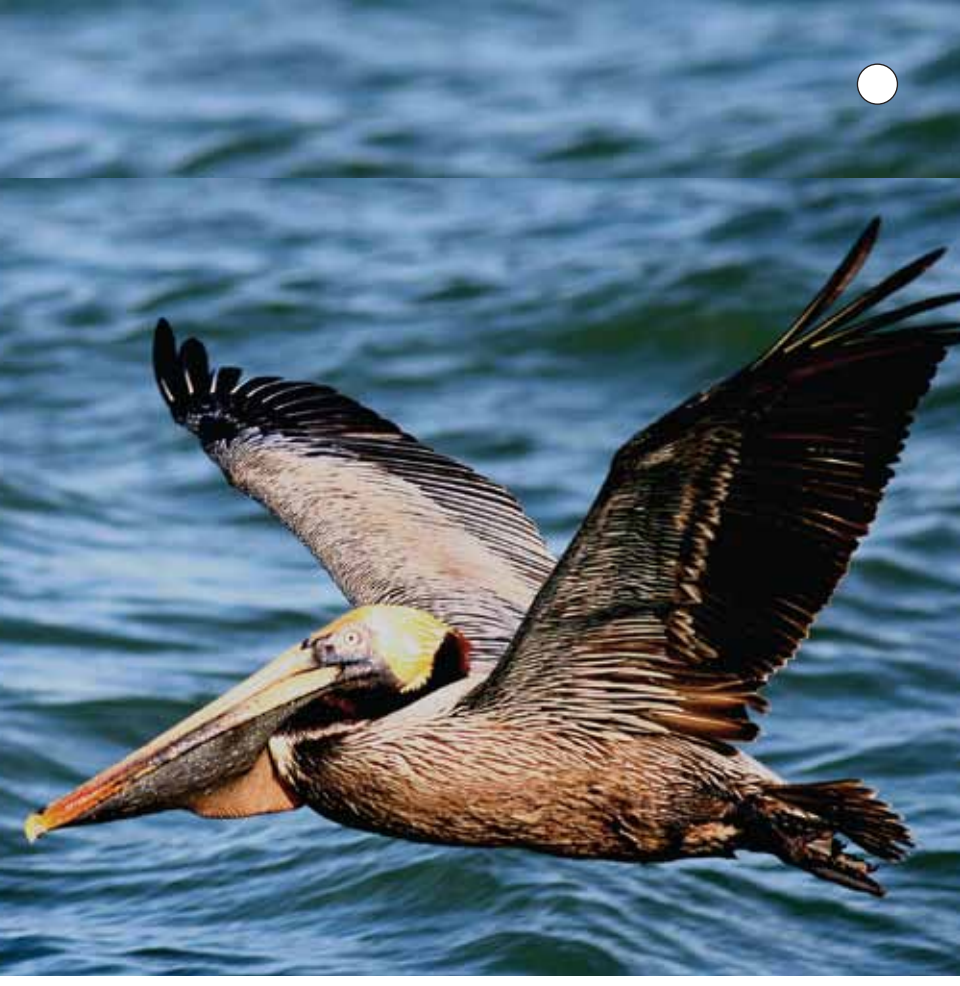
A white swan with a yellow patch between its eye and black beak. Can be found in California during the winter in ponds, marshes, and agricultural fields.



American White Pelican

WINGSPAN: 108 inches

White with yellow or orange legs and beak, the American white pelican is found in the calm waters of lakes and marshes.



Brown Pelican

WINGSPAN: 79 inches

A brown or grey colored bird that can often be observed flying low to the surface of the water. The brown pelican tends to be found in saltwater near or in the ocean.

Nests

Precautions

Be cautious when handling bird nests because they can carry disease. Use leather gloves and other personal protective equipment (PPE), as applicable.

Permit

Authorization for employees to remove nests, on an emergency basis, from transmission and distribution systems to prevent electrocution of birds and associated power outages is provided by Federal Fish and Wildlife Permit MB057942-0.



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY STATUTES
16 USC 703-712

REGULATIONS
50 CFR Part 13
50 CFR 21.27

1. PERMITTEE
PACIFIC GAS & ELECTRIC CO
ELECTRIC ASSSET LIFE CYCLE PLANNING
ATTN MIKE BEST
4040 WEST LANE
STOCKTON, CA 95204
U.S.A.

3. NUMBER
MB057942-2
AMENDMENT

4. RENEWABLE
YES
NO

5. BIRD COPY
YES
NO

6. EFFECTIVE
04/30/2010

7. EXPIRES
03/31/2011

8. NAME AND TITLE OF PRINCIPAL OFFICER (If Applicable)
RONALD L. ORTCHLOW
BRIAN FRANTZ

9. TYPE OF PERMIT
SPECIAL PURPOSE - UTILITY

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
PG&E PROPERTY STATEWIDE (including rights-of-way and easements) - CALIFORNIA
RECORDS MUST BE MAINTAINED AT ADDRESS INDICATED ABOVE
CONTRA COSTA, COUNTY, CALIFORNIA

11. CONDITIONS AND AUTHORIZATIONS

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY OR RENEWAL OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. Authorized emergency removal of nests from electric transmission & distribution systems to prevent electrocution of birds and associated power outages (excludes eagles and endangered species). Notification to permit office is required in writing within 72 hours of such activity. (Note: No notification is required for species that are covered under Depredation Order 21.43 which do not require permits to take: crows, ravens, magpies, blackbirds (excluding Tri-colored and Brewer's Blackbirds which do require permit and must be reported), and cowbird

E. Removal and/or re ation of active nests that could be affected by construction, reconstruction, modification or maintenance of PG&E tten permission from USFWS permit office on a case-by-case basis. Nest manipulations required by

continued on back

1. The permit does not authorize removing eagles' nests or those of threatened or endangered bird species.
2. Active nests of any bird species, other than those listed below, "Exceptions Regarding Active Nests," below, that could be affected by construction, reconstruction, or maintenance activities shall not be removed or relocated without written permission from the USFWS permit office on a case-by-case basis.

- Brewer's blackbirds
- Red-winged blackbirds
- Pigeons
- Yellow-headed blackbirds
- Brown-headed cowbirds
- Crows
- Common grackles
- Magpies
- European starlings
- English sparrows

Discretion shall be used when applying these exceptions.

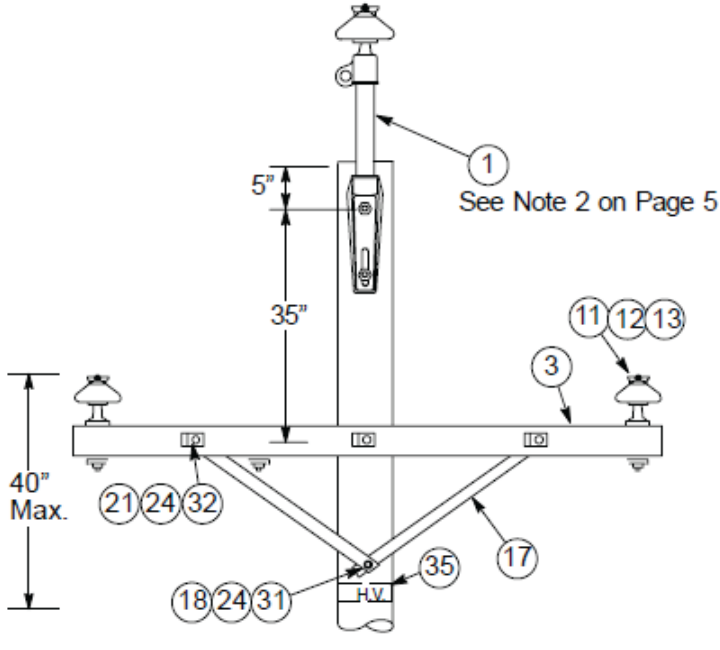
3. A copy of the permit shall be carried, ready for display, by employees who transport or move any bird, nest, or carcass.
4. A copy of the permit may also be printed from the Environmental Services site on the Company Intranet.

Nest Protection

1. Employees shall contact avian program management before working near any eagle's nest, because there may be work- or permit-related restrictions imposed during certain times of the year.
2. Nearly all bird nests are protected by the Federal Migratory Bird Treaty Act.
3. Golden eagle and bald eagle nests are protected by the Eagle Protection Act and cannot be disturbed or possessed without authorization from the USFWS.
4. Under no circumstance shall an employee take away any part of any bird carcass/nest or give away any part to others. To do so could lead to civil and/or criminal penalties. Refer to, "Bird Nest Process."

Construction Retrofits

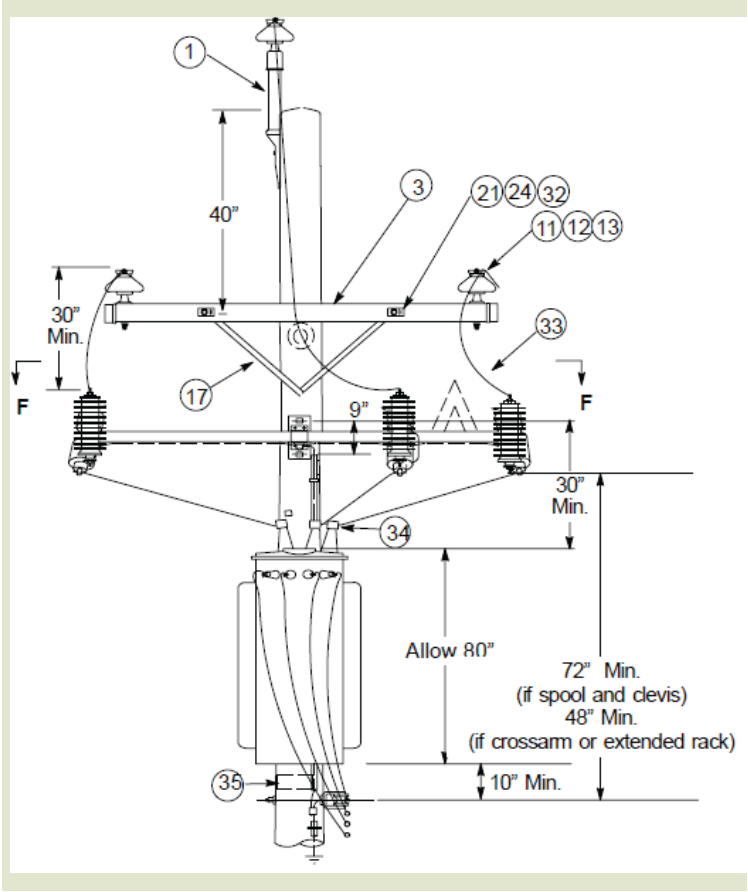
Tangent and Light Angle Construction



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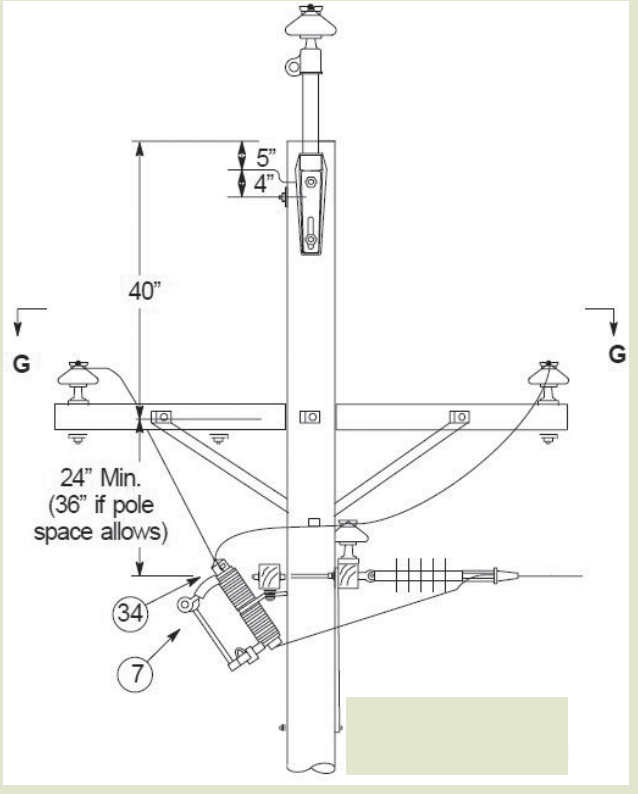
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Tangent Construction: Pole Top
Conventional Transformer with Surge Arrester



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Another Construction diagram Here



For additional framing information refer to document:
061149 OH: Framing

continued on back

For more information, contact:

Mike Best, Avian Program Manager
MBB8@pge.com

Chuck Partridge, Senior Electric Distribution Engineer
CAP4@pge.com

www.pge.com/environment

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APPENDIX E

Noise Analysis Calculations

This appendix includes complex tables that are not accessible using an assistive device such as a screen reader. For additional assistance please contact CPUC.

Noise Calculations for Estrella Sustation and Paso Robles Reinforcement Project

Daytime calculations

Construction Equipment 1 (Concrete Saw)	90	dBA at 50 feet
Construction Equipment 2 (Multiple Equipment Types)	85	dBA at 50 feet

Combined Noise at 50 feet (Ltotal at 50 feet) 91.2 dBA
Combined Noise at 50 feet for Activities w/ No Saw 88 dBA
Ltotal=10 log(10^L1/10+10^L2/10)

Noise Threshold Limits and Distances from Program Sites to those Limits for Construction Equipment

Noise Threshold	Threshold Level - Leq (dBA)	Distance to Leq Threshold from Middle of Project Site (feet)	Distance to Leq Threshold from Middle of Project Site - No Saw (feet)
Common Conditionally Acceptable CNEL	70	573.6	397.2
FTA and Some Cities	90	57.4	39.7

Vibration Source Levels for Construction Equipment (FTA 2018)

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

Vibration Calculations with Equations for Vibration-Causing Equipment (use of Vibratory Roller) for Project Site

Threshold	Distance to Threshold from Middle of Project Site (feet)	Notes
PPV=PPVref * (25/d)^1.5	25.8	Building damage threshold (sensitive buildings)
	73.2	Human Perception (80 VdB)

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

Threshold	Distance to Threshold from Middle of Project Site (feet)	Notes
PPV=PPVref * (25/d)^1.5	14.6	Building damage threshold (sensitive buildings)
	42.8	Human Perception (80 VdB)

NPD Table for Sikorsky 70

Helicopter Type	NOISE_TYPE	OP_MODE	SIDE_TYPE	L_200	L_400	L_630	L_1000	L_2000	L_4000	L_6300	L_10000	L_16000	L_25000
S70	S	A	L	94.9	91.4	89.0	86.3	81.9	76.9	73.1	68.6	64.6	60.2
S70	S	A	C	97.6	94.3	92.0	89.7	85.8	81.4	78.0	74.1	70.5	66.7
S70	S	A	R	100.0	96.7	94.4	92.0	88.1	83.5	79.9	75.6	71.8	67.6
S70	S	D	L	91.3	87.5	84.7	81.7	76.6	70.8	66.6	61.9	57.5	52.9
S70	S	D	C	89.5	85.7	83.1	80.2	75.4	69.9	65.6	60.8	56.3	51.6
S70	S	D	R	92.1	88.4	85.8	82.9	78.2	72.8	68.8	64.1	59.9	55.3
S70	M	G	S	73.7	66.5	61.8	56.9	49.7	42.5	37.8	32.9	28.2	23.4
S70	M	I	S	90.8	83.6	78.9	74.0	66.8	59.6	54.9	50.0	45.3	40.5
S70	S	L	L	100.6	97.1	94.6	91.8	87.1	81.4	77.0	72.0	67.4	62.5
S70	S	L	C	98.0	94.4	91.9	89.0	84.2	78.4	73.9	68.7	64.0	58.9
S70	S	L	R	101.0	97.2	94.5	91.6	86.6	80.8	76.4	71.2	66.5	61.5

	90 dB					
Type	Lp1	Lp2	d1	d2	Distance to 90 dBA	
Approaching from Left	91.4	89.0	400	630	521.3577776	90.0
Approaching from Center	92	89.7	630	1000	941.4017337	90.0
Approaching from Right	92	88.1	1000	2000	1426.866724	90.0
Departing from Left	91.3	87.5	200	400	253.5504179	90.0
Departing from Center						
Departing from Right	92.1	88.4	200	400	296.4009415	90.0
Ground Idling						
Hover Above Ground	90.8	836	200	400	199.851289	90.0
Level Flight from Left	91.8	87.1	1000	2000	1304.056276	90.0
Level Flight from Center	91.9	89	630	1000	852.6839447	90.0
Level Flight from Right	91.6	86.6	1000	2000	1248.331406	90.0

APPENDIX F

Mitigation Monitoring and Reporting Plan

This appendix includes complex tables that are not accessible using an assistive device such as a screen reader. For additional assistance please contact CPUC.

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Appendix F
MITIGATION MONITORING AND REPORTING PLAN

F.1 INTRODUCTION AND BACKGROUND

The California Public Utilities Commission (CPUC) is the California Environmental Quality Act (CEQA) lead agency for the Estrella Substation and Paso Robles Area Reinforcement Project (Proposed Project). In that role, if the Proposed Project or an alternative is approved, the CPUC would be responsible for ensuring that the mitigation measures included in the Environmental Impact Report (EIR) are fully implemented. Public Resources Code (PRC) Section 21081.6 requires lead agencies to adopt a Mitigation Monitoring and Reporting Plan (MMRP) designed to ensure compliance with mitigation measures during project implementation. Horizon West Transmission, LLC (HWT) and Pacific Gas and Electric Company (PG&E), as the Applicants and project proponents, would be responsible for implementing the mitigation measures, as well as the Applicant Proposed Measures (APMs) included as part of the Proposed Project, any other conditions of project approval imposed by the CPUC, and any conditions imposed in permits or regulations administered by other responsible agencies.

The MMRP establishes the approach to implementing the mitigation measures and APMs identified in the EIR. If the Proposed Project or an alternative is approved and the MMRP described below is adopted by the CPUC, a detailed Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) would be developed, as described in this appendix. The MMCRP would be the mechanism for CPUC implementation of the MMRP and would incorporate the MMRP summary table (Table F-1), included at the end of this appendix.

The MMCRP would be the basis for the CPUC's environmental monitoring and reporting activities throughout project construction, including during site rehabilitation and restoration after construction is completed. It would detail how and when the mitigation measures would be implemented. The MMCRP would also identify duties and responsibilities of the various parties, communication protocols to follow, and record management requirements. The MMCRP would be adopted after consideration of the Final EIR instituted prior to any notices to proceed being issued or the initiation of any construction.

F.2 MMCRP AUTHORITY, CONTENTS, AND ORGANIZATION

F.2.1 AUTHORITY FOR THE MMCRP

The California Public Utilities Code confers authority upon the CPUC to regulate the terms of service and the safety, practices, and equipment of utilities subject to its jurisdiction. It is CPUC practice, pursuant to its statutory responsibility, to protect the environment and to require that mitigation measures stipulated as conditions of approval be properly implemented, monitored, and reported on. This requirement is codified statewide as PRC Section 21081.6, which requires a public agency to adopt a mitigation monitoring or reporting program, when it approves a

project that is subject to preparation of an EIR and where the EIR for the project identifies significant adverse environmental effects. CEQA Guidelines Section 15097 describes agency requirements for mitigation monitoring or reporting.

The CPUC would address its responsibilities under PRC Section 21081.6 when it takes action on HWT and PG&E's application for a Permit to Construct. If the CPUC approves the Proposed Project or an alternative, it also would adopt an MMRP and include the mitigation measures as a condition of approval. The MMRP would be incorporated into the MMCRP. The CPUC views the MMCRP as a working guide to facilitate implementation of mitigation measures imposed by the approving agencies measures and any measures proposed by the project proponent, and to provide for the monitoring, compliance, and reporting activities of the CPUC and its designated monitors.

F.2.2 ORGANIZATION OF THE MMCRP

The MMCRP would contain a concise overview and description of the approved project, outline its physical locations, and, to the extent known, provide the project schedule. It would include all adopted mitigation measures and would specify the master reference document(s) that the monitors, HWT, and PG&E would use in carrying out the MMRP (e.g., the Final EIR, detailed working maps and plans, issued permits, etc.). The APMs to which HWT and PG&E have committed would be incorporated to the extent they have not been superseded by specific mitigation measures in the Final EIR.

The MMCRP would include a list of the agencies having jurisdiction over various aspects of the project, and a description of where these respective jurisdictions occur. For example, the MMCRP would state which California Department of Fish and Wildlife (CDFW) regional office has jurisdiction and provide contact information, including the designated representative's name, address, email, and telephone and fax numbers. The MMCRP would also describe the manner in which HWT and PG&E's monitoring team would interact with the CPUC staff and consultants. In addition, the MMCRP would define HWT and PG&E's required submittals to the agencies, and protocol for interactions among agency, HWT, and PG&E team members.

The MMCRP would be structured as follows:

1. Introduction
2. Scope of the Program
3. Roles and Responsibilities
4. Procedures
5. Records Management

F.2.3 ROLES AND RESPONSIBILITIES

As described above, responsibility for implementing the adopted measures rests with HWT and PG&E, unless otherwise specified in the measure. As the lead agency under CEQA, the CPUC is responsible for monitoring the approved project to ensure that required mitigation measures and APMs are implemented. The CPUC may delegate duties and responsibilities for monitoring

to environmental monitors or consultants working on behalf of the CPUC. Additionally, some monitoring responsibilities may be assumed by responsible agencies, where areas or resources under their jurisdiction are potentially affected or involved.

HWT and PG&E would deploy their own monitors for their own purposes, to ensure implementation of their commitments and execution of their responsibilities. The number of HWT and PG&E construction monitors assigned to the project would be determined by the utility and would depend on the number of concurrent construction activities underway, their locations, and the types of resources potentially affected. The CPUC would ensure that persons assigned monitoring duties by HWT and PG&E are qualified to undertake those duties.

When a mitigation measure requires that a study or plan be developed during the design or pre-construction phase of the project, HWT and PG&E must submit the final study or plan to the CPUC for review and approval. Any study or plan that requires approval of the CPUC must allow at least 60 days for adequate review unless noted otherwise in the mitigation measure. Other agencies and jurisdictions with authority over aspects of the Proposed Project or alternative or particular resources may require additional review time. The CPUC environmental monitoring team would be responsible for confirming that appropriate agency reviews have occurred and required approvals were obtained by HWT and PG&E. For certain mitigation measures (e.g., AQ-1), the CPUC may ensure compliance by such means as audits of construction equipment.

In the event of a noncompliance issue, as the State's regulator of investor-owned utilities and as the CEQA lead agency, the CPUC has the authority to halt any construction, operation, or maintenance activity associated with the project if the activity is determined to be a deviation from the approved project or the adopted mitigation measures.

F.2.4 PROJECT CHANGES

During the course of construction, circumstances may arise that require deviations from the project as approved. The CPUC, along with their environmental monitors, would evaluate any proposed deviations from the approved project to ensure they are consistent with CEQA requirements. Depending on its nature, a requested deviation would be processed as a Minor Project Change (MPC) or be the subject of a Petition for Modification (PFM) submitted by the Applicant. MPCs would be strictly limited to changes that do not trigger additional permit requirements, do not increase the severity of an impact or create a new significant impact, and are within the geographic scope of the EIR. If these criteria are not met, HWT and PG&E would be required to submit a PFM. The CPUC would evaluate the PFM under CEQA, as appropriate, to determine what form of supplemental environmental review would be required.

F.2.5 DISPUTE RESOLUTION

The following procedure will be observed for dispute resolution between CPUC staff and the Applicants:

- Disputes and complaints should be directed to the CPUC's designated Project Manager for resolution.

- Should this informal process fail, the CPUC Project Manager may initiate enforcement or compliance action to address deviations from the approved project.

F.2.6 CONSTRUCTION PERSONNEL

A key element in the success of mitigation measure implementation and mitigation monitoring is the full cooperation of construction personnel and supervisors. Successful implementation of many of the mitigation measures requires specific actions and behaviors on the part of the construction supervisors or crews. To ensure success, the following actions, detailed in specific mitigation measures included in the MMCRP, shall be taken:

- Procedures to be followed by construction companies engaged to do the work shall be written into their contracts with HWT and PG&E. Procedures to be followed by construction crews shall be written into a separate agreement that all construction personnel would be asked to sign, denoting consent to the procedures.

- As specified by APMs or mitigation measures, a training program shall be conducted to inform construction personnel about the requirements of the monitoring program (as detailed in the MMCRP). The CPUC Environmental Monitors shall verify that each crew member receives the required training.

- A written summary of mitigation monitoring procedures shall be provided to construction supervisors for all mitigation measures requiring their attention.

F.2.7 REPORTING

Detailed weekly reports would be prepared and submitted by the CPUC environmental monitoring team. These would include detailed information on construction activities, compliance activities observed by the environmental monitors and others documented by HWT and PG&E, any issues and their resolution, and photographs of relevant activities and conditions.

HWT and PG&E are required to have their own monitors for particular resources, depending on project needs and activities. These monitors shall provide daily reports/surveys ~~that are entered into a field record environmental database employed by HWT and PG&E~~. Construction is not allowed to start in a particular area until the required pre-construction surveys and flagging/staking are completed per the MMCRP; the CPUC environmental monitors have validated compliance, and the CPUC has issued a Notice to Proceed.

HWT and PG&E are required to provide the CPUC with written weekly and annual reports of the project, which shall include progress of construction, APM and mitigation measure implementation, and all other noteworthy elements of the project.

F.3 MMRP SUMMARY TABLE

As described above, the MMRP shall be included in the MMCRP should the Proposed Project or one of the alternatives evaluated in the EIR be selected for implementation by the Commission. The following summary table outlines procedures for the implementation of the APMs and

mitigation measures included in the EIR; the relative applicability of the APMs and mitigation measures to Proposed Project components, the reasonably foreseeable distribution components, and/or alternatives; the monitoring and reporting actions that will need to take place to ensure the measure is properly implemented, responsibility for implementation, the schedule for the monitoring and reporting actions, and the mechanism that verifies that monitoring is complete.

Table F-1. MMRP Summary Table

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
General			
APM GEN-1. Prepare and Implement a Worker Environmental Awareness Program. The project proponents will prepare and implement a project-specific worker environmental awareness program (WEAP) for construction personnel. All on-site construction personnel will attend the training before they begin work on the project. WEAP training materials will include avoidance and minimization measures being implemented to protect biological resources, surface and groundwater resources, cultural resources, and paleontological resources; minimize air quality impacts; and manage hazardous materials. WEAP training will also discuss terms and conditions of any permits or agreements, information on federal and state environmental laws, and consequences and penalties for violation or noncompliance with these laws and regulations and project permits. Workers will be informed about the presence, identification, life history, and habitat requirements of the special-status species that have a potential to occur in the project area. More specifically, training will include: ▪ Recognizing/avoiding exclusion areas and sensitive habitat and specific avoidance or	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm preparation of a WEAP that includes all of the specifications consistent with this APM. (CPUC) 2. Confirm that all on-site construction personnel attend the training. (CPUC)	1. Prior to construction. 2. Prior to/during construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
minimization measures for sensitive species and habitats; ▪ How to identify cultural resources; avoidance requirements and procedures to be followed if unanticipated cultural resources are discovered during construction; disciplinary actions that may occur when historic preservation laws and project proponent policies are violated; ▪ How to identify paleontological resources, including types of fossils that could occur in the project area and types of lithologies in which the fossils could be preserved; avoidance requirements and procedures to be followed if a fossil is discovered during construction; penalties for disturbing paleontological resources; ▪ Hazardous substance spill prevention and containment measures; and ▪ Review of mitigation and avoidance measures. A brochure prepared by the project proponents conveying this information will be prepared for distribution to all construction staff and other individuals who enter the construction footprint. All WEAP trainees will receive a project sticker for their hard hat to show they have been trained, and will sign a training sign-in sheet verifying participation and that they understand the training and will comply with the information presented. Focused trainings may be directed at an individual's job-specific task, provided			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
that the worker conducts activities within a limited scope (pilots, delivery drivers, site visitors, etc.).			
Aesthetics			
APM AES-1. Substation Hardscaping. Decorative rock and/or other hardscape landscaping will be installed between Estrella Substation and Union Road.	ES	1. Incorporate requirements into Project design and bid documents. (Project proponents) 2. Confirm that materials do not contrast substantially with the surrounding landscape. (CPUC)	1. During preparation of plans and specifications. 2. During preparation of plans and specifications.
APM AES-2. Light and Glare Reduction. Construction lighting and permanent substation exterior lighting will be selectively placed and shielded to minimize nighttime glare.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Incorporate requirements into Project design and bid documents. (Project proponents) 2. Confirm that temporary and permanent construction and substation lighting is selectively placed and shielded. (CPUC)	1. During preparation of plans and specifications. 2. During construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
MM AES-1. Use Landscaping, Design and Architectural Elements to Complement the Surrounding Visual Landscape. HWT and PG&E shall implement the following measures: ▪ Incorporate drought- and fire-resistant shrubs within the hardscape landscaping proposed in APM AES-1 between Union Road and the Estrella Substation in accordance with the standards provided in PG&E's Wildfire Safety Inspection Program and CAL FIRE's defensible space guidelines. For alternative substation sites, incorporate drought- and fire-resistant shrubs between the adjacent roadway and the substation. Coordinate with CAL FIRE~~/ County Fire Department~~ to ensure that any shrubs used in landscaping adjacent to the substation does not substantially increase fire risk. ▪ At the substation's southeastern perimeter fronting Union Road (where practicable)~~,~~ incorporate chain link fence slats or mesh fabric using natural colors that are compatible with the surrounding area (i.e., green, light brown, grey) in order to minimize visual contrast. ~~▪~~ For all Proposed Project and alternative components (not including the power line conductors), use ~~materials and~~a dulled finish or paint colors that are compatible with the	ES, PPLR, SS-1, PLR-1A, PLR-1C, SE-1A, SE-PLR-2	~~1. Confirm the measure is incorporated into project design and contract documents. (CPUC)~~ 1~~2~~. Confirm that drought and fire-resistant shrubs have been incorporated into adjacent landscaping in accordance with applicable standards. (CPUC) ~~3~~2. Confirm that fencing, paint colors, and ~~materials~~ finishes are compatible with the surrounding area; and where feasible, visual contrast has been minimized. (CPUC) 3. Confirm that applicable, existing landscaping is replaced, in accordance with the measure. (CPUC)	~~1. During preparation of plans and specifications.~~ ~~2~~1. During construction. ~~3~~2. During construction. ~~4~~3. During construction. ~~5~~4. Prior to completion of construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
surrounding area (i.e., dull grey, light brown, or green colors) in order to minimize visual contrast. Examples of dulled finishes include use of galvanized steel or naturally weathered steel. Avoid the use of large expanses of reflective glazing, aluminum panels, and other materials not normally found in the environment. ~~Use a dulled finish on power line and transmission structures.~~ ▪ ~~With respect to power line and transmission structures, balance the need to minimize visual contrast with ensuring that structures are visible to aircraft pilots and birds.~~ ▪ Where practicable and in accordance with CPUC G.O. 95 and other applicable laws, HWT and PG&E shall replace any existing landscaping that requires removal due to construction of the proposed 70 kV power line along the publicly accessible portions of Golden Hill Road, unless the underlying land owner specifically requests non-replacement of landscaping.			
Agriculture and Forestry Resources			
APM AG-1. Coordinate with Landowners, Farmers, and Ranchers Regarding Construction Activities. The project proponents will work with farmers, ranchers, and landowners to schedule project-related construction activities in a manner that avoids conflicts with harvest and planting periods, to the	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Coordinate with farmers, ranchers and landowners to avoid conflicts. (Project proponents)	1. Prior to construction. 2. Prior to construction. 3. Prior to construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
extent feasible, and in a manner that minimizes disruptions to agricultural operations. Access across active fields shall be negotiated with the landowner in advance of any construction activities. ▪ Coordination will include advance notice of construction activities and reporting of complaints, as follows: – Prior to construction, the project proponents will give at least 30 days' advance notice of the start of construction-related activities. Notification shall be provided by mailing notices to all properties within 300 feet of the substation or power line route. The notice will describe where and when construction activity is planned and shall provide contact information for a point of contact for complaints related to construction activities. – Prior to commencing ground-disturbing activities, the project proponents will submit a copy of the template used for the notification letter and a list of the landowners notified to CPUC.		2. Confirm that access across active fields has been negotiated with landowner. (CPUC) 3. Ensure advance notification of construction activities has been provided to surrounding landowners. (CPUC)	
MM AG-1. Provide Compensation for Loss of Agricultural Land. <u>To compensate for the loss of Farmland of Statewide Importance and Unique Farmland,</u> HWT and PG&E <u>shall</u>, prior to ~~the completion~~<u>construction</u> of <u>the</u>	ES, PPLR, PLR-1A, PLR-1C, SE-PLR-2	1. Confirm <u>loss of farmland is compensated for in a manner consistent with the measure</u>~~contributions~~	1. Prior to ~~completion of~~ construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
Proposed Project or alternative, ~~construction, shall~~ either: 1) ~~c~~Contribute funds in an amount equal to the fair market value, based upon value prior to beginning of project construction, of the impacted Farmland of Statewide Importance and Unique Farmland, as it applies to each Applicant's specific impacts ~~(i.e., adequate to support the conservation ratio described below)~~ to the California Farmland Conservancy Program[1], ~~to compensate for the loss of Farmland of Statewide Importance and Unique Farmland that would occur from the Proposed Project or alternatives~~or to another public agency or non-profit organization which will achieve similar long-term preservation of agricultural lands in San Luis Obispo County; 2) Enter into and record one or more conservation easements with landowners for specific land classified as the same or greater FMMP Important Farmland category as the land impacted and is under vineyard production at a 1:1 ratio by acreage for the impacted Farmland of Statewide Importance and Unique Farmland; or		~~to the California Farmland Conservancy Program are made, as necessary, to compensate for converted agricultural lands at the required conservation ratio~~. (CPUC)	

[1] The California Farmland Conservancy Program is established under Public Resources Code Section 10200-10277 to promote the long-term preservation of agricultural lands in California though the use of agricultural conservation easements.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
3) A combination of clauses 1 and 2, above, may be implemented via a financial contribution equaling the fair market value, consistent with clause 1, of any land acreage not conserved via a conservation easement in a 1:1 ratio by acreage, consistent with clause 2. Each Applicant may implement this mitigation measure independently or jointly for the acreage of their respective impacts. Any fair market value estimates, proposed recipients of financial contributions, and proposed conservation easements shall be submitted to the CPUC for review and approval prior to funding and/or execution to assure fulfillment of the intent of this mitigation measure. ~~The California Farmland Conservancy Program is established under Public Resources Code Section 10200-10277 to promote the long-term preservation of agricultural lands in California though the use of agricultural conservation easements. The amount of HWT's and PG&E's contribution shall ensure the conservation of one acre of agricultural land in San Luis Obispo County for each acre of agricultural land converted by the Proposed Project or alternatives, based on the market price for the commensurate agricultural land at the time that the impacts occur~~.			
MM AG-2. Restore Agricultural Land Temporarily Impacted by Construction Activities.	ES, PPLR, PLR-1A, PLR-1C, SE-PLR-2	~~1. Confirm the measure is incorporated into~~	~~1. During preparation of plans and specifications.~~

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
HWT or PG&E shall ensure that agricultural land temporarily impacted by construction activities associated with their respective components is adequately restored following completion of construction ~~to pre-project conditions~~. These include areas impacted from establishment of temporary staging and storage areas, installation of the underground fiber optic cable link, installation of the 230 kV interconnection structures, preparation and temporary use of pull sites and crossing guard structures, and preparation and use of helicopter landing zones. Restoration of sites will involve removing any rock or material imported to stabilize the site, replacement of topsoil, de-compacting any soil that has been compacted by heavy equipment, and re-planting of equivalent value agricultural crops unless the property owner requests that the material remain for their use. Topsoil may be sourced from other areas of the Proposed Project (e.g., topsoil stripped and stockpiled as part of Estrella Substation construction) or may be purchased within San Luis Obispo County. The depth of topsoil following restoration shall match the pre-project condition. The responsibility of performing these various tasks may be stipulated in an agreement between HWT, PG&E, and the landowner(s) completed for the Proposed Project or alternatives. If a landowner is better equipped or prefers to replant crops or perform other tasks themselves, then HWT or ~~and~~ PG&E shall provide		~~the project contract documents. (CPUC)~~ 1. Track acreage and location of disturbed land such as to enable verification of full restoration later on. (CPUC) 2. Confirm restoration of agricultural lands is completed. (CPUC)	1. During construction. 2. Following construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
just compensation for this work. HWT and PG&E shall ensure that all restoration activities pursuant to this mitigation measure, including through any agreements with landowners, are consistent with the best management practices (BMPs) in the stormwater pollution prevention plan (SWPPP). Restoration of agricultural land shall be defined as restored to a reasonable equivalent in agricultural viability/suitability in comparison to pre-construction conditions (i.e., soil conditions are as, or more, suitable to support the same or similar crops as pre-construction conditions), unless other arrangements with the land owner for different restoration conditions have been made. PG&E and HWT shall submit a report to CPUC after restoration efforts are completed, documenting completion of the restoration activities required by this mitigation measure.			
Air Quality			
APM AIR-1. Minimize ROG, NO_x, and PM Combustion. ▪ Maintain all construction equipment in proper tune according to manufacturer's specifications; ▪ Fuel all off-road and portable diesel-powered equipment with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm construction equipment and vehicle fleets meet requirements of the APM. (CPUC) 2. Confirm that construction equipment is maintained per	1. Prior to construction. 2. During construction. 3. During construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
▪ Use on-road heavy-duty trucks that meet CARB's 2010 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the state On-Road Regulation; ▪ Construction or trucking companies with fleets that that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or NOx exempt area fleets) may be eligible by proving alternative compliance; ▪ All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated staging areas and substation site to remind drivers and operators of the 5-minute idling limit; ▪ Electrify equipment when feasible; ▪ Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and ▪ Use alternatively fueled construction equipment on site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel.		manufacturer specifications. (CPUC) 3. Confirm that equipment is not idled for more than 5 minutes and all other requirements of APM are complied with. (CPUC)	
APM AIR-2. Air Quality Best Available Control Technology for Construction Equipment. Best available control technology measures for the project include:	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm that the best available control technology for construction	1. During construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
▪ Reducing emissions by expanding use of Tier 3 off-road and 2010 on-road compliant engines; and ▪ Installing California Verified Diesel Emission Control Strategies.		equipment is being utilized. (CPUC)	
APM AIR-3. Minimize Fugitive Dust. Reduce the amount of the disturbed area where possible. ▪ Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. ▪ All dirt stockpile areas should be sprayed daily as needed. ▪ All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by San Luis Obispo Air Pollution Control District (SLOCAPCD). ▪ Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface. ▪ All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm that fugitive dust levels are being minimized by implementation of the measures outlined in this APM. (CPUC)	1. During construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
▪ Sweep streets at the end of each day if visible soil material extending over 50 feet is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where possible.			
~~**MM AQ-1. Prepare a Construction Activity Management Plan for Approval by SLOCAPCD.**~~ ~~HWT, PG&E, or their contractor(s) shall implement the following measures:~~ ~~▪ Prepare a Construction Activity Management Plan (CAMP) that contains at a minimum the following SLOCAPCD standard mitigation measures, BACT measures and diesel idling restrictions that are not already in the APMs. The CAMP shall be submitted to the air pollution control district (APCD) for review and approval prior to the start of construction and shall include, but not be limited to, the following elements:~~ ~~1. A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "dust control measures" section;~~ ~~2. Tabulation of on and off-road construction equipment (age, horse-power and miles and/or hours of operation). Use of diesel construction equipment meeting ARB's Tier 3 and Tier 4 off-road and 2010 on-road compliant engines; Repowering equipment with the cleanest engines available; At a~~	ES, PPLR, ~~RFDC,~~ SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm the measure is incorporated into the project contract documents. (CPUC)~~ 1~~2~~. Confirm preparation of the CAMP ~~and submittal to APCD~~ and that CAMP includes all of the components required by the measure. (CPUC~~,~~ ~~SLOCAPCD~~) ~~3. Confirm approval is provided by APCD. (CPUC, SLOCAPCD)~~ ~~3~~2. Confirm that all requirements of the CAMP are fully implemented. (CPUC)	~~1. Prior to construction.~~ 1~~2~~. Prior to construction. ~~3. Prior to construction.~~ ~~3~~2. During construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
~~minimum the off-road equipment fleet shall meet the CARB off-road emissions average for that calendar year.~~ ~~3. Scheduling of construction truck trips during non-peak hours to reduce peak hour emissions;~~ ~~**4. Limits for the length of construction work-day periods and/or phased approaches for construction activities, if determined appropriate and necessary by the APCD.**~~**Mitigation Measure AQ-1: Prepare a Construction Activity Management Plan for Review by SLOCAPCD and Final Approval by CPUC.** Horizon West Transmission (HWT), Pacific Gas and Electric Company (PG&E), or their contractor(s) shall implement the following measures: ▪ Prepare a CAMP. The CAMP shall be submitted to the APCD for review and to CPUC for final approval prior to the start of construction and shall include, but not be limited to, the following elements: 1. Evaluation of all SLOCAPCD standard and expanded fugitive dust mitigation measures for incorporation as a mitigation measure into the CAMP. Minimum performance criteria for fugitive dust measures to control dust is not to exceed 20% opacity for greater than 3 minutes in any 60-minute period while construction activity is occurring and			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
disturbed areas are not covered, vegetated, or chemically stabilized; 2. Evaluation of all SLOCAPCD standard construction equipment mitigation measures and evaluation of construction equipment BACT for incorporation as a mitigation measure into the CAMP or documentation of infeasibility. Minimum performance standard is meeting or exceeding all applicable CARB mobile source and off-road equipment fleet regulations and documentation on why anything less than a Tier 4 final off-road engine is infeasible for the project such as unavailability of specialized equipment with a Tier 4 Final engine; 3. A Dust Control Management Plan that encompasses all, but is not limited to, dust control measures that were listed above in the "fugitive dust control measures" listed in part 1; and include the following additional dust mitigation measures: a. Equipment must be washed down before moving from the property onto a paved public road. b. All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
c. Installation of one or more of the following track-out prevention measures: i. A gravel pad designed using good engineering practices to clean the tires of existing vehicles, ii. A tire shaker, iii. A wheel wash system, iv. Pavement extending for not less than fifty consecutive feet from the intersection with the paved public road, and/or v. Any other measure the CPUC finds as effective as the measures listed above. d. Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days, which shall include one or more of the following: i. Keep the surface adequately wetted as follows: (A) If the district-approved dust mitigation plan has specified a percent moisture content for specific materials the determination shall be as specified in the district-approved dust mitigation plan; or (B) If no moisture threshold is			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
specified in a district-approved dust mitigation plan, a sample of at least one (1) quart in volume shall be taken from the top three (3) inches of a road, or bare area or from the surface of a stockpile. The sample shall be poured out from a height of four (4) feet onto a clean hard surface. The material shall be considered to be adequately wetted if there is no observable dust emitted when the material is dropped. ii. Establishment and maintenance of surface crusting sufficient to satisfy the following: Measurement of the stability of surface crusting on horizontal surfaces" shall be as follows: (A) Where a visible crust exists, drop a steel ball with a diameter of 15.9 millimeters (0.625 inches) and a mass ranging from 16 to 17 grams from a distance of 30 centimeters (one foot) directly above (at a 90-degree angle perpendicular to) the ground surface. If blow sand (thin deposits of loose grains covering less than 50 percent of the surface			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
that have not originated from the surface being tested) is present, clear the blow sand from the surfaces to be tested before dropping the steel ball. Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations; (B) A sufficient crust is determined to exist if, when the ball is dropped as described in A., the ball does not sink into the surface so that it is partially or fully surrounded by loose grains and, upon removing the ball, the surface on which it was dropped has not been pulverized so that loose grains are visible. (C) To determine that a surface is sufficiently crusted, three different test areas must pass the ball drop test. Within each different test area, the ball is dropped three times in each test area within a survey area measuring 1 foot by 1 foot that represents a random portion of the surface being evaluated. The test area shall be deemed to have			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
passed if at least two of the three times the ball was dropped, the results met the criteria specified in B. Only if all three different test areas pass, the area shall be deemed to be "sufficiently crusted." iii. Covering with tarp(s) or vegetative cover; iv. Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile; v. Installation of wind barriers across open areas; or vi. Any other measure as effective as the measures listed above. e. Suspend grading operations when wind speeds are high enough to result in dust emission crossing the property line[2] despite application of dust mitigation measures. f. All earth moving activities should be ceased in times of high wind conditions defined as sustained wind speeds exceeding 25 miles per hour and /or if			

[2] The property line is meant to be the edge of the work area established for the current project activities.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
two wind gusts in excess of 25 mph are recorded in a 30- minute period. 4. Tabulation of on and off-road construction equipment (age, horse-power and miles and/or hours of operation) on a projected and actual monthly basis. Ensure a minimum performance standard for DPM emissions of less than the SLOCAPCD significance threshold of 7 pounds daily and 0.13 tons per quarter is achieved. It is unlikely given the current projections for the Proposed Project that the DPM thresholds would be exceeded. If any monthly projection of emissions associated with the Project's equipment usage is within 10% of this daily or quarterly DPM threshold, HWT, PG&E, and/or its contractors will adjust the equipment used and/or schedule to ensure that exceedance of these thresholds is avoided. The minimum performance standard for quarterly emissions of ROG and NO_X is the Tier 2 threshold of 6.3 tons. To ensure that emissions are below the Tier 2 threshold for ROG and NO_X, PG&E, HWT and its contractors will implement suitable emission reduction measures, which may include, but would not be limited to: a. Work with SLOCAPCD to establish emission offsets to reduce net emissions below 6.3 tons in a quarter;			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
b. Limit the length of construction work-day periods and/or implement phased approaches for construction activities; and/or c. Implement any other suitable emission reduction measures to ensure that emissions are below the Tier 2 threshold. ~~1.~~5. Schedule construction truck trips during non-peak hours (i.e. avoid peak commute times such as 7-9 am and 4-6 pm) to reduce peak hour emissions to the extent feasible.			
Mitigation Measure AQ-2: Prepare a Valley Fever Management Plan for Review by CDPH and San Luis Obispo Department of Public Health and Final Approval by CPUC. HWT, PG&E, or their contractor(s) shall implement the following measures: ▪ Prepare a VFMP. The Applicants shall prepare a VFMP and submit to the CPUC for review and approval prior to the start of construction. Prior to submittal of the VFMP to the CPUC, the Applicants shall consult with the California Department of Public Health and the San Luis Obispo Department of Public Health for guidance on all feasible mitigation measures to include in the VFMP. Feasible mitigation measures identified during this consultation shall be	ES, PPLR, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm the measure is incorporated into the project contract documents. (CPUC)~~ 1~~2~~. Confirm preparation of the VFMP and that VFMP includes all of the components required by the measure. (CPUC) 2~~3~~. Confirm VFMP requirements are fully implemented. (CPUC)	~~1. Prior to construction.~~ 1~~2~~. Prior to construction. 2~~3~~. During construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
incorporated by the Applicants in the VFMP submitted to the CPUC. The VFMP shall include, but not be limited to, the following elements as currently suggested by the California Department of Public Health: ○ Adopt site plans and work practices that reduce workers' exposure to minimize primary and secondary exposure to the community through direct dispersal of spores or secondary dispersal from contaminated workers or equipment bringing spores to the community. The site plans and work practices may include: ▪ Minimize the area of soil disturbed. ▪ Use water, appropriate soil stabilizers, and/or re-vegetation to reduce airborne dust. ▪ Stabilize all spoils piles by tarping or other methods. ▪ Provide air conditioned cabs for vehicles that generate heavy dust and make sure workers keep windows and vents closed. ▪ Suspend work during heavy winds. ▪ Onsite sleeping quarters, if provided, should be placed away from sources of dust.			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
○ Take measures to reduce transporting spores offsite, such as: ▪ Clean tools, equipment, and vehicles before transporting offsite. ▪ If workers' clothing is likely to be heavily contaminated with dust, provide coveralls and change rooms, and showers where possible. ○ Identify a health care provider for occupational injuries and illnesses who is knowledgeable about the diagnosis and treatment of Valley Fever. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect the community. ○ Train workers and supervisors about the risk of Valley Fever, the work activities that may increase the risk, and the measures used onsite to reduce exposure. Also train on how to recognize Valley Fever symptoms. This helps to ensure proper diagnosis and treatment as well as tracking potential outbreaks that may affect community. ○ Encourage workers to report Valley Fever symptoms promptly to a supervisor. Not associating these symptoms with workplace exposures can lead to a delay in appropriate diagnosis and treatment. This helps to ensure			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
proper diagnosis and treatment as well as tracking potential outbreaks that may affect community.			
Biological Resources			
APM BIO-1. Conduct Pre-Construction Survey(s) for Special-Status Species and Sensitive Resource Areas~~Design Project to Avoid or Minimize Impacts on Known Occurrences of Special-Status Plants~~. Biologists will conduct pre-construction survey(s) for special-status species and sensitive resource areas immediately prior to construction activities within suitable aquatic and upland habitat for special-status species. If a special-status species is encountered on the project site, the project proponents will be contacted immediately to determine the appropriate course of action. For federally or state listed species, the project proponents will contact the appropriate resource agency (USFWS and/or CDFW), as required.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Retain a qualified biologist to perform surveys. (Project proponents) 2. If a special-status species is detected on the project site, ensure that the project proponents are contacted. (Project proponents) 3. If a federally or state listed species is detected on the project site, ensure that the project proponents contact the appropriate resource agency. (CPUC)	1. Prior to construction. 2. Prior to construction. 3. Prior to construction.
APM BIO-2. Avoid Impacts on Nesting Birds. If work is scheduled during the nesting season (February 1 through August 31), nest detection	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Retain a qualified biologist to conduct preconstruction	1. Prior to construction. 2. Prior to construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
surveys will correspond with a standard buffer for individual species in accordance with the species-specific buffers set forth in the project proponent's *Nesting Birds: Specific Buffers for PG&E Activities*, and will occur within 15 days prior to the start of work activities at designated construction areas, staging areas, and landing zones to determine nesting status by a qualified biologist. Nest surveys will be accomplished by ground surveys and/or by helicopter and will support phased construction, with surveys scheduled to be repeated if construction lapses in a work area for 15 days between March and July. Access for ground surveys will be subject to property access permission. Helicopter flight restrictions for nest detection surveys may be in effect for densely populated residential areas, and will include observance of appropriate established buffers and avoidance of hovering in the vicinity of active nest sites. If active nests containing eggs or young are found, the biologist will establish a species-specific nest buffer, as defined in the project proponent's *Nesting Birds: Specific Buffers for PG&E Activities*. Where feasible, standard buffers will apply, although the biologist may increase or decrease the standard buffers in accordance with the factors set forth in *Nesting Birds: Specific Buffers for PG&E Activities*. Nesting pair acclimation to disturbance in areas with regularly occurring human activities will be considered when		surveys. (Project proponents) 2. If construction is scheduled to commence during the nesting season, confirm that nest detection surveys are conducted in accordance with this APM. (CPUC) 3. If active nests are found, ensure that a species-specific nest buffer is established in accordance with this APM. (CPUC)	3. Prior to construction, if necessary.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
establishing nest buffers. The established buffers will remain in effect until the young have fledged or the nest is no longer active as confirmed by the biologist. Active nests will be periodically monitored until the biologist has determined that the young have fledged or once construction ends. Per the discretion of the biologist, vegetation removal by hand may be allowed within nest buffers or in areas of potential nesting activity. Inactive nests may be removed in accordance with PG&E's approved avian permits. The biologist will have authority to order cessation of nearby project activities if nesting pairs exhibit signs of disturbance. All references in this APM to qualified wildlife biologists refer to qualified biologists with a bachelor's degree or above in a biological science field and demonstrated field expertise in ornithology, in particular, nesting behavior.			
APM BIO-3. Biological Monitoring. Biologists will monitor initial ground-disturbing activities in and adjacent to sensitive habitat areas to ensure compliance with best management practices and APMs, unless the area has been protected by barrier fencing to protect sensitive biological resources and has been cleared by the biologists. The monitor will have authority to stop or redirect work if construction activities are likely to affect sensitive biological resources.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Retain qualified biologist(s) familiar with the sensitive habitat areas. (Project proponents) 2. Confirm that biologists monitor initial ground-disturbing activities in and adjacent to sensitive habitat areas and implement the	1. Prior to construction. 2. During construction. 3. During construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
If a listed wildlife species is encountered during construction, project activities will cease in the area where the animal is found until the qualified biologist determines that the animal has moved out of harm's way or, with prior authorization from USFWS and/or CDFW if required, relocates the animal out of harm's way and/or takes other appropriate steps to protect the animal. Work may resume once the qualified biologist has determined that construction activities will not harm any listed wildlife species. The project proponents will be responsible for any necessary reporting to USFWS and/or CDFW.		measures in accordance with this APM. (CPUC) 3. Confirm that the qualified biologists implement the measures in accordance with this APM should a listed wildlife species be encountered. (CPUC)	
APM BIO-4. Special-Status Species Protection. All trenches/excavations in excess of 2 feet deep will have a sloped escape ramp or be covered at the end of the day. All trenches and excavations will be inspected for wildlife at the beginning of the workday and prior to backfilling. In addition, open-ended project-related pipes 4 inches or greater in diameter will be capped if left overnight or inspected for wildlife prior to being moved. If a special-status species is discovered in a trench, excavation, or pipe, the animal will be left undisturbed, and the pipe will not be moved until the special-status species has left the area on its own accord. In the event that any special-status species is trapped and unable to leave on its own accord, a permitted biologist, defined as a qualified biologist	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm that this measure is included in contract documents. (CPUC)~~ 1~~2~~. Confirm that trenches/excavations have a sloped escape ramp or are covered at the end of each day. (Project Proponents ~~CPUC~~) 2~~3~~. Confirm that trenches and excavations are inspected for wildlife at the beginning of the workday and prior to	~~1. During the preparation of plans and specifications.~~ 1~~2~~. During construction. 2~~3~~. During construction. 3~~4~~. During construction. 4~~5~~. During construction, if necessary.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
that holds the appropriate federal and/or state permits, will recover and relocate the special-status species. In addition, all food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers or kept in closed vehicles. Trash containers will be removed from the project area on a regular basis.		backfilling. (Project Proponents ~~CPUC~~) 3~~4~~. Confirm that open-ended pipes are capped or inspected according to this APM, and all other APM requirements are implemented. (CPUC) 4~~5~~. If a special-status species is found, confirm that the guidance provided in this APM is followed. (CPUC)	
APM BIO-5. Dead or Injured Special-Status Wildlife. If any dead or injured special-status wildlife or birds protected by the Migratory Bird Treaty Act are discovered at the project site during construction, work will stop in the immediate vicinity. The project proponents will notify the on-call biologist and the appropriate resource agency (USFWS and/or CDFW) before construction is allowed to resume.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm that work is stopped and APM requirements followed if dead or injured special-status wildlife or birds are discovered. (CPUC)	1. During construction, if necessary.
Mitigation Measure BIO-1. Actions to Further Avoid and Minimize Impacts to Special-Status Species. The additional mitigation actions below supplement the Applicant Proposed Measures (APMs) included as	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm that this measure is included in contract documents. (CPUC)~~	~~1. During the preparation of plans and specifications.~~ 1~~2~~. Prior to construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
part of the Proposed Project and as applicable to alternatives and distribution components and are discussed separately by resource. a. **Special-Status Plants:** Pre-construction surveys required under APM BIO-1 shall be conducted of all proposed work, plus a 100-foot buffer, within 1 year before commencement of ground-disturbing activities according to the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018 or current version). Floristic surveys shall be performed during the appropriate bloom period(s) for each species. HWT/PG&E or their contractor(s) shall work with the CPUC~~CDFW~~-approved qualified botanist to identify plants in the field by staking, flagging, or fencing to avoid, where feasible, special-status plants that are detected within the temporary or permanent work areas, or within a 100-foot radius of these areas. b. **Biological Monitoring, Sensitive Habitat Areas, and Special-Status Species:** HWT/PG&E shall retain a CPUC~~, USFWS , and CDFW~~-approved biologist(s) to conduct pre-construction surveys for special-status plants and wildlife prior to initial vegetation clearance, grubbing, and ground-disturbing activities.		1~~2~~. Retain qualified biologist(s) to perform pre-construction and pre-activity surveys for special-status plants and wildlife, per the MM requirements. (Project proponents) 2~~3~~. Ensure sensitive areas have been demarcated (e.g., flagged), as appropriate, per the requirements of the MM. (Project proponents) 3~~4~~. Submit pre-construction survey report(s) for CPUC review and approval. (Project proponents) 4~~5~~. Have qualified biologist(s) make office and/or field presentations to field staff, as appropriate. (Project proponents)	2~~3~~. Prior to construction. 3~~4~~. Prior to construction. 4~~5~~. During construction. 5~~6~~. Prior-to, during, and post construction. 6~~7~~. During construction. 7~~8~~. Prior-to, during, and post construction. 8~~9~~. During construction. 9~~10~~. Prior to construction. 10~~11~~. During construction. 11~~12~~. Prior-to, during, and post construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
The pre-construction surveys shall be conducted no earlier than 30 days prior to surface disturbance within the work areas. The pre-construction surveys shall incorporate specialized techniques for burrowing owl in accordance with CDFW's 2012 *Staff Report on Burrowing Owl Mitigation* in areas identified as having suitable habitat for burrowing owl. Additionally, HWT and PG&E shall conduct pre-construction surveys for Swainson's hawks and white-tailed kite based on the Swainson's Hawk Technical Advisory Committee's 2000 *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley.* Pre-construction surveys for Crotch's bumble bee shall be conducted during the flying season. The results of the pre-construction surveys shall be documented by the approved biologist in a pre-construction survey report. The pre-construction survey report shall be submitted to the CPUC ~~for review and approval~~ prior to the start of construction, and the results shall be submitted to USFWS and CDFW as required by any regulatory permits or approvals. The pre-construction study report shall include the following: ▪ Type, location, and size of project ▪ Date, time, weather, surrounding land uses ▪ Evaluation of type and quality of habitat		5~~6~~. Schedule vegetation trimming in sensitive habitats for non-sensitive times (Project proponents) 6~~7~~. In the event of the discovery of a special-status plant, confirm the area is marked for avoidance. (CPUC) 7~~8~~. Confirm measures to minimize erosion, sedimentation, and wetland and water protection are implemented. (CPUC) 8~~9~~. Submit weekly and monthly biological construction monitoring reports to responsible agencies and/or the CPUC. (Project proponents) 9~~10~~. Confirm all trenches have been inspected (CPUC)-. 10~~11~~. Ensure contractors and construction	

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
▪ Work description and methods for avoidance or minimization of ground disturbance, including biological monitoring during construction ▪ Anticipated impacts and proposed mitigation ▪ Map of location of work area Areas identified as ~~S~~sensitive habitat areas in the pre-construction survey report, plus a minimum 5-foot buffer for wetlands and waters of the U.S., that will be avoided by construction shall be fenced with orange safety fencing. Biological monitoring required by APM BIO-3 is extended to be necessary when each portion of previously undisturbed ground is disturbed, based on special-status species' requirements and the profession opinion of the qualified biological monitor; however, work ~~near~~within 50 feet of wetlands and waters of the U.S. will be monitored by a biological monitor over its duration. In order to ensure that habitats are not adversely affected, the ~~USFWS and CDFW~~CPUC-approved biologist shall flag boundaries of habitat, which must be avoided. When necessary, the biologist shall also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment, such as cranes, bucket trucks, and augers. When appropriate, the biologist shall make office and/or		scheduling adheres to the nesting bird season identified. (Project proponents) 11~~12~~. Confirm all County of San Luis Obispo San Joaquin Kit Fox measures have been implemented. (CPUC)	

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
field presentations to field staff to review and become familiar with natural resources to be protected on a project site-specific basis. The ~~USFWS- and CDFW~~CPUC-approved biologist shall be contacted to perform a pre-activity survey when vegetation trimming is planned in sensitive habitats. Whenever possible, vegetation in sensitive habitats, such as blue oak woodlands, shall be scheduled for trimming in non-sensitive times (i.e., outside of breeding or nesting seasons). HWT/PG&E shall maintain a library of special-status plant species locations; known to HWT/PG&E, occurring within the project survey area. "Known" means a verified population either extant or documented using record data. Information on known sites may come from a variety of record data sources, including local agency HCPs, focused plant surveys, pre-construction surveys, or biological surveys conducted for environmental compliance of the Project. Plant inventories shall be consulted as part of pre-construction survey procedures. In the event of the discovery of a previously unknown special-status plant, the area shall be marked as an environmentally sensitive area, and avoided to the maximum extent practicable. If avoidance is not possible, HWT/PG&E shall consult			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
with USFWS and/or CDFW, as appropriate, given the species' status. ~~Gravel bags shall be placed along the bottom of the fence to minimize erosion or sedimentation into nearby wetlands and/or waters of the U.S., and removed upon completion of construction.~~ Any project related work scheduled to occur within the exclusion/buffer zone of the wetland shall be conducted when the wetland is dry as determined by the approved biological monitor. Best management practices (BMPs) referred to in APM BIO-3 indicate stormwater and water quality projection BMPs. Erosion and sediment control BMPs shall be included in the SWPPP for the Proposed Project or alternative and shall be fully implemented during construction. These BMPs shall effectively minimize any erosion or sedimentation into nearby wetlands and/or waters of the U.S., and shall be removed upon the completion of construction. Weekly biological construction monitoring reports shall be prepared and submitted to the CPUC ~~appropriate permitting and responsible agencies~~ throughout the duration of the ground-disturbing and vegetation-removal construction phase. Monthly biological construction monitoring reports shall be prepared and submitted to the CPUC throughout the duration of project construction to document			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
compliance with environmental requirements. In the event that any work will occur beyond the approved limits, it shall be reported to ~~HWT's and PG&E's compliance teams and~~ the CPUC. c. **Wildlife Protection from Work Areas:** In addition to the requirements of APM BIO-4, HWT/PG&E shall retain a CPUC-approved biologist to inspect all uncovered steep trenches and excavations during construction twice daily (i.e., morning and evening) to monitor for wildlife entrapment. Large/steep excavations shall be covered and/or fenced nightly to prevent wildlife entrapment. Excavations shall provide an earthen ramp (where feasible) and, if not, wood planks or escape ramps to allow for a wildlife escape route. All open-ended project-related pipes (not dependent on diameter size) will be capped if left overnight or inspected for wildlife prior to being moved. If wildlife is located in a trench or excavation, the on-site biological resource monitor shall be contacted immediately to remove them if they cannot escape unimpeded. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency may be employed to remove the wildlife and transport them safely to other suitable habitats outside of the work area.			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
d. **Nesting Birds:** Activities conducted pursuant to APM BIO-2 shall consider the nesting bird season, commencing January 15 for golden eagle and February 1 for all other birds ~~revised to be January 15~~ through August 31. e. **San Joaquin Kit Fox:** HWT/PG&E shall implement the County of San Luis Obispo's standard kit fox mitigation measures, including the following: ▪ Retain qualified biologist to conduct pre-construction survey of the project site and conducting a pre-construction kit fox briefing for construction workers to minimize kit fox impacts. ▪ Include kit fox protection measures on project plans. ▪ Require a maximum 25 mile per hour speed limit at the project site during construction. ▪ Cover excavation deeper than 2 feet at the end of each working day or provide escape ramps for kit fox. ▪ Inspect pipes, culverts, or similar structures for kit fox before burying, capping, or moving. ▪ Remove food-related trash from project site. ▪ If a kit fox is discovered at any time in the project area, all construction in the immediate vicinity must stop, photos taken as feasible, and the CDFW and USFWS contacted immediately. ~~The~~			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
~~appropriate federal and state permits must be obtained before the project can proceed.~~ HWT/PG&E shall consult with USFWS and/or CDFW to determine what actions are necessary, if any, before work can resume. Work in the immediate vicinity of the kit fox discovery shall not resume until written authorization is obtained from USFWS and/or CDFW.			
MM BIO-2. Compensate for Impacts to Special-Status Plant Species. If avoidance of special-status plants is not feasible, HWT and PG&E shall implement measures to compensate for impacts to special-status plants. Compensation may be provided by purchasing credits at an ~~CDFW~~ approved mitigation bank (provided at a minimum 1:1 ratio [mitigation to impact]), or through transplanting perennial species and collecting and dispersing seed of annual species (i.e., salvage and relocation) under the direction of the CPUC~~CDFW~~. Where salvage and relocation is demonstrated to be feasible and biologically preferred ~~by the CDFW~~, it shall be conducted pursuant to a CPUC- ~~and CDFW~~ approved salvage and relocation plan that details the methods for salvage, stockpiling, and replanting, as well as the characteristics of the receiver sites. Monitoring of plant populations shall be conducted annually for 5 years to assess the mitigation's effectiveness. At the end of the 5-year monitoring	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. If necessary, confirm that compensation is provided for special-status plant species impacts. (CPUC) 2. If salvage and relocation is selected as the compensation method, confirm annual monitoring and achievement of success criteria at the end of 5 years. (CPUC)	1. Once it is known that special-status plants are present and cannot be avoided. 2. Following construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
period, the mitigation shall have met the following success criteria: ▪ A surveyed plant population size count ~~roughly~~ equal to or greater than the number of individuals transplanted or number of individuals removed (this total may include ~~both~~ transplanted individuals that have survived, seeds that have grown into plants and have survived, as well as any additional supplemental plantings following the initial transplantation and seed dispersal that have survived at least two growing seasons), and ▪ Less than 5 percent cover of invasive weeds (or equivalent cover as compared with adjacent areas) within the ~~restoration area~~receiver site.			
MM BIO-3. Minimize Impacts to Raptors and other Avian Life from Transmission and Power Line Facilities. ~~HWT,~~ PG&E, and/or their contractor(s) shall construct all aboveground transmission and power lines to meet applicable ~~the~~ Avian Power Line Interaction Committee~~'s~~ (APLIC) ~~recommended~~ recommendations, as published in ~~publications~~: *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, and *Reducing Avian Collisions with Power Lines: State of the Art in 2012* (APLIC 2006, 2012). In conjunction with these	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm engineering designs incorporate recommended avian protection features. (CPUC) 2. Confirm ~~creation of an~~implementation of the APP, in accordance with the provisions described in the MM. (CPUC)	1. During preparation of plans and specifications. 2. Prior to and during construction. 3. Prior to construction. 4. During operation. 5. Prior to construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
publications, ~~HWT and~~ PG&E shall be responsible for implementing the company's ~~creating an~~ Avian Protection Plan (APP) – *PG&E's Program to Address Avian Electrocutions, Collisions, and Nesting Birds* (April 2018 version; refer to Appendix D in Volume 2 of this FEIR) that incorporates relevant ~~project-specific~~raptor-safe construction guidelines found in APLIC's and USFWS' 2005 *Avian Protection Plan Guidelines*. As part of the APP~~-development~~, ~~HWT and~~ PG&E shall work with USFWS to determine the need for installation of bird diverters in areas near known golden and bald eagle nests. ~~Operational c~~Construction or replacement work shall be avoided during the nesting bird season (~~January 15 to August 31~~commencing January 15 for golden eagle and February 1 for all other birds through August 31) to the extent feasible. If infeasible, HWT and PG&E shall retain a CPUC-approved biologist to conduct a nesting bird survey of the surrounding 500-foot area to determine if any active nest is present. If an active nest is found, the biologist shall establish a no-disturbance nesting buffer until the nest is inactive in accordance with the species-specific buffers set forth in PG&E's *Nesting Birds: Specific Buffers for PG&E Activities* (Appendix E to the PEA) as detailed in APM BIO-2 and Mitigation Measure BIO-1. If ~~operational~~ construction activities must occur within this buffer, the biologist shall inform the CPUC ~~coordinate with CDFW and, as necessary, USFWS to determine~~of any		3. Confirm coordination with USFWS regarding the need for bird diverters. (CPUC) 4. Confirm that nesting bird surveys are completed for ~~operational~~ construction or replacement work conducted within nesting season. (CPUC) 5. Confirm that MRV is implemented unless determined unnecessary, in accordance with the measure. (CPUC)	

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
buffer reductions and/or nest monitoring to avoid impacts to active nests, and will coordinate with CDFW and USFWS if stated to do so in the project's regulatory permits. PG&E shall implement an MRV (as shown in Figure 2-8 on page 2-39 in Volume 1 of this FEIR) to avoid a potential golden eagle nest along Huer Huero Creek at Union Road if this nest is determined to be occupied or is expected to be used by golden eagles in future nesting seasons (based on prior observations and the species' nest site fidelity). The MRV shall be implemented unless PG&E can demonstrate, to the satisfaction of the CPUC, that the nest in question is not occupied by golden eagles and likely will not be used in future nesting seasons.			
MM BIO-4. Develop and Implement a Restoration Plan for Blue Oak Woodland Habitat. HWT, PG&E, and/or their contractor(s) shall develop and implement a Habitat Restoration Plan to mitigate any temporary and permanent impact on blue oak woodland habitat. For any temporary impact, all disturbed soils and new fill in this habitat shall be revegetated with site-appropriate native species compatible with the facility. For any permanent impact, blue oak woodland habitat shall be mitigated at a ratio of 1.1:1 (replacement to impact). Blue oak trees and valley oak trees that are removed shall be mitigated at a ratio that shall be determined based on	PPLR, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm development of a Habitat Restoration Plan, as needed. (CPUC) 2. Confirm that temporarily impacted areas are fully restored. (CPUC) 3. Confirm that permanently impact blue oak woodland is compensated for at	1. Prior to construction. 2. Following construction. 3. Following construction. 4. Following construction.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
the diameter at breast height (dbh) of the tree, as described further below. Oak trees in construction work areas shall be safeguarded by implementing the conditions stated in the City of Paso Robles's Oak Tree Ordinance, Section 10.01.090. This includes documentation of any damages to oak trees, and tree protection fences that will be installed to prevent compaction and injury to a tree's surface roots. For any damage to an oak tree that may occur during construction activities, the Proposed Project Applicants shall immediately report such incidents to the CPUC, in addition to any reporting to the City that may be done pursuant to Section 10.01.090. The Applicants shall be responsible for correcting any damage to the oak trees. Prior to construction, oak trees that have a dbh of 6 inches or greater requiring removal shall be documented. A description of the species of oak, dbh, estimated height, and general health of the trees to be removed shall be recorded. Replacement ratios of removed oak trees shall, at a minimum, be equivalent to 25 percent of the diameter of the removed trees, as described in Section 10.01.050 (E) of the City's Oak Tree Ordinance. Blue oak woodland restoration or compensation may be completed at the work area, in the vicinity, or at a conservation bank with a service area that covers the Proposed Project or selected alternative. Revegetated or restored areas shall be maintained and monitored to ensure a minimum of 65 percent survival of woody		the required ratio. (CPUC) 4. Confirm maintenance and monitoring of revegetated and restored areas, and that success criteria are achieved. (CPUC)	

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
plantings after 5 years <u>(or 75 percent after 3 years), or at a conservation bank with a service area that covers the Proposed Project or selected alternative</u>.			
Cultural Resources			
APM CUL-1. Retain a Qualified Cultural Principal Investigator. A cultural resources principal investigator, defined as an archaeologist who meets the Secretary of the Interior's Standards for professional archaeology, will be retained to ensure that all APMs related to archaeological and historical resources are properly implemented. The principal investigator may either be on staff with project proponents or an outside consultant, as appropriate for the project's needs, and will serve in a strictly supervisory capacity, overseeing crews charged with the application of the APMs in the field.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm retention of a cultural resources principal investigator that meets the criteria outlined in this APM. (CPUC)	1. Prior to construction.
APM CUL-2. Avoidance. The project is designed to avoid impacts to potentially CRHR-eligible resources identified within the study area. Potentially eligible (i.e., not evaluated) resources in the study area include archaeological sites 36052-S-001, 36052-S-002, and 36052-S-003. In addition, the Johnson House was evaluated for the project and is considered CRHR-eligible (pending CPUC concurrence). To avoid indirect and direct impacts to 36052-S-001, 36052-S-002, or 36052-S-003, a 50-foot buffer will be	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C	1. Ensure ~~APM is included in contract documents, and~~ that environmentally sensitive areas are marked on construction plans. (CPUC) 2. Confirm that 50-foot buffer is established	1. During preparation of plans and specifications. 2. Prior to construction. 3. During construction. 4. During construction.

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established around the boundary of each respective resource and designated as environmentally sensitive areas. If work within the 50-foot buffer cannot be avoided, then monitoring will be required. Methods of environmentally sensitive area delineation may include, as applicable, flagging, rope, tape, or fencing. The environmentally sensitive areas should be clearly marked on all pertinent construction plans. Construction activities will avoid impacts to the Johnson House entirely.		around the boundary of each respective resource. (CPUC) 3. If necessary, confirm monitoring of work within 50-feet buffer by a qualified archaeologist. (CPUC) 4. Confirm that construction activities entirely avoid the Johnson House. (CPUC)	
APM CUL-3. Inadvertent Discoveries. In the event that unanticipated cultural materials are encountered during any phase of construction, all construction work within 50 feet of the discovery will cease and the principal investigator will be consulted to assess the find. Construction activities may continue in other areas. Avoidance of resources is the preferred option. However, if avoidance of a resource is not feasible, project proponents will assess the find for significance, as defined by PRC Section 21083.2, through implementation of Phase II investigations. If resources are found to be significant, a detailed archaeological treatment plan, including Phase III data recovery, will be developed and implemented by a qualified archaeologist.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm that this APM is incorporated into contract documents. (CPUC)~~ 1~~2~~. In the event that cultural resources are encountered, ensure that work stops immediately and the principal investigator is consulted. (CPUC) 2~~3~~. If avoidance of resources is not feasible, confirm that the find is assessed for	~~1. During preparation of plans and specifications.~~ 1~~2~~. During construction. 2~~3~~. During construction, if necessary. 3~~4~~. During construction, if necessary.

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		significance through Phase II investigations. (CPUC) 3~~4~~. Retain a qualified archaeologist to develop and implement an archaeological treatment plan, if needed. (Project proponents)	
APM CUL-4. Discovery of Human Remains. If human remains are discovered, all work within 50 feet of the discovery will cease and the environmental inspector or construction supervisor will notify the County coroner immediately. State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance will occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The lead cultural resource managers on staff with the project proponents (depending on the location of the remains) and CPUC will also be notified of the find immediately. If the human remains are determined to be prehistoric, the County Coroner will notify the NAHC, which would determine and notify a most likely descendent. The most likely descendent will complete inspection of the site within 48 hours of notification	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm that this APM is included in contract documents. (CPUC)~~ 1~~2~~. If humans remains are encountered, ensure that work within 50 feet of discovery ceases and the County coroner is contacted. (CPUC) 2~~3~~. Confirm that any discoveries of human remains are evaluated and addressed properly as outlined in this APM. (CPUC)	~~1. During preparation of plans and specifications.~~ 1~~2~~. During construction, if necessary. 2~~3~~. During construction, if necessary.

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and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.			
APM CUL-5. Tribal Construction Monitoring. If it becomes necessary to work within 50 feet of Dry Creek, Huer Huero Creek, and the Salinas River, or known prehistoric archaeological sites, a tribal monitor will be selected by CPUC and retained to conduct full-time monitoring of initial ground-disturbing activities (i.e., initial excavation and grading) in areas with high potential to discover prehistoric archaeological resources.	ES, PPLR, RFDC, PLR-1A, PLR-1C, SE-PLR-2,	1. Confirm retention of a tribal monitor to conduct monitoring, if needed, per the APM. (CPUC)	1. During construction, if necessary.
APM CUL-6. Archaeological Construction Monitoring. If it becomes necessary to work within 50 feet of Dry Creek, Huer Huero Creek, and the Salinas River, or known prehistoric or historic sites, an archaeological monitor, approved by the principal investigator, will be retained to conduct monitoring of initial ground-disturbing activities (i.e., initial excavation and grading) in areas with high potential to discover prehistoric or historic archaeological resources.	ES, PPLR, RFDC, PLR-1A, PLR-1C, SE-PLR-2	1. Confirm retention of an archaeological monitor to conduct monitoring, if needed, per the APM. (CPUC)	1. During construction, if necessary.
MM CR-1. CPUC Enhancements to APMs CUL-1, CUL-2, CUL-3, CUL-5, and CUL-6. The following actions ~~by the CPUC~~ are designed to augment the APMs provided by the Project proponents to ensure that construction impacts to	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm retention of a qualified archaeologist that meets criteria outlined in the MM. (CPUC)	1. Prior to construction 2. During preparation of plans and specifications. 3. During construction, if necessary.

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cultural resources are mitigated to a level of less than significant: ~~a. The CPUC shall appoint a qualified archaeologist to represent the interests of the CPUC and oversee the implementation of the APMs with regard to archaeological resources on their behalf. The archaeologist shall meet the U.S. Secretary of the Interior's Professional Qualifications Standards for Archeology.~~ ~~b.~~a. ~~The Project proponents shall make every effort to design the project to avoid known eligible or potentially eligible cultural resources for the Proposed Project, reasonably foreseeable distribution components, and alternatives. A 50-foot buffer, using flagging, rope, tape, or fencing, shall be established around the boundary of each respective resource, which shall be designated an environmentally sensitive area. If the proponent engineers determine that the project cannot be designed to avoid known cultural resources and construction will encroach upon the resource buffer, construction monitoring by an archaeologist shall be required.~~ A Native American representative from a ~~consulting~~ tribe identified by the CPUC shall be retained to monitor the construction activities if the resource is a Native American archaeological site that will be encroached upon. The Project proponent will be responsible for communicating project schedules		2. Ensure ~~MM is included in contract documents, and~~ that environmentally sensitive areas are marked on construction plans. (CPUC) 3. Confirm that 50-foot buffer is established around the boundary of each respective resource. (CPUC) 4. If necessary, retain a qualified archaeologist and/or a Native American representative to monitor work within 50-feet of a cultural resource, and confirm monitoring is completed, as outlined in the MM. (Project proponents) 5. If necessary, confirm development of a detailed archaeological	4. Prior to work being conducted within 50 feet of the cultural resource. 5. Prior to construction, if necessary. 6. During construction, if necessary. 7. During construction, if necessary. 8. During construction, if necessary. 9. During construction, if necessary. 10. During construction, if necessary.

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and needs to the Native American monitor and/or tribe, but it is the responsibility of the tribe to ensure that the monitor is on site when called for, and work may proceed if the Project proponent has provided adequate notice of work. If an archaeological resource will be directly impacted, a detailed archaeological treatment plan shall be developed and implemented by the Project proponent's cultural resources principal investigator, as defined in APM CUL-1. The treatment plan shall be developed using the mitigation options provided under Section 15126.4(b) of the CEQA Guidelines. The CPUC ~~and the CPUC professional archaeologist~~ shall have opportunity to review and ~~comment on~~ approve the proposed treatment plan. If the resource is a Native American archaeological site, tribes that have entered into AB 52 consultation with the CPUC shall have the opportunity to review and comment on the treatment plan. The resource and treatment method shall be documented in a professional-level technical report to be filed with the California Historical Resources Information System. ~~c.~~b. If prehistoric or historic-era archaeological resources are encountered during Project implementation, the Project proponents shall immediately cease all construction activity within 50 feet of the find and create a 50-foot buffer area		treatment plan that meets the criteria outlined in the MM. (CPUC) 6. In the event that cultural resources are encountered, ensure that work within 50 feet stops immediately, the principal investigator is consulted and completes subsequent inspections (as needed), and the CPUC is notified, as described in the MM. (CPUC) 7. If avoidance of resources is not feasible, confirm the CPUC and, as appropriate, Native American Tribes are consulted to determine treatment measures. (CPUC) 8. Confirm monitoring is conducted for initial	

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for avoidance. The archaeological monitor shall notify the Project's cultural resources principal investigator immediately, and the principal investigator shall, in turn, notify the CPUC ~~and their appointed professional archaeologist~~. If an archaeological monitor is not present at the time of the find, Project proponent's environmental inspector or construction supervisor shall make the notifications. The Project's cultural resources principal investigator shall inspect the find within 24 hours of discovery and notify the CPUC of their initial assessment. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include building or structure footings and walls, and deposits of metal, glass, and/or ceramic refuse. If the CPUC determines, based on recommendations from the cultural resources principal investigator, that the resource may qualify as a historical resource or unique archaeological resource (as defined in CEQA Guidelines Section 15064.5), or a tribal cultural		ground-disturbing activities that may occur within 100 feet of Dry Creek, Huer Huero Creek, the Salinas River, and the Estrella River, or within 50 feet of all known archaeological sites. (CPUC) 9. Develop and submit daily monitoring logs to the CPUC, as described in the MM. (Project proponents) 10. Confirm that any discoveries of human remains are evaluated and addressed properly as outlined in this MM CR-2. (CPUC)	

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resource (as defined in PRC Section 21074), the resource shall be avoided if feasible. Avoidance means that no activities associated with the Project that may affect cultural resources shall occur within the boundaries of the resource or any defined buffer zones. If the assessment of significance can be made by the cultural resources principal investigator based on a small sample of discovered material, then the CPUC will review and approve the findings. In the absence of CPUC approval due to a short opportunity for CPUC review due to construction schedules, the Applicants shall assume the discovery is a historical resource for the purpose of avoidance, development of an evaluation study, or development of a treatment plan (as described below). If avoidance is not feasible, the CPUC shall consult with appropriate Native American tribes if the resource is Native American-related, and other appropriate interested parties to determine treatment measures to avoid, minimize, or mitigate any potential impacts to the resource pursuant to PRC Section 21083.2, and CEQA Guidelines Section 15126.4(b). This shall include documentation of the resource and may include data recovery or other measures. Any treatment other than preservation in place must be approved by the CPUC, in consultation with ~~and~~ the			

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appropriate tribe(s), if applicable. Treatment for most archaeological resources would consist of (but would not be not limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource, consistent with the Secretary of Interior's Standards for Treatment of Archaeological Properties. The resource and treatment method shall be documented in a professional-level technical report to be filed with the California Historical Resources Information System. Work in the area may commence, ~~at the direction of the CPUC~~following concurrence from the CPUC that the work performed was sufficient, upon completion of treatment and under the direction of the qualified archaeologist. Should the resource also be identified as a TCR, then measures outlined in Section 4.18 will also apply if resource-specific measures identified during the resource-specific consultation do not supersede them. ~~d.~~c. Construction monitoring shall be conducted by an archaeologist for initial ground-disturbing activities that may occur within 100 feet of Dry Creek, Huer Huero Creek, the Salinas River, and the Estrella River, or within 50 feet of all known archaeological sites. Ground-disturbing activities are defined as activities that may include, but are			

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not limited to boring, grading, grubbing, excavation, drilling, and trenching, within the project areas. Monitoring of ground disturbance shall also occur in the vicinity of Santa Ysabel Ranch, which was identified as culturally sensitive by AB 52 consulting tribes. The archaeological monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, and any cultural materials identified. The logs will be compiled and submitted to the CPUC on a regular basis to be determined prior to beginning construction~~during preparation of the Mitigation Monitoring and Reporting Plan~~. Should any archaeological materials be unearthed, the monitor shall follow the directives of Mitigation Measure CR-1(~~c~~b). If human remains are discovered during project construction the archaeological monitor shall comply with Mitigation Measure CR-2. The archaeological monitor will work in tandem with the Native American monitor. The involvement of Native American monitors is described in Mitigation Measure TCR-1.			
MM CR-2. Comply with the legal requirements of PRC 5097.98. California Health and Safety Code Section 7050.5 shall be followed, as described in APM CUL-4, if human remains are discovered during construction of the	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Should human remains be discovered, confirm remains are evaluated,	1. During construction immediately following discovery.

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Proposed Project or the reasonably foreseeable distribution components or alternative. If human remains are discovered, all work within 50 feet of the discovery shall cease and the archaeological monitor shall immediately notify the Project's cultural resources principal investigator. In turn, the principal investigator shall immediately notify the County coroner, as well as the CPUC and their appointed professional archaeologist. If an archaeological monitor is not present at the time of the find, Project proponent's environmental inspector or construction supervisor shall make the notifications. State of California Health and Safety Code Section 7050.5 stipulates that no further disturbance will occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The Project proponent's lead cultural resource manager, the CPUC, and the qualified archaeologist representing the CPUC shall be immediately notified. The County Coroner who evaluated the finds will notify the NAHC by telephone within 24 hours. In turn, the NAHC shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The most likely descendaent will complete inspection of the site and make recommendations or preferences for treatment within 48 hours of being granted access to the site. As per Section 5097.98 of the PRC, the landowner shall discuss and confer with the most		construction processes are halted, and notifications to the appropriate entities are completed in accordance with PRC 5097.98, as outlined in this MM. (CPUC)	

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likely descendant(s) to determine appropriate treatment of remains. Construction will not continue in the protected area until treatment of the remains has been resolved, in compliance with PRC 5097 et seq. and notice is provided ~~by~~ to the CPUC documenting the resolution and respectful disposition of the Native American human remains~~archaeologist to resume work in the area~~.			
MM CR-3. Complete Cultural Resources Studies, Evaluate Resources for Significance, and Implement Avoidance and Minimization Measures. HWT, PG&E, and/or their contractors shall conduct a pedestrian archaeological survey and built environment resources survey for any alternative substation sites, 70 kV power line alignments (or portions of alignments), reasonably foreseeable distribution components, and/or ultimate substation buildout sites that have not yet been investigated and shall prepare a Cultural Resources Technical Report documenting the results of the surveys. The archaeological and built environment resources surveys shall be completed prior to construction of the respective components and prior to final design. If the CPUC will not complete their review within 30 days, they will notify the project proponent and provide a status of the review. Lack of response within 30 days may not be considered concurrence.	RFDC, SS-1, PLR-1A, PLR-1C,	1. Confirm retention of a qualified archaeologist and archaeological historian to perform the required surveys, as needed. (CPUC) 2. For previously un-surveyed components, confirm archaeological and/or built resources surveys are completed and documented in a Cultural Resources Technical Report. (CPUC) 3. Should cultural resources be encountered, confirm qualified archaeologists collect	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. Prior to construction. 5. Prior to construction. 6. Prior to construction. 7. Prior to construction. 8. Prior to construction.

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The pedestrian survey shall include systematic surface inspection with transects spaced at 15-meter (approximately 50-foot) intervals, or less, where feasible and safe (owing to the extant hardscape, such as paving, and landform). Where such transects are not feasible or safe, survey shall provide the most complete coverage possible either through wider transects (ex. on steep slopes near rivers) or opportunistic survey (ex.: locations where private property fences or buildings/pavement don't obscure the ground). The technical report shall explain the conditions requiring less intensive survey. The survey ~~and~~ shall cover the entire site or alignment and a 100-foot buffer around the site or alignment. Archaeologists shall examine the ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historical artifacts (e.g., metal, glass, ceramics), sediment discoloration that might indicate the presence of a cultural midden, roads and trails, and depressions and other features that might indicate the former presence of structures or buildings (e.g., post holes, foundations). When cultural resources are encountered, archaeologists shall collect all data necessary to complete the appropriate California Department of Parks and Recreation (DPR) 523 series forms from the Office of Historic Preservation. The resources shall be mapped with handheld mapping-grade global positioning system (GPS) units with sub-		data necessary to complete DPR 523 series forms. (CPUC) 4. Should identified potentially CRHR-eligible resources be discovered, confirm these are marked, as outlined in APM CUL-2. (CPUC) 5. If resources cannot be avoided, confirm a qualified archaeologist prepares a data recovery plan. (CPUC) 6. For Native American archaeological sites, ensure the data recovery plan has the opportunity to be reviewed by consulting tribes. (CPUC) 7. Confirm artifacts removed during evaluations or data recovery excavation are curated, as	

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meter accuracy and differential correction. All GPS data shall be exported into Geographic Information Systems geodatabases and plotted onto the associated geo-referenced USGS 7.5-minute quadrangle to ensure accuracy and to produce location maps of all resources. Each site shall also be photo-documented. No artifacts will be collected during the pedestrian survey. The built environment resources survey shall be conducted for alternatives that have not previously been surveyed by a qualified architectural historian, and shall include all structures, properties, and other built resources within the footprint or alignment and within a 100-foot buffer of the site footprint or alignment. Resources identified through the built environment resources survey will be recorded on the appropriate DPR 523 forms. Avoidance and delineation of a buffer around any potentially CRHR-eligible archaeological resources in the study area identified through the field surveys or evaluations under this mitigation measure shall follow the procedures outlined in APM CUL-2. If the resource(s) cannot be avoided, the qualified archaeologist shall develop an evaluation plan to ascertain the site's eligibility for listing in the CRHR. The evaluation plan must be submitted to and approved by the CPUC prior to any excavation. The CPUC shall ensure consulting tribes have the opportunity to review and comment on evaluation		outlined in the MM. (CPUC) 8. Confirm that any built resources evaluated as historical resources that cannot be avoided are documented. (CPUC)	

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plans for Native American archaeological sites. Archaeological sites found to contain human remains must be treated in accordance with the provisions of Section 7050.5 of the California Health and Safety Code (see APM CUL-4 and Mitigation Measure CR-2). The CPUC will provide the project proponent with an update on the status of the review within 60 days of submittal. Lack of response within 60 days may not be considered concurrence. Should any archaeological site be determined eligible for listing in the CRHR, and if Project proponent design engineers determine that any portion of the site that contributes to its eligibility cannot be avoided by construction, a data recovery program shall be necessary and a detailed data recovery plan shall be prepared by a qualified archaeologist per Mitigation Measure CR-1(~~b~~a). The data recovery plan must be submitted and approved by the CPUC prior to implementation of the plan. The CPUC shall ensure that consulting tribes will have the opportunity to review and comment on the data recovery plan for any CRHR-eligible Native American site. The CPUC will provide the project proponent with an update on the status of the review within 60 days of submittal. Lack of response within 60 days may not be considered concurrence. For any artifacts removed during project evaluation or data recovery excavations, the Project proponent's qualified archaeologist must provide for the curation			

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of such artifact(s). If the archaeological resource is determined to be a TCR, the CPUC shall work with the relevant tribe(s), consistent with Mitigation Measure TCR-1, to determine the disposition of any TCRs artifacts discovered during construction or artifacts resulting from execution of a treatment plan, such as, but not limited to, reburying in close proximity of the finds without scientific study, conducting scientific study before reburying the materials either near the origin of the find or in another protected place, or curation at a facility that meets the U.S. Secretary of the Interior's criteria for curation (36 CFR 79). For buildings, structure~~(s)~~, or objects evaluated as a historical resource(s) that cannot be avoided, the applicant(s) qualified architectural historian shall prepare a treatment plan for the affected resource(s) ~~building(s)~~, which may include, but not be limited to ~~will be~~ preparation of documentation~~ed by a qualified architectural historian.~~ according to the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation and/or other actions to address the criteria for which the historical resource is eligible for the CRHR.			
Geology, Soils, Seismicity, and Paleontological Resources			
APM GEO-1. Soft or Loose Soils. Soft or loose soils, such as sands and loamy sands, are likely to be encountered during construction. Where soft or loose soils are encountered during design	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm that this measure is included in project plans and specifications. (CPUC)	1. During preparation of plans and specifications. 2. During construction.

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studies or construction, appropriate measures will be implemented to avoid, accommodate, replace, or improve soft or loose soils. Such measures may include the following: ▪ Locating construction facilities and operation away from areas of soft and loose soil. ▪ Over-excavating soft or loose soils and replacing them with non-expansive engineered fill. ▪ Increasing the density and strength of soft or loose soils through mechanical vibration and/or compaction. ▪ Treating soft or loose soils in place with binding or cementing agents. Construction activities in areas where soft or loose soils are encountered may be scheduled for the dry season, as necessary, to allow safe and reliable equipment access.		2. When soft or loose soils are encountered, ensure that appropriate measures, such as those listed in this APM, are implemented. (CPUC)	
APM PALEO-1. Retain a Qualified Paleontological Principal Investigator. A paleontological resources principal investigator who meets the standards set forth by the Society of Vertebrate Paleontology will be retained to ensure that all APMs related to paleontological resources are properly implemented.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm retention of a paleontological resources principal investigator, as required by the APM. (CPUC)	1. Prior to construction.
APM PALEO-2. Inadvertent Discoveries.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm that this APM is incorporated into~~	~~1. During preparation of plans and specifications.~~

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If paleontological resources are discovered during construction activities, the following procedures will be followed: ▪ Stop work immediately within 50 feet. ▪ Contact the designated lead on staff with the project proponents (depending on the location of the resource) immediately. The designated lead will notify CPUC. ▪ Protect the site from further impacts, including looting, erosion, or other human or natural damage. ▪ The principal investigator will evaluate the discovery and make a recommendation to CPUC as to whether or not it is a unique paleontological resource. CPUC will have 24 hours to respond to this recommendation, and the lack of response within 48 hours will indicate concurrence with the recommendation. ▪ If the resource is not a unique paleontological resource, then it will be documented appropriately, and no further measures will be required. ▪ If the resource is a unique paleontological resource, the principal investigator, in consultation with the project proponent, will recommend resource-specific measures to protect and document the paleontological resource, such as photo documentation and		~~contract documents. (CPUC)~~ 1~~2~~. In the event that paleontological resources are discovered during construction activities, confirm that work stops immediately and the procedures described in the APM are implemented. (CPUC) 2~~3~~. Resume work once the resource is determined to be not unique, or appropriate treatment is completed. (Project proponents)	1~~2~~. During construction. 2~~3~~. During construction.

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avoidance or collection. CPUC will have 24 hours to respond to these measures, with no response within 48 hours indicating concurrence. Unique resources inadvertently discovered during augering will be documented as indicated above, but, due to safety concerns, any remaining resource below ground will not be salvaged. If the resource can be avoided, then CPUC concurrence will not be necessary. ▪ If collection is necessary, the fossil material will be properly prepared in accordance with the project proponents, Society of Vertebrate Paleontology guidelines, and CPUC requirements, and/or curation at a recognized museum repository. Appropriate documentation will be included with all curated materials. ▪ Any material discovered on private land is the property of the landowner and permission must be granted by the landowner for the material to be removed and curated. Once the resource is determined to be not unique, or appropriate treatment is completed as described above, work may resume in the vicinity.			
APM PALEO-3. Paleontological Construction Monitoring. Paleontological monitors, approved by the paleontological resources principal investigator, will be retained to conduct monitoring of the initial	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm that this APM is incorporated into contract documents. (CPUC)~~	~~1. During preparation of plans and specifications.~~ 1~~2~~. During construction.

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ground-disturbing activities as described below. Monitoring requirements vary with the sensitivity of the mapped sediments and the type of construction activity, as follows: *1. Estrella Substation:* High Surface Sensitivity – project areas mapped as older alluvium (Qoa) or Paso Robles formation (Qtp): – In locations where the ground has been previously disturbed by agricultural or other development, monitoring is required only when excavations or grading exceed the depth of previous disturbance. For augering within the substation site, the proponents will follow the protocol identified below under Power Line. – In locations where no previous disturbance exists, full-time monitoring is required when excavations, grading, or trenching exceeds 3 feet in depth. During monitoring, a qualified paleontological monitor, as determined by the principal investigator, will observe construction activity as well as check any spoils piles to watch for the appearance of fossil resources. Low Surface Sensitivity – project areas mapped as Holocene alluvium (Qa or Qg) – no fossils at the surface: – No monitoring is required for surface work.		1~~2~~. Confirm retention of a paleontological monitor to conduct monitoring, as required. (CPUC) 2~~3~~. Should monitors identify fossil remains during the course of construction, ensure that APM PALEO-2 is implemented. (CPUC) 3~~4~~. Confirm that all monitoring activities are properly documented and that a final monitoring report is developed. (CPUC)	2~~3~~. During construction, if necessary. 3~~4~~. During/ following construction.

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– Should ground disturbance exceed the depth of the Holocene sediments (estimated to be 5 feet), monitoring is required as described above for high sensitivity. 2. *Power Line:* High Surface Sensitivity – project areas mapped as older alluvium (Qoa) or Paso Robles formation (Qtp): – Full-time monitoring will not be required along the power line route. Augering that uses a drill bit 3 feet, or less, in diameter will not be monitored. Small-diameter drill bits generally result in pulverized rock by the time they reach the surface, so any fossils contained within will not be identifiable. Larger-diameter drill bits (i.e., greater than 3 feet) often bring up intact chunks of rocks that may contain identifiable and scientifically important fossils (particularly microfossils). All large angled tubular steel pole locations will be monitored. – During work, a portion of the excavated material will be examined visually and through screen-sifting, if necessary. If screening is necessary, then a sample of spoils may be collected and processed either on site or off site as work on the pole placement proceeds. Should unique fossil material be discovered, it			

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may be recorded and collected if the resource is determined by the principal investigator to be worth salvaging. Otherwise it will be recorded and included in the final monitoring report. Should it be determined that the type of auger or drill being used renders monitoring not useful (i.e., materials come out of the hole in a pulverized powder or a silty mud), monitoring will be discontinued. – Because it is extremely unsafe and impractical to excavate fossils from within an auger bore or drill hole, and to do so would unnecessarily disturb fossils further, no effort will be made to collect buried fossils indicated in spoils materials. However, the location and nature of the materials identified will be recorded, and this will be documented in the final monitoring report and reported to repositories as appropriate. These measures are based on the currently available data. As construction proceeds and additional data become available, the principal investigator could revise these measures with CPUC concurrence. Should monitors identify fossil remains during the course of construction, APM PALEO-2 will be implemented. All monitoring activities will be documented on daily logs. Monitoring logs and reports will include the			

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
activities observed, geology encountered, description of any resources encountered, and measures taken to protect or recover discoveries. Photographs and other supplemental information will be included as necessary. A final monitoring report will be developed to document locations, methods, and results of monitoring.			
APM PALEO-4. Fossil Recovery. In the event that unique paleontological resources are encountered, protection and recovery of those resources may be required. The principal investigator will oversee the recovery effort in consultation with the project proponents (depending on the location of the resource), CPUC, and property owners as appropriate. The principal investigator may designate a paleontologist to implement the recovery, prepare specimens for identification and preservation, and complete all field documentation in accordance with the project proponents, Society of Vertebrate Paleontology guidelines, and CPUC requirements, and/or curation at a recognized museum repository. If a fossil is not accepted by a museum for curation, then project proponents will have fulfilled their obligation for fossil recovery.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm that proper consultation is conducted for encountered fossils. (CPUC) 2. Confirm that encountered fossils are properly documented, preserved, and/or curated, in accordance with the APM. (CPUC)	1. During construction, if necessary. 2. During construction, if necessary.
MM GEO-1. Implement Recommendations in the Project or Alternative Geotechnical Investigation Report.	ES, PPLR	~~1. Confirm that this MM is incorporated into contract documents. (CPUC)~~	~~1. During preparation of plans and specifications.~~

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HWT, PG&E, and/or their contractors shall implement the recommendations contained in the geotechnical investigation report prepared for the proposed Estrella Substation (RRC 2016) and proposed 70 kV power line (Kleinfelder 2017), as appropriate for the work, as well as any addenda or subsequent modifications to such reports to account for updated structural design criteria based on the latest California Building Code requirements. These include recommendations for a professional geotechnical engineer or his/her representative to be present during construction to evaluate the suitability of excavated soils for use as engineered fill, to observe and test site preparation and fill placement, and to assess the need for densification of subgrade materials.		1~~2~~. Confirm retention of a professional geotechnical engineer for support during construction, as applicable, as outlined in the approved project's Geotechnical Investigation Report. (CPUC) 2~~3~~. Confirm all applicable recommendations have been implemented, as outlined in the approved project's Geotechnical Investigation Report. (CPUC)	1~~2~~. Prior to construction, as applicable. 2~~3~~. During construction, as applicable.
MM GEO-2. Paleontological Resources Survey, Technical Report, and Construction Monitoring. HWT, PG&E, and/or their contractors shall conduct a paleontological resources survey for any alternative substation sites or 70 kV power line alignments that have not yet been investigated and shall prepare a Paleontological Resources Technical Report (PRTR) documenting the results of the survey. The PRTR shall evaluate the sensitivity of the subject sites or	RFDC, SS-1, PLR-1C	1. Ensure that a paleontological survey is conducted for applicable alternatives/ components. (CPUC) 2. Confirm that PRTR properly documents results of the survey	1. During the design phase. 2. During the design phase. 3. During the design phase.

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alignments, including identification and review of subsurface geology, literature review and museum records search, and field evaluation of the sites or alignments. The Paleontological Resources Technical Report shall be prepared in accordance with standards provided by the Society for Vertebrate Paleontology and shall assign site sensitivity based on the potential fossil yield classification system utilized by the Bureau of Land Management, and may use additional measures of paleontological sensitivity as determined appropriate by the qualified paleontologist. The paleontological resources survey, as documented in the PRTR, shall inform the monitoring, resource protection, and treatment requirements outlined in APM PALEO-1, PALEO-2, PALEO-3, and PALEO-4. HWT, PG&E, and/or their contractors shall implement the recommendations contained in the alternative project's PRTR. Portions of alternative substation sites or 70 kV power line routes identified as having high surface sensitivity for paleontological resources shall receive at least the same level of monitoring as identified for the Proposed Project in APM PALEO-3..		and evaluates site sensitivity. (CPUC) 3. Ensure that results of paleontological surveys properly inform monitoring and protection of resources per applicable APMs. (CPUC)	
Greenhouse Gas Emissions			
APM GHG-1. Minimize Operational SF_6 Emissions. During operation and maintenance of Estrella Substation, the project proponents will do the following:	ES, SS-1, SE-1A	~~1. Ensure measure is included in the contract documents. (CPUC)~~	~~1. During preparation of project plans and specifications.~~ 1~~2~~. During operation.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
▪ Incorporate Estrella Substation into each of the project proponents' system-wide SF_6 emission reduction programs. CARB requires that company-wide SF_6 emission rate not exceed 1 percent by 2020. ▪ Upon construction completion, the project proponents will have implemented a programmatic plan to inventory, track, and recycle SF_6 inputs, and inventory and monitor system-wide SF_6 leakage rates to facilitate timely replacement of leaking breakers. X-ray technology is used to inspect internal circuit breaker components to eliminate dismantling of breakers, reducing SF_6 handling and accidental releases. As active members of the U.S. Environmental Protection Agency's SF_6 Emission Reduction Partnership for Electrical Power Systems, the project proponents have focused on reducing SF_6 emissions from their transmission and distribution operations. ▪ Require that the breakers at Estrella Substation have a manufacturer's guaranteed maximum leakage rate of 0.5 percent per year or less for SF_6. ▪ Maintain substation breakers in accordance with the project proponents' maintenance standards. ▪ Comply with CARB's Early Action Items as these policies become effective.		1~~2~~. Ensure that Estrella Substation or a substation located at an alternative site is incorporated into the system-wide SF_6 emission reduction programs. (CPUC) 2~~3~~. Confirm that a programmatic plan has been implemented that complies with the measures outlined in this APM. (CPUC) 3~~4~~. Confirm that the breakers at Estrella Substation or a substation located at an alternative site meet the standards for the manufacturer's leakage rate for SF_6, and that they are maintained properly. (CPUC)	2~~3~~. During operation. 3~~4~~. During operation. 4~~5~~. During operation.

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		4~~5~~. Confirm compliance with CARB's Early Action Items. (CPUC)	
Hazards and Hazardous Materials			
APM HAZ-1. Hazardous Substance Control and Emergency Response. The project proponents will implement hazardous substance control and emergency response procedures as needed. The procedures identify methods and techniques to minimize the exposure of the public and site workers to potentially hazardous materials during all phases of project construction through operation. The procedures address worker training appropriate to the site worker's role in hazardous substance control and emergency response. The procedures also require implementing appropriate control methods and approved containment and spill-control practices for construction and materials stored on site. If it is necessary to store chemicals on site, they will be managed in accordance with all applicable regulations. Material safety data sheets will be maintained and kept available on site, as applicable. In the event that soils suspected of being contaminated (on the basis of visual, olfactory, or other evidence) are removed during site grading activities or excavation activities, the excavated soil will be tested and, if contaminated above hazardous	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm that hazardous substance control and emergency response procedures are implemented, as needed. (CPUC) 2. Confirm that storage of chemicals on site is in accordance with all applicable regulations. (CPUC) 3. Confirm that material safety data sheets are kept available on site. (CPUC) 4. Ensure that suspected contaminated soils are removed, tested, and disposed of properly. (CPUC) 5. Ensure that all hazardous materials	1. During construction and operation. 2. During construction and operation. 3. During construction and operation. 4. During construction. 5. During construction and operation.

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waste levels, will be contained and disposed of at a licensed waste facility. The presence of known or suspected contaminated soil will require testing and investigation procedures to be supervised by a qualified person, as appropriate, to meet state and federal regulations. All hazardous materials and hazardous wastes will be handled, stored, and disposed of in accordance with all applicable regulations, by personnel qualified to handle hazardous materials. The hazardous substance control and emergency response procedures include, but are not limited to, the following: ▪ Proper disposal of potentially contaminated soils. ▪ Establishing site-specific buffers for construction vehicles and equipment located near sensitive resources. ▪ Emergency response and reporting procedures to address hazardous material spills. ▪ Stopping work at that location and contacting the County Fire Department Hazardous Materials Unit immediately if visual contamination or chemical odors are detected. Work will be resumed at this location after any necessary consultation and approval by the Hazardous Materials Unit.		and hazardous wastes are handled, stored, and disposed of in accordance with applicable regulations, and that the procedures outlined in this APM are followed. (CPUC)	
MM HAZ-1. Prepare and Implement a Fire Prevention and Management Plan.	SS-1, PLR-1A, PLR-1C, SE-1A, SE-PLR-2	1. Confirm preparation of a fire prevention	1. During the design phase.

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For ~~project or~~ alternative components located within a very high or high fire hazard severity zone, HWT and PG&E shall prepare and implement ~~a~~separate fire prevention and management plan. These documents will address fire prevention measures that will be employed during the construction phases, identifying potential sources of ignition and detailing the measures, equipment, and training that will be provided to all site contractors. The fire prevention and management plans shall also address potential ignition risks during operation of the project or alternative components. Coordination with state and local fire agencies is required, as specified below, and the plans shall be submitted to the CPUC for final review and approval prior to start of construction. Where applicable, overlap with the HWT and PG&E Wildfire Mitigation Plans prepared pursuant to California Public Utilities Code Section 8386 shall be highlighted in the fire prevention and management plan. Specifically, the plans will include, at a minimum, the following: Construction Fire Hazard Avoidance and Minimization ▪ Responsibilities and duties; ▪ Preparedness training and drills for HWT, PG&E, and contractor personnel; ▪ Procedures for fire reporting, response and prevention, including: ▪ Identification of daily site-specific risk conditions;		and management plan. (CPUC) 2. Ensure that the plan includes all of the measures identified in this mitigation measure. (CPUC) 3. Confirm that the plan is reviewed by CAL FIRE~~the San Luis Obispo County Fire Department~~. (CPUC) 4. Confirm that fire prevention and management plan is fully implemented. (CPUC)	2. During the design phase. 3. Prior to construction. 4. During and following construction.

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▪ The appropriate tools and equipment needed on vehicles and on hand at the construction site(s); ▪ Reiteration of fire prevention and safety considerations during tailboard meetings; and ▪ Daily monitoring of the red-flag warning system with appropriate restrictions on types of permissible activity. ▪ Coordination procedures with California Department of Forestry and Fire Prevention (CAL FIRE)/San Luis Obispo County Fire Department officials; and ▪ Crew training, including fire safety practices and restrictions; and ▪ Methods for verifying that the plan protocols and requirements are being followed during construction. <u>Design and Operation Considerations to Minimize Fire Hazard</u> ▪ Design and implementation of defensible space around substation components; ▪ Vegetation management activities and schedules for ensuring CPUC General Order 95 clearance requirements are met for transmission line components; ▪ Coordination with the CAL FIRE/San Luis Obispo County Fire Department to provide any needed training and technical support to fire personnel			

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regarding electrical fires and firefighting at energized facilities; ▪ Appropriate design of driveways and access roads to substation components to allow for safe and efficient fire personnel and equipment access; ▪ Development and implementation of protocols for de-energizing the substation and/or transmission line components in the event of a wildfire; and ▪ Inclusion of any needed water storage facilities on-site at the substation -accessible to firefighters. The fire prevention and management plan shall be reviewed by the San Luis Obispo County Fire Department. After Fire Department review, the plan shall be submitted to the CPUC for approval a minimum of 40 days prior to commencement of construction activities.			
Hydrology and Water Quality			
APM HYDRO-1. Avoidance of Sensitive Aquatic Features. The project will be designed to avoid sensitive aquatic features (i.e., jurisdictional wetlands, waters, and riparian areas) to the extent feasible. Specific avoidance strategies include the following: ▪ Siting permanent structures in uplands outside of existing drainage features.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm that this APM is included in the contract documents. (CPUC)~~ 1~~2~~. Confirm that feasible avoidance strategies are implemented. (CPUC)	~~1. During preparation of project plans and specifications.~~ 1~~2~~. Prior to construction. 2~~3~~. Prior to construction. 3~~4~~. Prior to construction.

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▪ Siting staging areas, pole/tower work areas, pull sites, and other temporary staging/materials storage areas in uplands outside of existing drainage features/riparian areas, utilizing developed/urban, agricultural land, or ruderal land in preference to native terrestrial or riparian habitats. ▪ Selecting access roads and overland travel routes in uplands while avoiding other sensitive features (e.g., steep slopes, rare plant localities, and sensitive wildlife habitats). ▪ Should access or work areas be required through or within jurisdictional wetlands and waters, all regulated activities within jurisdictional wetlands and waters (e.g., waters of the United States and waters of the State) will require regulatory approval/permitting from the appropriate agency including USACE, CDFW, and/or RWQCB prior to any work within jurisdictional features. Prior to construction, sensitive aquatic features slated for avoidance will be identified in the field and clearly marked for avoidance using flagging tape, fencing, and/or high-visibility signage. Construction personnel will be trained on feature avoidance marking and associated restrictions.		2~~3~~. Ensure that sensitive aquatic features slated for avoidance are clearly identified and marked prior to construction. (CPUC) 3~~4~~. Ensure that construction personnel have been trained on feature avoidance marking and restrictions. (CPUC)	
MM HYD/WQ-1. Implement Construction Best Management Practices for Erosion Control.	RFDC	~~1. Confirm that the measures listed in this mitigation measure~~	~~1. During preparation of plans and specifications.~~

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For ground-disturbing construction activities that do not require coverage under the Construction General Permit (e.g., total ground disturbance associated with that action does not exceed 1 acre), HWT, PG&E, and/or their contractors shall implement the following measures during construction of the alternative components, or shall implement alternative measures that are equally or more effective: ▪ Implement practices to reduce erosion of exposed soil and stockpiles, including watering for dust control, establishing perimeter silt fences, and/or placing fiber rolls. ▪ Minimize soil disturbance areas. ▪ Implement practices to maintain water quality, including silt fences, stabilized construction entrances, and storm-drain inlet protection. ▪ Where feasible, limit construction to dry periods. ▪ Revegetate disturbed areas.		~~(or measures that are equally or more effective) are included in contract documents. (CPUC)~~ 1~~2~~. Confirm that all measures are implemented fully, and that erosion control measures use the best available technology that is economically achievable. (CPUC)	1~~2~~. During construction.
Noise			
APM NOI-1. Construction Schedule Limits. The project proponents will limit grading, scraping, augering, and pole installation to 7:00 a.m. to 7:00 p.m. daily. Exceptions for work outside of these hours will follow the notification requirements outlined in APM AG-1.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm measure is included in the contract documents. (CPUC)~~ 1~~2~~. Confirm that noise-generating activities are limited to	~~1. During preparation of plans and specifications.~~ 1~~2~~. During construction.

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		appropriate work hours. (CPUC)	
APM NOI-2. Noise Minimization. The project will incorporate various measures to reduce construction-related noise where feasible using the following methods: ▪ Construction equipment will use noise reduction devices that are no less effective than those originally installed by the manufacturer. ▪ Stationary equipment used during construction will be located as far as practical from sensitive noise receptors. ▪ "Quiet" equipment (i.e., equipment that incorporates noise control elements into the design—compressors have "quiet" models) will be used during construction when reasonably available.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm measure is included in the contract documents. (CPUC)~~ 1~~2~~. Confirm that noise reduction measures are incorporated using the methods outlined in this APM. (CPUC)	~~1. During preparation of plans and specifications.~~ 1~~2~~. During construction.
MM NOI-1. General Construction Noise. ~~HWT and~~ PG&E shall implement the following procedures for ~~all~~ construction activities associated with the 70 kV power line: ▪ Public Notice. Noise-sensitive receptors within 600 feet of work areas shall be provided written notice at least 7 days prior to beginning construction to inform them of the scheduled construction activities and potential noise disruptions. The specific types of noise-sensitive	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm measure is included in the contract documents. (CPUC)~~ 1~~2~~. Confirm public noticing is completed as specified in the MM. (CPUC) 2~~3~~. Confirm construction equipment is properly	~~1. During preparation of plans and specifications.~~ 1~~2~~. During construction. 2~~3~~. During construction. 3~~4~~. During construction. 4~~5~~. Prior-to construction. 5~~6~~. During construction.

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receptors to be notified include residences and officials for schools, places of worship, parks, hospitals, theatres, auditoriums, libraries, and commercial/industrial facilities with noise sensitive instruments. The notice shall describe procedures for submitting any noise complaints during construction, including a phone number for submitting such complaints. ▪ Mufflers and Maintenance. Construction equipment shall be properly equipped with feasible noise control devices (e.g., mufflers) and properly maintained in good working order. ▪ Idling. Vehicles and equipment shall only idle when necessary and shall be shut off when not in use. ▪ Stationary Equipment. Stationary equipment (i.e., compressors and generators) shall be positioned as far away from sensitive receptors as practicable, and equipped with engine-housing enclosures. ▪ Sensitive Periods. To the extent practicable, construction activities that have a high likelihood of resulting in a noise nuisance for residents in the vicinity shall not be scheduled during sensitive morning or evening periods (7:00 am to 9:00 am, and 7:00 pm to 10:00 pm), to limit the potential for noise nuisance. Nighttime work between the hours of 10:00 pm and 7:00 am shall		equipped, used, and positioned in accordance with the MM. (CPUC) 3~~4~~. Confirm nighttime work is restricted, as outlined in the MM. (CPUC) 4~~5~~. Confirm a construction noise coordinator is designated for response to complaints. (CPUC) 5~~6~~. Prepare and submit monthly reports to CPUC that include a record of any complaints received, as outlined in the MM. (Project proponents)	

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
not occur, except when electrical clearances are not available during daytime hours or when safe completion of a construction procedure is needed. ▪ Noise Complaints. A Construction Noise Coordinator shall be designated to be responsible for responding to any local complaints about construction noise. The Construction Noise Coordinator shall determine the likely cause of the complaint and ensure that reasonable adjustments in the work activities are made to address the problem, to the extent possible. The phone number for noise complaints shall be clearly posted at key work areas in public locations, such as at the entrances to staging areas. Noise complaints shall be addressed within 1 week. HWT and/or PG&E shall provide monthly reports to the CPUC that include a record of any complaints received with a description of the likely cause and how the complaint was resolved.			
MM NOI-2. Minimize Noise Impacts from Helicopters. HWT and PG&E shall implement the following procedures for helicopter activities: ▪ Public Notice. Residences and places of worship (e.g., The Cove) within 1450 feet from any location where helicopter activities may occur, including flight paths if applicable, shall be provided written notice at least 14~~30~~ days prior	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	1. Confirm that helicopter landing zones and flight paths have been planned in accordance with the measure requirements~~measure is included in the contract documents~~	1. Prior to construction~~During preparation of plans and specifications~~. 2. Prior to construction (at least 30 days prior to the start of helicopter activities).

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
to beginning helicopter activities to inform them of the schedule for helicopter use and potential noise disruptions. Methods for receptors to reduce noise in structures shall be included in the notice (i.e., closing doors and windows facing the alignment). The notice shall describe procedures for submitting any noise complaints during construction and provide a phone number for submitting such complaints, as required by MM NOI-1. ▪ Flight Paths. Helicopter flight paths shall be planned along routes that would result in the least noise exposure possible to receptors. If helicopter noise complaints are received, work crews will attempt to adjust the flight paths to reduce noise exposure to the complainant, without substantially increasing noise exposure to other receptors. ▪ Helicopter Hovering. ~~Light/medium lift h~~Helicopters shall not operate closer than 200 feet from any receptors unless actively working at pole locations along the alignment. Helicopters may operate closer than these distances if all affected receptors agree in writing to a shorter distance. Prior to reducing the minimum distance from receptors, PG&E shall provide the CPUC with the names, contact information, and written agreements for all affected persons within the applicable distances. The written agreements		~~and design specifications, particularly for planning of helicopter landing zones~~. (CPUC) 2. Confirm residences and places of worship have been provided advance noticing. (CPUC)	

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shall clearly identify the anticipated helicopter noise levels, daily schedule, and duration of helicopter activities in the vicinity. ▪ Helicopter Landing Zones. Helicopter landing zones within staging areas shall be positioned as far as possible from receptors. Helicopter landing zones shall not be positioned closer than 1,450 feet from any receptor. Helicopters may land closer than these distances if all affected receptors agree in writing to allow a shorter distance.			
Transportation			
APM TR-1. Air Transit Control. The project proponents will implement the following protocols that pertain to helicopter use during construction: ▪ Comply with all applicable Federal Aviation Administration regulations regarding air traffic; ▪ Helicopter operators will coordinate all project helicopter operations with the Paso Robles Municipal Airport before and during project construction; ▪ Coordinate with potentially affected residents or businesses to minimize the duration of necessary work and any resulting inconvenience; and ▪ Implement a congested area plan if the helicopter work will take place in a congested or densely	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm measure is included in the contract documents. (CPUC)~~ 1~~2~~. Confirm compliance with the Federal Aviation Administration regulations. (CPUC) 2~~3~~. Confirm coordination with the Paso Robles Municipal Airport before and during construction. (CPUC)	~~1. During preparation of project plans and specifications.~~ 1~~2~~. Prior to/during construction. 2~~3~~. Prior to/during construction. 3~~4~~. Prior to/during construction. 4~~5~~. Prior to construction.

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populated area. A congested area is anywhere that includes the presence of the non-participating public. A densely populated area is an area of a city, town, or settlement that contains a large number of occupied homes, factories, stores, schools, and other structures.		3~~4~~. Confirm coordination with residents and businesses. (CPUC) 4~~5~~. Confirm implementation a congested area plan, if necessary. (CPUC)	
MM TR-1. Construction Traffic Control Plan. HWT and PG&E shall each implement a traffic control plan during Proposed Project construction and/or during construction of the reasonably foreseeable distribution components or selected alternative. The traffic control plan will minimize vehicle travel delays and potential roadway hazards on public roadways during construction activities. The traffic control plan may be used to satisfy requirements imposed in encroachment permits ~~from~~ issued by Caltrans, County of San Luis Obispo, and/or City of Paso Robles. The traffic control plan shall provide for the following: ▪ In situations where slow-moving trucks or construction equipment are operated on public roadways (e.g., accessing the Estrella Substation site or staging or work areas along the Proposed Project's 70 kV power line route), signage and/or flaggers shall be used to warn motorists of potential safety hazards associated with the slow-moving vehicles.	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm measure is included in the contract documents. (CPUC)~~ 1~~2~~. Confirm the traffic control plan includes all of the elements required by the mitigation measure. (CPUC) 2~~3~~. Confirm that the traffic control plan is fully implemented. (CPUC)	~~1. During preparation of plans and specifications.~~ 1~~2~~. Prior to construction. 2~~3~~. During construction.

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▪ For any lane closures, signage, flaggers, and/or other devices shall be used to route vehicle traffic around the construction work area. The traffic control measures shall ensure that pedestrians and bicyclists are provided safe passage around the work area, where applicable. The routing of traffic around the construction work area during temporary lane closures shall be adequate to provide for continuity of access for all vehicles lawfully using the applicable public roadways in compliance with the California Vehicle Code. ▪ For any road closures, detours will be provided and signage, flaggers, and/or other devices shall be used to ensure motorists, pedestrians, and bicyclists are able to safely pass through the detour areas. Detours during temporary road closures shall be adequate to provide for continuity of access for all vehicles lawfully using the applicable public roadways in compliance with the California Vehicle Code. ▪ Protocols from the applicable agencies to notify p~~P~~olice, fire, and other emergency services departments serving the area ~~shall be notified~~ of planned lane or road closures on public roadways at least 48 hours in advance. ▪ Crossing structure installation shall occur during periods of low traffic (e.g., avoiding the morning			

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and evening rush hour periods) to the extent practicable. ▪ All warning signs, lights, devices, and procedures used in the construction traffic control plan shall conform to the latest California Manual of Uniform Traffic Control Devices.			
Tribal Cultural Resources			
MM TCR-1. Tribal Monitoring and Treatment of Tribal Cultural Resources. Prior to the commencement of any ground disturbing activity, the Proposed Project Applicants (HWT and PG&E) shall retain a monitor from the Xolon-Salinan tribe, who consulted on this project pursuant to AB 52. The Xolon monitor will work in tandem with the archaeological monitor. The Xolon monitor will be present during construction phases that involve ground-disturbing activities to depths of 6 feet that may occur within 100 feet of Dry Creek, Huer Huero Creek, the Salinas River, and the Estrella River, all of which have been identified as culturally sensitive, or within 50 feet of all known Native American archaeological sites. Monitoring of ground disturbance shall also occur in the vicinity of Santa Ysabel Ranch, which was identified as culturally sensitive for buried archaeological resources that could be TCRs by the tribe. Ground-disturbing activities are defined as activities that may include, but are not limited to boring, grading, grubbing, excavation, drilling, and	ES, PPLR, RFDC, SS-1, PLR-1A, PLR-1C, PLR-3, SE-1A, SE-PLR-2	~~1. Confirm measure is included in the contract documents. (CPUC)~~ 1~~2~~. Confirm a monitor from the Xolon-Salinan Tribe is retained for monitoring and monitoring is completed, as required per the MM. (CPUC) 2~~3~~. In the event of TCR discovery, confirm assessment by the Project proponent's qualified cultural resources principal	~~1. During preparation of plans and specifications.~~ 1~~2~~. Prior to and during construction. 2~~3~~. During construction, as necessary. 3~~4~~. Prior to construction, as necessary. 4~~5~~. During construction, as necessary.

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
trenching, within the project areas. The tribal monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, and any cultural materials identified. Upon discovery of any TCRs, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 50 feet) until the find can be assessed. All archaeological materials that are identified as potential TCRs unearthed by project activities shall be evaluated by the Applicant's qualified cultural resources principal investigator and the tribal monitor or other tribal representative identified by the Xolon-Salinan Tribe. If the ~~TCR~~resource cannot be avoided, a detailed archaeological treatment plan shall be developed for CPUC review and after CPUC approval, implemented by the Applicant's cultural resources principal investigator, consistent with Mitigation Measure CR-1. The CPUC shall ensure that the treatment plan ~~shall~~is developed with input from ~~and agreed upon by~~ the Xolon-Salinan Tribe per Mitigation Measure CR-1. The CPUC shall consult the Xolon-Salinan Tribe ~~will~~to determine the disposition of any TCRs artifacts discovered during construction or artifacts resulting from execution of a treatment plan, such as, but not limited to, reburying in close proximity of the finds without scientific study, allowing scientific study before reburying the materials either near the origin of the find or in another protected		investigator and the tribal monitor. (CPUC) 3~~4~~. If the TCR cannot be avoided, confirm development and implementation of a detailed archaeological treatment plan. (CPUC) 4~~5~~. In the event of discovery of human remains, confirm ground disturbance has ceased and Mitigation Measure CR-2 has been implemented. (CPUC)	

Applicant Proposed Measure or Mitigation Measure	Applicability[1]	Monitoring and Reporting Action (Responsible Party)	Monitoring Schedule
place, or curation at a facility ~~at an institution~~ that meets the U.S. Secretary of the Interiors criteria for curation (36 CFR 79). If human remains and/or grave goods are discovered or recognized during construction, all ground disturbance shall immediately cease, and the requirements of Mitigation Measure CR-2 shall be implemented.			

1. ES = Estrella Substation; PPLR = Proposed Power Line Route; RFDC = Reasonably Foreseeable Distribution Components and Ultimate Substation Buildout; SS-1 = Bonel Ranch Substation Site Alternative; PLR-1A = Estrella Route to Estrella Substation Alternative; PLR-1C = Estrella Route to Bonel Ranch Alternative; PLR-3 = Strategic Undergrounding Alternative (Options 1 &2); SE-1A = Templeton Substation Expansion 230/70 kV Substation Alternative; SE-PLR-2 = Templeton-Paso South River Road Route Alternative