INITIAL STUDY
FOR THE
NARROWS 2 GENERATOR BACK-UP GSU TRANSFORMER CONCRETE PAD PROJECT

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December 2021

INITIAL STUDY TABLE OF CONTENTS

SECTION PAGE

INITIAL STUDY TABLE OF CONTENTS

INITIAL STUDY TABLE OF CONTENTS

SECTION PAGE

INITIAL STUDY TABLE OF CONTENTS

SECTION PAGE

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AEP	Association of Environmental Professionals
AMM	Avoidance and minimization measure
Basin	Sacramento Valley Air Basin
BMPs	best management practices
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNEL	Community noise equivalent level
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRPR	California Rare Plant Rank
dB	decibels
dBA	A-weighted decibels
dbh	diameter at breast height
DPM	Diesel particulate matter
ESA	Federal Endangered Species Act
FCAA	Federal Clean Air Act
FERC	Federal Energy Regulatory Commission
FR	Federal Register
FRAQMD	Feather River Air Quality Management District
ft	feet
FTA	Federal Transit Administration

ACRONYMS AND ABBREVIATIONS

GHG	greenhouse gas
lbs/day	pounds per day
Leq	equivalent noise level
Leq[15]	equivalent noise level for a 15-minute measurement period
Lmax	maximum noise level
Lmin	Minimum noise level
MBTA	Migratory Bird Treaty Act
MT	metric tons
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NBBD	New Bullards Bar Dam
NO_2	nitrogen dioxide
NO_x	nitrous oxides
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
PG&E	Pacific Gas and Electric
PM_{10}	coarse particulate matter - from 2.5 to 10 microns in diameter
$PM_{2.5}$	Fine particulate matter - less than 2.5 microns in diameter
PPV	Peak particle velocity
RCNM	Roadway Construction Noise Model
RMS	Root mean square
ROG	reactive organic gases
SB	Senate Bill
SF_6	sulfur hexafluoride
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
TAC	toxic air contaminant
TSS	total suspended solids
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VdB	vibration decibels
VMT	vehicle miles traveled

ACRONYMS AND ABBREVIATIONS

WEAP	Worker Environmental Awareness Program
YCWA	Yuba Water Agency

INTRODUCTION

1.1 Project Overview

Yuba County Water Agency (YCWA) owns and operates Narrows 2 Powerhouse (powerhouse) located 400 feet downstream of Englebright Dam in Yuba County, California. The powerhouse receives the water to drive its turbine from Englebright Reservoir. The powerhouse has one 55,000 kVA Toshiba Generator with an existing gas insulated generator step up transformer (GSU transformer). YCWA is currently purchasing a replacement GSU transformer for the powerhouse since the existing GSU transformer is 1969 vintage design and needs rehabilitation. The 'Narrows 2 Generator Back-up GSU Transformer Concrete Pad Project' (Proposed Project) will construct a permanent location to house the existing GSU transformer. Once the new transformer is installed at the powerhouse the existing GSU transformer (i.e., back-up) would be placed on the newly constructed concrete pad located approximately one-half mile from the powerhouse. The back-up GSU transformer would be used if the primary transformer at the powerhouse needs replacement or repairs that necessitates it being taken to an off-site location.

1.2 Regulatory Guidance

This document evaluates the potential environmental impacts of the Proposed Project. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 *et seq*., and the CEQA Guidelines, Title 14 California Code of Regulations section15000 *et seq*. This Initial Study was prepared by YCWA to determine if the Proposed Project could have significant impacts on the environment.

In accordance with CEQA Guidelines section 15064(a), an Environmental Impact Report must be prepared if there is substantial evidence that a project may have significant impacts on the environment. If the lead agency for the CEQA process determines that there is no substantial evidence for such impacts, or if the potential impacts can be reduced through revisions to the project description or the addition of mitigation measures, a Negative Declaration or Mitigated Negative Declaration can be prepared (CEQA Guidelines section 15070). YCWA, as the CEQA lead agency for the Proposed Project, has determined that an Initial Study and Mitigated Negative Declaration are the appropriate document for compliance with CEQA and the CEQA Guidelines.

1.3 Public Review

In accordance with CEQA Guidelines section 15073, this document will be circulated to local, state, and federal agencies and to interested organizations and individuals who may wish to review and comment on it. In reviewing this Initial Study and proposed Mitigated Negative Declaration, affected public agencies and the interested public should focus on whether the document sufficiently identifies and analyzes the possible impacts of the proposed project on the environment.

Following the close of the public review period, the YCWA Board of Directors would review and evaluate the evidence contained in the Initial Study and proposed Mitigated Negative Declaration and public comments received on these documents. At a scheduled and noticed YCWA Board of

Directors public meeting, the Board would review a Statement of Findings prepared for the Proposed Project and would consider adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, and approval of the Proposed Project.

1.4 Summary of Findings

Section 3 of this document contains the analysis and discussion of potential environmental impacts resulting from construction and implementation of the Proposed Project. Based on the resources evaluated, it was determined that the Proposed Project would have no impact on the following resources:

- Agriculture and Forestry Resources
- Land Use/Planning
- Mineral Resources
- Population/Housing
- Public Services
- Recreation

Impacts of the Proposed Project were determined to be less than significant for the following resources:

- Aesthetics
- Air Quality
- Energy
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology/Water Quality
- Noise
- Transportation
- Utilities/Service Systems
- Wildfire

Impacts of the Proposed Project to the following resources would be less than significant with incorporation of the mitigation measures described in Section 3:

- Biological Resources
- Cultural Resources
- Tribal Cultural Resources

As required by CEQA, a Mitigation Monitoring and Reporting Program will be prepared and adopted at the time of project approval. It will include those mitigation measures that will reduce potentially significant environmental impacts to less than significant levels.

1.5 Document Organization

This document is organized in the following manner:

- **Section 1 - Introduction.** This section provides a project overview and regulatory guidance and describes the public review process and organization of this document.

- **Section 2 - Project Description.** This section describes project location, history and background, purpose, and components.

- **Section 3 - Environmental Checklist.** This section provides an environmental setting for the Proposed Project and analyzes the potential environmental impacts of the Proposed Project. Resource topics appear in the order that they appear in Appendix G (Environmental Checklist) of the CEQA Guidelines. Mitigation measures are incorporated and discussed, where appropriate, to reduce potentially significant impacts to a less than significant level. Mandatory Findings of Significance also are presented in this section.

- **Section 4 - List of Preparers.** This section contains a list of people that assisted in the preparation of this document.

- **Section 5 - References.** This section identifies the references used in the preparation of this document.

1 PROJECT DESCRIPTION

This section describes the Proposed Project location, provides history and background of the project site, describes the purpose, and provides a detailed description of the project components.

1.1 Project Location

The Proposed Project site is located in Section 14 of Township 16 North, Range 6 East, as depicted on the Challenge 2000 USGS 7.5-minute quadrangle (Mount Diablo Base and Meridian), 39°14'26.21"N, 121°16'17.08"W (**Figure 1**). While portions of Englebright Reservoir and Dam are located in both Yuba and Nevada counties, the Project site is located in eastern Yuba County, approximately 20 miles east of Yuba City, at an approximate elevation of 650 ft (Figure 1, **Figure 2**).

The Project site is located on YCWA-owned lands adjacent to Englebright Dam and approximately one-half mile, up a narrow, steep road, from the powerhouse (**Figure 3**).

As described above, the Project site is located adjacent to US Army Corps of Engineers' Englebright Lake and Dam on YWCA-owned land. The access road to the Project site, in which the new pad and associated infrastructure would be constructed adjacent to, is a private access road used only by YCWA staff and their contractors to access the powerhouse and dam. There are no public use facilities in the area near the Project site. Skipper's Cove Marina, the nearest public use site, is located approximately one-half mile from the Project site, across the reservoir in Nevada County.

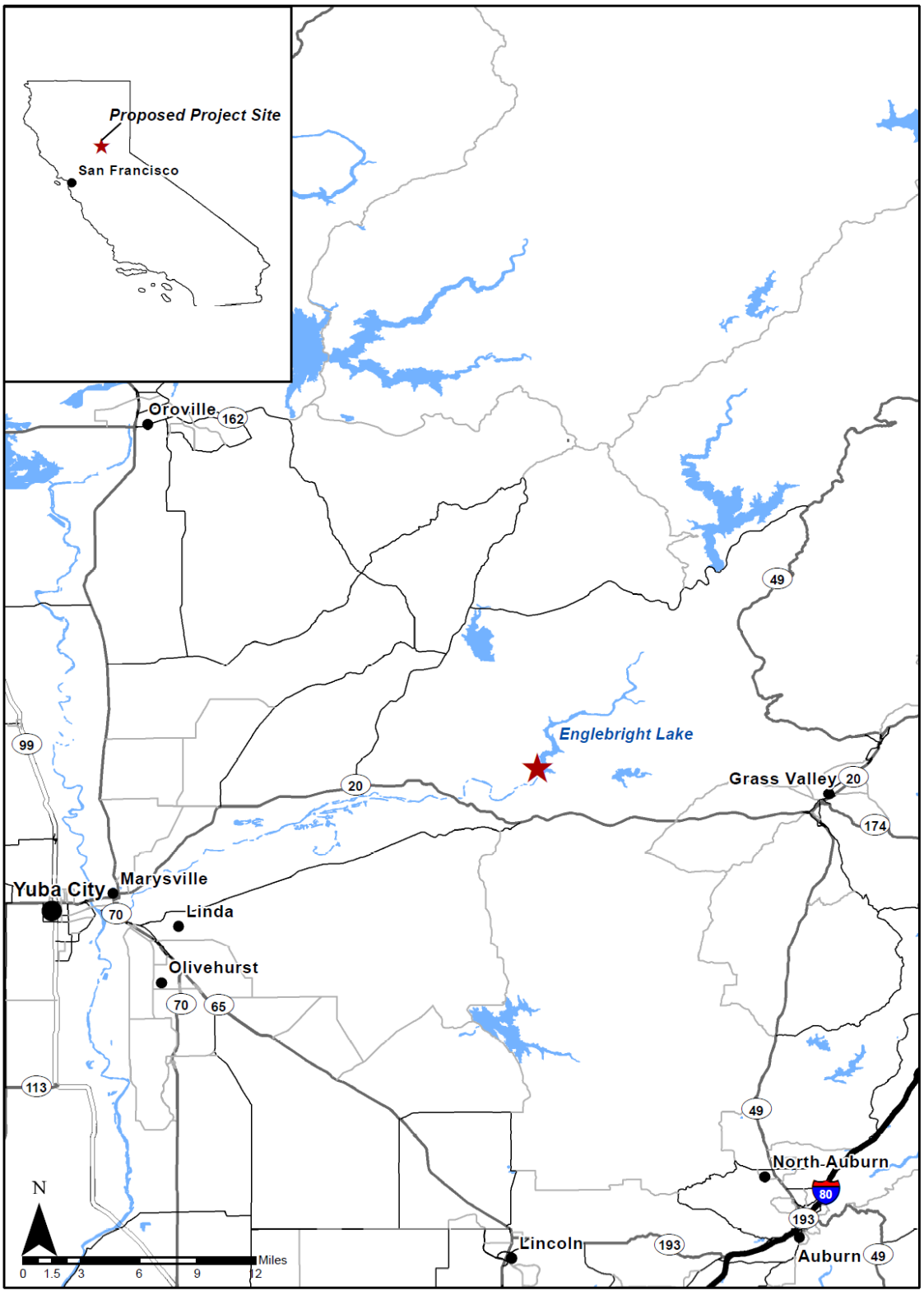

Figure 1. Narrows 2 Generator Back-up GSU Transformer Concrete Pad Project Regional Location Map. The red star indicates the location of the Proposed Project.

Figure 2. Narrows 2 Generator Back-up GSU Transformer Concrete Pad Project Location Map

Figure 3. Location of the proposed back-up transformer site. The red rectangle shows where the new concrete pad would be placed.

1.2 Project Purpose

The purpose of the Proposed Project is to construct a permanent location to house the back-up GSU transformer, such that it will be in close proximity to the powerhouse in case the primary transformer becomes non-operational or requires repair off-site. Currently, if a transformer needs repairs at an off-site location, the powerhouse would be shut down for the entire length of time it takes for the repairs to be completed, which could extend for up to eighteen months.

YCWA is currently purchasing a replacement transformer for the powerhouse. Once the new transformer is installed at the powerhouse the existing transformer would be placed on the newly constructed concrete pad located approximately one-half mile from the powerhouse. Following completion of the Proposed Project, YCWA would have a viable spare transformer housed close to the powerhouse that could be installed on short notice and considerably reduce the period of time the powerhouse would be shut down if the primary transformer needed repair.

1.3 Project Components

1.3.1 Project Description

The Proposed Project consists of constructing a 18'x 27' concrete pad with 2' tall by 6" wide containment walls such that the structure would cover an area 19' x 28'. The concrete pad includes 2' tall containment walls because the back-up GSU transformer would contain oil such that it is operationally ready should it be needed at the powerhouse. The containment walls would be sufficient to contain any oil should it leak from the back-up GSU transformer. In addition, construction would include the installation of two new power poles and the electrical infrastructure needed to periodically test the fans and pumps on the back-up GSU transformer. Testing of the back-up GSU transformer fans and pumps is necessary to maintain the transformer in operating condition should it be needed at the powerhouse. Power would also be supplied to an existing storage shed that is located adjacent to the proposed concrete pad location. There would be no new lighting constructed as part of the Project.

The Proposed Project includes five major components:

1. Mobilization;
2. Vegetation trimming, clearing, and grubbing;
3. Construction of the concrete pad;
4. Extension of power to the site by installing two new power poles from the powerhouse;
5. Installation of electrical infrastructure, including pad mounted 480V and 280V,480/208V transformers, 480V disconnect and plug, , 480V 3 phase panel, 208V 3 phase panel, and 208V 3 phase circuit from the new panel to the pad for monthly testing of fans and pumps; and
6. Demobilization.

Each of these components is described in detail in the following sections. **Appendix A** contains detailed engineering drawings of all construction activities.

The Proposed Project also includes operations and maintenance of the new facilities.

1.3.2 Mobilization

Prior to the initiation of construction work, the contractor will define an area in the vicinity of the project site to store construction materials and equipment (i.e., the staging area). The exact location of the staging area will be determined by the contractor, but it is expected to be located directly adjacent to the Project site in an area outside the boundary of the access road to the powerhouse with no vegetation and currently used for storage of equipment. Construction and equipment staging, and stockpiling will take place within the staging area and all materials shall be stored above ground on platforms, skids or other supports. All materials and equipment will be mobilized from the staging areas. Mobilization is expected to take 2 days.

1.3.3 Vegetation Trimming, Clearing, and Grubbing

The location of the concrete pad currently includes minimal vegetation (e.g., weeds and shrubs) that will be cleared prior to excavation of the site. In addition, the extension of electrical power from the powerhouse to the Project site will require several oak trees to be trimmed to allow for the installation of the overhead power lines and new power poles. No limbs greater than 2" in diameter will be removed and no trees will be removed. All vegetation cleared and trimmed from the site will be grubbed and spread on an adjacent dirt storage area.

Clearing activities are expected to be completed using a small loader (Bobcat). Trees will be trimmed using a chain saw and hand tools.

Clearing, tree trimming, and grubbing at the Project site is expected to take 1 day to complete.

1.3.4 Construction of the Concrete Pad

YCWA proposes to construct an 18' x 27' concrete pad with 2' tall by 6" wide containment walls to house the back-up GSU transformer. Once the pad site has been cleared, a depth of approximately 18" of native material will be excavated from the site. The total excavation will be approximately 25 yd^3 of native material, which will be spread on an adjacent dirt area used for equipment storage.

Once the native material has been excavated, approximately 25 $yd^3$of aggregate will be compacted into place to provide a stable base for the new concrete pad. After constructing the forms approximately 3,500 LF of steel reinforcement will be placed in the form to provide additional support for the back-up transformer. Approximately 30 yd^3 of concrete will then be used to construct the concrete pad and containment walls.

Equipment needed for the excavation and pad work will be a small excavator, small loader (Bobcat), a steel delivery truck, and cement trucks.

Construction of the new concrete pad is expected to take three weeks to complete.

1.3.5 Extend Power to the Site

Because the Project site will require power to maintain and test the transformer fans and pumps, YCWA will extend power from an existing overhead line between the powerhouse and its intake structure. YCWA will install two new power poles and overhead power lines. Holes for the new power poles will be bored five to eight ft deep using a power auger with a rock bit attached to a tracked skip loader. Once the poles are secured in their holes , the holes will be backfilled with clean gravel. In addition, new hardware will be attached to existing power poles to accommodate the new power lines that will extend to the new poles. Guy wires will be used to support the pole(s) from the force of the tensioned overhead wire. To prevent avian nesting on the new power poles, the top of each pole will be cut off at an angle, protectors/screens will be placed on top, and the new poles will not include crossmembers.

Extending power to the site is expected to take approximately four weeks to complete.

1.3.6 Installation of Electrical Infrastructure

Once the concrete pad is complete and power has been extended to the site, the electrical infrastructure needed at the site would be installed. This infrastructure would include pad mounted 480V and 208V transformers, 480V disconnect and plug, 480V 3 phase panel, 208V 3 phase panel, and 208V 3 phase circuit from the new panel to the pad.

Installation of electrical infrastructure is expected to take approximately two weeks to complete.

1.3.7 Demobilization

At the completion of construction, general site clean-up and equipment removal from the work areas will occur. These activities will include: removal of trash, debris, and construction materials; regrading of staging and storage areas if necessary; seeding and mulching areas with exposed earthwork (i.e., areas where new power poles are installed); and removal of all temporary signage and fencing. Demobilization is expected to take approximately two days.

1.3.8 Operations and Maintenance

Housing the back-up GSU transformer at the new facility would require a very minor operations-related increase in staffing and work effort. Operational activities would consist of testing the transformer fans and pumps monthly to ensure the bearings remain ready for operation if the back-up GSU transformer is needed for service. Testing the fans and pumps would require approximately five minutes per month (one hour per year) to complete. No maintenance activities will be necessary to maintain the new facilities associated with the Project. However, a maximum of one day a year would be needed to trim and clear vegetation from the new powerlines each year.

As discussed above, the back-up GSU transformer will contain oil such that it is operationally ready should it be needed at the powerhouse. The containment walls would be sufficient to contain any oil should it leak from the back-up GSU transformer. If an oil leak does occur, all

oil would be pumped from the containment area using the drain valve to a tanker truck and hauled off-site to a specialized facility that accepts waste oil as outlined in YCWA's Spill Prevention and Control and Countermeasure Plan (SPCC).

1.3.9 Construction Schedule

With favorable weather conditions, construction of the Project is expected to take approximately 10 weeks to complete and would be constructed in February through April, 2022.

1.3.10 Avoidance and Minimization Measures

The following avoidance and minimization measures (AMM) would be incorporated into YCWA's project activities to assist in mitigating the potential environmental effects during construction. **Table 1** summarizes the general AMMs.

Table 1. Summary of Avoidance and Minimization Measures

Number	Title	Summary
AMM 1	Timing of Work	Construction activities would not occur at night or on weekends.
AMM 2	Species protection	Construction personnel would undergo training and education on applicable environmental rules and regulations and measures necessary to avoid or minimize effects to sensitive resources.
AMM 3	Construction Best Management Practices (BMPs)	Standard practices and measures that would be implemented prior to, during, and after construction to avoid or minimize impacts to water quality and plant and animal species.
AMM 4	Fire Prevention Plan	The fire prevention plan includes measures to prevent wildland fires.
AMM 5	Spill Prevention Control and Countermeasure Plan (SPCC)	Includes procedures for inspections, testing, and emergency response.
AMM 6	Construction site clean-up	Includes revegetation of all disturbed areas and removal of all construction equipment, materials, and debris.

AMM 1: Timing of Work

AMM 1 consists of the following measures related to the timing of work.

- Access to the work sites would occur during the working hours of 7:00 a.m. to 6:00 p.m. Monday through Friday inclusive, excluding legal holidays.
- Ground disturbing work would occur during dry periods.

AMM 2: Species Protection

AMM 2 consists of the following measures related to protecting plant and animal species.

- Personnel involved in construction would attend an environmental training session on sensitive species that may be encountered in the project area prior to initiation of the work.
- Preconstruction surveys would be conducted within potential habitat for listed species to designate exclusion zones.
- A biological monitor would be made available, if necessary, to rescue and/or relocate state and federally listed species encountered during construction activities.

AMM 3: Construction Best Management Practices (BMPs)

AMM 3 consists of the following construction BMPs.

- All stockpiling of materials would occur away from all Waters of the United States.
- Fueling, lubrication, maintenance, storage, and staging of vehicles and equipment would be conducted in a manner that would prevent discharges to any Waters of the United States.
- Fuel transfer vehicles would have absorbent pads, pillows, socks, booms or other spill containment materials placed under the fueling operation.
- Staging, and both temporary and long-term material disposal areas would be located away from Waters of the United States.
- Personnel involved in the Proposed Project would be trained in emergency response and spill containment techniques.
- Petroleum products would be stored in non-leaking containers at impervious storage sites from which runoff is not permitted to escape.
- Materials and debris from all work areas would be removed following completion of the Proposed Project.
- A fugitive Dust Control Plan would be submitted to the Feather River Air Quality Management District (FRAQMD) prior to construction initiation.
- Fugitive dust would be minimized by watering or implementing other dust control measures, as necessary.
- Fugitive dust would also be minimized by minimizing areas cleared (i.e., storage areas, staging areas, stockpile areas and vehicle parking), limiting construction vehicle speeds to 15 miles per hour or less, covering haul vehicles, installing wheel washers or other similar methods where vehicles exit the construction sites onto paved roads.

AMM 4: Fire Prevention

AMM 4 consists of the following fire prevention measures.

- A fire plan would be developed to include preventative measures, emergency procedures to be followed, availability of materials for extinguishing incipient ignitions, current emergency telephone numbers, and an area map.
- No fires would be allowed.

AMM 5: Revise YCWA Spill Prevention and Containment Plan for the Narrows 2 Powerhouse

- YCWA operations at the powerhouse currently operates under a SPCC. Prior to completion of the Proposed Project YCWA will revise the existing SPCC to include the new facility and associated procedures for responding to a spill within the containment area. The revised SPCC will include:
    - procedures for inspections, testing, recordkeeping, and personnel training, and
    - a description of emergency procedures and notifications in case of a spill.

AMM 6: Construction Site Clean-up

AMM 6 consists of the following construction site clean-up measures.

- The contractor would remove all debris, rubbish, construction materials, weeds and other materials that cannot be salvaged and dispose of them at an approved disposal site.

- Exposed earthwork would be restored with seed, mulch, and/or rock as soon as construction is complete.

- The revegetation palette would not contain any plants listed on the California Invasive Plant Council's Invasive Plant Inventory, which can be accessed online at http://www.cal-ipc.org/ip/inventory/weedlist.php.

2 ENVIRONMENTAL CHECKLIST

Environmental Factors Potentially Affected

The environmental factors, if checked below, would be potentially affected by the Proposed Project and would involve at least one impact that is a "potentially significant impact" that cannot be reduced to a less than significant level as indicated by the checklist on the following pages.

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

Evaluation of Environmental Impacts

The following Environmental Checklist form is based on the checklist suggested in Appendix G of the State CEQA Guidelines. The Environmental Checklist identifies potential project effects as corresponding to the following categories of impacts:

- **Potentially Significant Impact**: An effect that may be significant based on substantial evidence and the significance criteria. If the Proposed Project may result in one or more Potentially Significant Impacts, an Environmental Impact Report is required.

- **Less than Significant with Mitigation Incorporated**: An effect that, with the implementation of project-specific mitigation measures, is reduced from potentially significant to less than significant.

- **Less than Significant Impact**: An effect for which no significant impacts, only less than significant impacts, result.
- **No Impact**: An effect for which the Proposed Project does not create an impact.

2.1 Aesthetics

Except as provided in Public Resource Code Section 21099, would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) In non-urbanized areas substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☑	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

2.1.1 Setting

The land in eastern Yuba County in the vicinity of the Proposed Project, is located in the foothills of the Sierra Nevada. The area is visually characterized by the prominent feature of Englebright Reservoir, rolling foothills with flattened ridges, and the deeply incised river canyons. The project area vegetation, more generally, is characterized by blue oak/annual grasslands and gray pine/interior live oak (FERC 2019). YCWA determined that Englebright dam and other nearby facilities blend into the landscape from most viewpoints (FERC 2019). The Narrows 2 facilities are tucked into a steep river canyon where there is no public access. Access is via a steep access road that is gated. Due to the gate and steep topography, there is very little opportunity for the public to see the powerhouse and access road.

The concrete pad and associated infrastructure are approximately one-half mile up the steep access road from the powerhouse in a gravel area on the shoulder of the road adjacent to an existing shed. The project site is generally not visible from any public access site as it is obstructed by hills and trees.

The *Yuba County 2030 General Plan Community Development Element* (Yuba County 2011a) contains broad goals and policies to maintain or enhance the visual quality of the lands within the county. For rural areas such as the project site, Natural Resources Goal NR9, Policy NR9.3 states,

"Development in rural communities should be designed to preserve important scenic resources, landmarks, and icons that positively contribute to the rural character."

2.1.2 Discussion

a) A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area and provides expansive views of a highly valued landscape for the benefit of the public. No component of the Proposed Project would occur in an area defined as a scenic vista. Therefore, the Proposed Project would have **no impact** on a scenic vista.

b) The Proposed Project is not located on, adjacent to, or visible from any state scenic highway and there are no known designated scenic resources in the project area. The Yuba County General Plan also emphasizes protecting views from other important highways. Due to the location of the Proposed Project, no component of the proposed infrastructure would be visible from any public roads. Therefore, the Proposed Project would have **no impact** on scenic resources.

c) The Proposed Project is located in a non-urbanized area, with minimal if any opportunity for the public to see the Proposed Project site. The following analysis considers the potential for the Proposed Project to degrade the existing visual character or quality of public views of the site in the event public were to encounter this view.

   The construction activities for the Proposed Project involves minor vegetation removal, limited excavation, and use of a Bobcat, small excavator, cement trucks, power auger, tracked skip loader, and steel delivery truck. These temporary changes to the area from presence of the construction equipment and minor vegetation removal would not degrade the existing visual character or substantially alter any potential public views of the site.

   The visual character of the site would change slightly due to the new concrete pad, presence of the back-up GSU transformer, presence of the associated electrical infrastructure, and two new power poles and associated power lines. However, there are already several other manmade structures along the private access road and power poles and lines on the hillside where two new power poles and lines will be installed. While the concrete pad and associated infrastructure is expected to contribute to the overall presence of man-made structures in the landscape, due to the adjacent topography, mature vegetation presence on the hillside where the power poles will be installed, and other contrasts in the area the back-up GSU transformer and power poles would not be considered prominent new structures in the landscape. Further, as stated above, there are minimal if any public views of the site.

   Anthropogenic structures, like the concrete pad and associated infrastructure are found throughout the Sierra Nevada. As such, the public using the area is generally accustomed to these types of features and understand the purpose of such facilities if they happened to encounter an area where they were able to view the infrastructure. Thus, implementation of the Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings. Consequently, the Proposed Project would have a **less than significant** impact on the existing visual character of the project site and its

surroundings and would not conflict with applicable zoning and other regulations governing scenic quality.

d) The temporary construction activities over the course of approximately 10 weeks would occur during daylight hours, and construction would not result in any nighttime lighted activities.

The new infrastructure would not require lighting. Thus, there would be no new source of substantial light. The infrastructure would also not produce a substantial new source of glare. As such, the Proposed Project would have **no impact** on day or nighttime views in the area.

2.2 Agriculture and Forestry Resources

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 511049g)?	☐	☐	☐	☑
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

2.2.1 Setting

The Proposed Project site is located on YCWA-owned land and designated as "public" land in the Yuba County General Plan. None of the Proposed Project area that would be disturbed by construction is zoned or used for agriculture. The vegetation community in the Project site is foothill pine woodland but does not meet the definition of forest land under PRC Section 12220(g) because it does not contain 10% tree cover, nor timberland under PRC Section 4526.

2.2.2 Discussion

a) No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is located within the project area. The Proposed Project would have **no impact** on Farmland conversion to a non-agricultural use.

b) None of the Proposed Project site is located in an area zoned for agriculture. As such, the project would not disturb any land used for agriculture or that is subject to Williamson Act contract and would not result in any changes that would conflict with the zoning. Therefore, the Proposed Project would have **no impact** on existing agricultural use zoning or a Williamson Act contract.

c) No portion of the Proposed Project is located on land zoned for forest land or timberland. Further, no trees would be removed (only trimmed) for the Proposed Project. Therefore, the Proposed Project would have **no impact** on existing zoning for forest land or timberland.

d) No portion of the project area is located on forest land. As such, the Proposed Project would not result in any direct loss of forest land. Therefore, the Proposed Project would have **no impact** on forest land.

e) As identified in response "b" above, the Proposed Project would not occur on land zoned for agriculture. As such, the Proposed Project would not result in any conversion of Farmland to a different use. Therefore, the Proposed Project would have **no impact** on the conversion of Farmland to non-agricultural use or of forest land to a non-forest use.

2.3 Air Quality

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☑	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	☐	☐	☐	☑

2.3.1 Setting

The Project site is located in Yuba County, which is within the Northern Sacramento Valley Planning Area of the Sacramento Valley Air Basin (Basin). Atmospheric conditions such as wind

speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The climate throughout the Basin is similar, especially in regard to the valley floor where the majority of the population resides. Summers are typically dry and warm. Most of the precipitation occurs during the winter months from December to March (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2015).

Air quality within the project area is regulated by the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (CARB) at the federal and state levels, respectively, and locally by the Feather River Air Quality Management District (FRAQMD). As the local air quality management agency, the FRAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, the Basin is classified as being in "attainment" or "nonattainment." The health effects associated with criteria pollutants upon which attainment of state and federal air quality standards is measured are described in **Table 2**.

Table 2. Health Effects Associated with Criteria Pollutants

Pollutant	Adverse Effects
Ozone (O_3)	(1) Short-term exposures: pulmonary function decrements and localized lung edema in humans and animals, risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) Aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO_2)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO_2)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).
Suspended particulate matter ($PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.
Source: U.S. EPA 2021a	

Of the many potential air pollutants, ozone and particulate matter (i.e., respirable [PM_{10}] and fine particulate matter [$PM_{2.5}$]) are of primary concern within Yuba County. Yuba County is considered to be in "non-attainment" for ozone and PM_{10}, and to be either in "attainment" or unclassified for $PM_{2.5}$, nitrogen dioxide, sulfur dioxide, sulfate, lead, carbon monoxide (CO), hydrogen sulfide, and visibility reducing particles under the terms of the California Clean Air Act (CCAA) (CARB 2020). Under the terms of the National Ambient Air Quality Standards

(NAAQS), Yuba County is categorized as in "attainment" for 8-hour ozone, PM_{10}, and $PM_{2.5}$ (FRAQMD 2020a).

Criteria air pollutant concentrations are measured at several monitoring stations in the Basin. The Auburn 11645 Attwood Road Monitoring Station is located south of the Project site and the Yuba City Almond Street Monitoring Station (773 Almond Street) is southwest. Both monitoring stations are 30 miles from the Project site. The Auburn station is located at a similar elevation as the Project site and reports air quality data for ozone and $PM_{2.5}$. The Yuba City station reports PM_{10}. There are no monitoring stations in the proximity of the Project site that record CO emissions. The ambient air quality measurements from the Auburn and Yuba City stations are reasonably representative of the air quality near the Project site. **Table 3** summarizes the air quality data for the three most recent calendar years for which data is available.

Table 3. Summary of Annual Data on Ambient Air Quality (2018-2020)[1]

Air Contaminant	2018	2019	2020
Ozone			
Maximum concentration (1-hr/8-hr avg, ppm)	0.135/ 0.115	0.096/ 0.081	0.137/ 0.089
Number of days state standards exceeded (1-hr/8-hr) (>0.09 ppm/>0.070 ppm)	12/36	1/8	3/22
Number of days national standard exceeded (8-hr) (>0.070 ppm)	35	8	22
Fine Particulate Matter ($PM_{2.5}$)			
Maximum concentration (24-hour µg/m^3)	91.1	21.1	146.0
Number of days national standard exceeded (24-hour measured[2]) (>35 µg/m^3)	11	0	27
Respirable Particulate Matter (PM_{10})			
Maximum concentration (24-hour µg/m^3)	339.6	81.9	269.2
Number of days state standard exceeded (>50 µg/m^3)	*	27	39
Number of days national standard exceeded (>150 µg/m^3)	8	0	4

Notes:

1 Measurements from the Auburn 11645 Atwood Road Monitoring Station for ozone and $PM_{2.5}$. Measurements of PM_{10} obtained from the Yuba City Almond Street Monitoring Station. Neither station reports CO emissions.

µg/m^3 = micrograms per cubic meter; ppm = parts per million; NA = not available * = insufficient data to determine the value.

Source: CARB 2021a

2.3.2 Regulatory Framework

As described above, air quality within the Project site is regulated by agencies such as the U.S. EPA and CARB at the federal and state levels, respectively, and locally by the FRAQMD.

Federal

The U.S. EPA is responsible for enforcing the Federal Clean Air Act (FCAA). The U.S. EPA is also responsible for establishing the NAAQS, which are required under the 1977 FCAA and

subsequent amendments. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The U.S. EPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by CARB.

The General Conformity regulation of the FCAA was established in 1993 to help states and tribes improve air quality in those areas that do not meet the NAAQS. The regulation contains *de minimis* thresholds, below which, a project would not be considered to substantially interfere with attainment of national standards associated with air quality planning efforts. The project area is in attainment for all federal standards, thus *de minimis* thresholds do not apply (FRAQMD 2020a).

State

In California, CARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for meeting the state requirements of the FCAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective on March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Specific state requirements applicable to the construction activities under the Proposed Project include, but are not limited to (FRAQMD 2016):

- **California Vehicle Code section 23114** regarding transportation of material on roads and highways.
- **California Code of Regulations Title 13 Chapter 10 section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Limits idling time to 5 minutes for on-road heavy duty diesel trucks.
- **California Code of Regulations Title 13 Chapter 9 Article 4.8 section 2449: Regulation for In-Use Off-Road Diesel Vehicles.** Limits idling time to 5 minutes for off-road diesel vehicles.

Local

The FRAQMD is a bi-county district that was formed to administer local, state, and federal air quality management programs for Yuba and Sutter counties. The mission of the FRAQMD is to promote and improve the air quality of Sutter and Yuba counties. This is accomplished through

monitoring, evaluation, education, by implementing control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles. The FRAQMD also responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the FCAA (including amendments) and CCAA.

As described above, Yuba County is considered to be in "non-attainment" for ozone and PM_{10}, and to be either in "attainment" or unclassified for $PM_{2.5}$, nitrogen dioxide, sulfur dioxide, sulfate, lead, CO, hydrogen sulfide, and visibility reducing particles under the terms of the CCAA (CARB 2021b). Under the CCAA, areas not in compliance with the state standards must submit plans to reduce emissions and achieve attainment. In 2019, FRAQMD adopted the 2018 Triennial Air Quality Attainment Plan reduce ozone in the region (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2015), which is an update to the previous 2015 plan. The FRAQMD has also adopted an attainment plan to reduce emissions of PM_{10} (FRAQMD 2020b).

All projects are subject to FRAQMD's rules and regulations in effect at the time of construction (FRAQMD 2016). Specific rules applicable to the construction activities under the Proposed Project include, but are not limited to:

- **Rule 3.0: Visible Emissions**. A person shall not discharge into the atmosphere from any single source of emissions whatsoever, any air contaminants for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringleman Chart.

- **Rule 3.16: Fugitive Dust**. The developer or contractor is required to control dust emissions from earth moving activities, storage or any other construction activity to prevent airborne dust from leaving the Project site.

Furthermore, FRAQMD requires that all projects with a construction phase submit a completed Fugitive Dust Control Plan prior to beginning work (FRAQMD 2010).

FRAQMD Indirect Source Review Guidelines and Thresholds of Significance

The FRAQMD developed the Indirect Source Review Guidelines to serve as a resource to lead agencies to estimate project air pollutant emissions, identify a project's air quality significant effects, and select the best available mitigation measures designed to avoid or reduce the air quality environmental impacts of transportation and land-use activities (FRAQMD 2010). Based on FRAQMD's Indirect Source Review Guidelines, the Proposed Project is a "Type 1" project, which is a land use that would generate operational emissions. As such, FRAQMD recommends that both construction and operational emissions be quantified and measured against applicable thresholds. A Type 1 project is considered to have a less than significant impact if the daily construction and operational emissions do not exceed 25 pounds per day (lbs/day) of nitrogen oxide (NO_X) or reactive organic gases (ROG), and the daily emissions of 80 lbs/day of PM_{10}, as shown in **Table 4**. NO_X and ROG construction emissions may be averaged over the life of the project but may not exceed 4.5 tons/year. FRAQMD also recommends evaluation of construction

diesel particulate matter (exhaust PM_{10}) when construction activities are located within 1,000 feet of a sensitive receptor, which would include school sites and residential land uses. Note that there are no sensitive receptors within 1,000 feet of the Project site.

Table 4. FRAQMD Air Quality Significance Thresholds for Construction

Pollutant	Construction Threshold	Operational Threshold
Nitrogen Oxide (NO_X)	25 lbs./day multiplied by project length, not to exceed 4.5 tons/year[1]	25 lbs./day
Reactive Organic Gasses (ROG)	25 lbs./day multiplied by project length, not to exceed 4.5 tons/year[1]	25 lbs./day
PM_{10}	80 lbs./day	80 lbs./day
$PM_{2.5}$	Not Yet Established	Not Yet Established
[1]NO_X and ROG construction emissions may be averaged over the life of the project, but may not exceed 4.5 tons/year Source: FRAQMD 2010		

Methodology

Construction emissions associated with development of the Proposed Project were calculated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod uses project-specific information, including construction phases, schedule, and proposed equipment to estimate a project's construction emissions. Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as hauling, worker and vendor trips. Construction would include mobilization, clearing and grubbing, construction of concrete pad, extending power to the Project site by installing new power poles from the powerhouse, installation of electrical infrastructure, and demobilization phases. Construction equipment, phases, and schedule were provided by the project engineer as shown in the *Project Description*. For phases where specific equipment was not provided, the CalEEMod default equipment assumptions were used.

Assumptions were made regarding average worker commute trips by construction phase, average haul truck capacity (16 yd^3), and worker, vendor, and haul trip lengths. For worker and haul trips it was assumed that the trip lengths one-way would be approximately 25 miles since that is the driving distance between Yuba City and the Project site. The number of workers per phase was estimated as the equipment count per phase plus a foreman and laborer. The construction activity with the highest number of equipment pieces was used to represent the number of workers for all phases since some of the construction activities do not require heavy-duty equipment onsite but the activity would require workers onsite. The construction phase with the most pieces of equipment would be the construction of the concrete pad, which requires two pieces of equipment. Therefore, it was assumed that six workers would be on-site (e.g., one equipment operator plus a foreman and laborer for each piece of equipment). The following details the haul trip assumptions:

- **Construction of the Concrete Pad:** The project would excavate 25 yd^3 of native material. Approximately 25 yd^3 of aggregate base would be compacted in place to provide a stable base for the new concrete pad and approximately 30 yd^3 of concrete would be used for the concrete pad and retaining walls. Using these volumes and assuming the haul trucks have a capacity of 16 yd^3 the total number of haul trips equates to approximately seven haul trips.

For this analysis, all construction phases were assumed to occur consecutively and not overlap. Based on this assumption, construction would occur from February 2022 through April 2022. Project operation was assumed to commence in 2022.

Construction activities would result in temporary air quality impacts that may vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. CalEEMod assumptions and results are shown in **Appendix B**. In addition, as detailed in Section 2.4.9, Avoidance and Minimization Measures, modeling assumed the Proposed Project would comply with Construction BMPs, including implementing dust control measures and limiting construction vehicle speeds to 15 miles per hour. These measures align with the FRAQMD's standard condition of approval for construction (FRAQMD 2010, 2016). In accordance with FRAQMD's guidance, NO_X and ROG emissions from construction of the Proposed Project were averaged over a 10-year period (the assumed life of the project) and compared to significance thresholds.

There would be no daily operational emissions since the Proposed Project would include only a 480/208-volt transformer, which is a passive electrical device that does not generate emissions. Additionally, there would be no operational emissions from area sources, water and wastewater sources, or mobile sources. The Proposed Project would need landscaping maintenance one day per year, which would have negligible emissions over the lifetime of the project. There would be no indoor or outdoor infrastructure requiring water (e.g., bathrooms) nor would the Proposed Project re-apply architectural coating (i.e., re-painting). Once operational, the Proposed Project would be unstaffed and would not generate new daily mobile trips; thus, the Proposed Project would not generate mobile emissions. Staff from YCWA would oversee operations at the Proposed Project and an operator would visit the new infrastructure once a month to test and maintain the transformer fans and pumps. The testing would be required for approximately five minutes per month or one hour per year. Testing the transformer fans and pumps would not generate emissions. Therefore, operational emissions were not modeled in CalEEMod.

Sensitive land uses are generally considered to include those uses where exposure to pollutants could result in health-related risks to individuals. Residential dwellings and places where people recreate or congregate for extended periods of time such as parks or schools are of primary concern because of the potential for increased and prolonged exposure of individuals to pollutants. Sensitive receptors closest to potential construction activities include houseboats in the Skippers Cove Marina approximately a half mile (2,640 feet) east of the transformer site.

2.3.3 Discussion

a) The Proposed Project consists of temporary construction activity and minimal operational activity. During operation, the Proposed Project would be overseen and maintained by employees from the Yuba County Water Agency. The Proposed Project would not result in increases in population or employment. Thus, the Proposed Project would be consistent with the population projections in the local air quality plan. There would be **no impact** as the Proposed Project would not conflict with or obstruct implementation of an air quality plan.

b) As previously mentioned, the Proposed Project would result in construction-related emissions only. Construction-related emissions would be temporary in duration occurring for approximately 10 weeks (February 2022 through April 2022) but have the potential to represent a significant impact with respect to air quality. Project-related construction activities would generate temporary air pollutant emissions and fugitive dust emissions from construction equipment. Construction emissions would also occur from motor vehicles transporting construction workers, equipment, materials, and construction debris to and from the Project site.

Table 5 summarizes the estimated maximum daily construction emissions and the annual, amortized ROG and NO_x emissions from development of the Proposed Project. The significance of the Proposed Project air quality impacts was determined by comparing these modeled results against the FRAQMD significance thresholds (see Table 4 above).

Table 5. Summary of Modeled Emissions of Criteria Air Pollutants and Precursors Associated with Project Construction Activities.

	ROG[1]	NO_X[1]	$PM_{2.5}$	PM_{10}
Daily Emissions (lbs/day)[2]	<1	4	<1	<1
FRAQMD Threshold (lbs/day)	25	25	--	80
Threshold Exceeded?	No	No	--	No
Annual Emissions (tons/year)[3]	<1	<1		
FRAQMD Threshold (tons/year)	4.5	4.5	--	--
Threshold Exceeded?	No	No	--	--

[1] NO_X and ROG construction emissions may be averaged over the life of the project but may not exceed 4.5 tons/year.
[2] ROG, NO_x, $PM_{2.5}$ and PM_{10} emissions are reported as maximum daily emissions.
[3] NO_X and ROG emissions annual emissions, estimated by amortizing NO_X and ROG emissions from construction of the project over a 10-year period (the assumed life of the project).

NO_X = nitrogen oxide; ROG = reactive organic gases; $PM_{2.5}$ = fine particulate matter; PM_{10} = particulate matter (i.e., respirable); lbs/day = pounds per day; FRAQMD = Feather River Air Quality Management District
See Appendix C for detail on model inputs, assumptions, and project specific modeling parameters.

As shown in Table 5**,** daily and annual emissions would not exceed the FRAQMD thresholds of significance for construction, and the Proposed Project would not generate emissions during operation. Therefore, the Proposed Project would have a **less than significant impact** on attainment of air quality standards in the Basin.

Past, present, and future development projects contribute to a region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. Generally, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The Yuba County portion of the Basin is currently designated as a non-attainment area relative to the CAAQS for ozone and PM_{10}; the county is in attainment relative to the NAAQS. Furthermore, in developing thresholds of significance for air pollutants, FRAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds detailed in Table 4 above, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions both at a project and cumulative level. As discussed above in "b," the Proposed Project's construction-generated and operational emissions would not exceed FRAQMD thresholds. Therefore, the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under the CAAQS or NAAQS, and impacts would be **less than significant**.

c) The potential for the Proposed Project to result in the exposure of sensitive receptors to substantial pollutant concentrations was evaluated for construction-related and operation-related activities. The FRAQMD guidance for CEQA assessments for construction projects states that the proximity of sensitive receptors to a construction site constitutes a special consideration and may require an evaluation of toxic diesel particulate matter (FRAQMD 2010). FRAQMD has not established a quantitative threshold of significance for construction-related toxic air contaminant (TAC) emissions but recommends taking into consideration specific construction-related characteristics of the project.

To evaluate potential construction-related impacts, guidance from CARB's (2005) *Air Quality and Land Use Handbook: A Community Health Perspective* is used. The handbook provides recommendations for siting certain land uses near land uses that emit toxic air contaminants, like freeways and distribution centers that attract heavy duty trucks. These recommendations are intended to reduce the risk of potential health effects associated with diesel exhaust emitted from trucks. Diesel exhaust contains diesel particulate matter (DPM), a TAC associated with temporary health effects, such as eye-watering, exacerbation of asthma, respiratory irritation, and more serious long-term effects, such as cancer and lung disease (CARB 2005). If a project is located within 1,000 feet of a sensitive receptor location, then the impact of DPM should be addressed in the CEQA assessment.

There are no sensitive receptors within 1,000 feet of the Proposed site as described in the Methodology Section. The nearest sensitive receptors would be residents of the houseboats in the Skippers Cove Marina, which are over 2,640 feet east away from the Project site. While hauling trucks would emit diesel exhaust, the hauling routes do not approach the marina thus mobile DPM emissions would not be generated within 1,000 feet of the sensitive receptors at Skippers Cove Marina. As noted under "b" above, daily total PM_{10} emissions fall well below FRAQMD's threshold. Therefore, there would be no impact from construction related TAC emissions since no sensitive receptors are within 1,000 feet of the Project site.

In addition, the Proposed Project's operation activities would not expose sensitive receptors to substantial TAC emissions since the Proposed Project would not generate new daily trips and the transformer is an electrical device that would not emit DPM emissions. As a result, the Proposed Project would not conflict with FRAQMD guidance for risks and hazards to receptors associated with new emissions sources. Thus, the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations during construction or operation. Impacts would be **less than significant**.

d) The Proposed Project does not involve the construction of new structures or other facilities that would generate odors. Therefore, the Proposed Project would have **no impact** on the creation of objectionable odors.

2.4 Biological Resources

Would the Proposed Project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☑	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

2.4.1 Setting

The Proposed Project includes minor vegetation removal, construction, and permanent placement of a concrete pad, the back-up Narrows 2 GSU transformer, and associated infrastructure that includes two power poles and power lines. Operational activities would consist of testing the transformer fans and pumps monthly to ensure the bearings remain ready for operation if the back-up GSU transformer is needed for service. Potential vegetation maintenance would occur a maximum of one day a year.

This section describes the biological resources that occur in the Proposed Project area including; a description of the existing biotic environment, an overview of special status species, a general description of other wildlife, and the analysis of potential impacts from the Proposed Project to biological resources.

Existing Conditions for Plants and Wildlife

Habitat Types

The Proposed Project area contains several habitat types that could be affected by the Proposed Project. These habitat types are described below, with a discussion of common plant species that are found in each of the habitat types.

- Blue Oak Woodland: The primary species include blue oak (*Quercus douglasii*), California buckeye (*Aesculus californica*), and western redbud (*Cercis occidentalis*).
- Live Oak: Dominated by live oaks (*Quercus wislizen*), gray pine (foothill pine; *Pinus sabiniana*), and shrubs in common with blue oak woodland.
- Annual Grassland: Composed primarily of annual plant species that also occur as an understory in oak forests. Introduced annual grasses such as wild oats (*Avena fatua*) are dominant.
- Ruderal/Developed: Ruderal/developed habitats contain common weedy species such as European annual grasses and forbs and blackberry.

General Wildlife

Common mammal species in the vicinity of the project site include Columbian black-tailed deer (*Odocoileus hemionus columbianus*), black bear (*Ursus americanus*), and squirrels, such as western grey squirrel (*Sciurus griseus*). Common bird species expected to occur in the vicinity of the project site, many of which are protected under the Migratory Bird Treaty Act, include raptors, such as American peregrine falcon (*Falco peregrinus*), red-tailed hawk (*Buteo jamaicensis*) and Cooper's hawk (*Accipiter cooperii*); songbirds, including dark-eyed junco (*Junco hyemalis*) and spotted towhee (*Pipilo maculatus*); woodpeckers, such as white-headed woodpecker (*Picoides albolarvatus*) and northern flicker (*Colaptes auratus*); and owls, including great horned owl (*Bubo virginianus*) and western screech owl (*Otus kennicottii*; YCWA 2014b).

Special Status Plants and Wildlife

Special status plant species and wildlife that may occur at the Proposed Project site and that are endemic to California are described below. Special status species are defined as species that are

legally protected or that are otherwise considered sensitive by federal, state, or local resource agencies. Special status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- officially listed by California or the federal government as endangered, threatened, or rare;
- a candidate for state or federal listing as endangered, threatened, or rare;
- taxa (i.e., taxonomic category or group) that meet the criteria for listing, even if not currently included on any list, as described in California Code of Regulations Section 15380 of the State CEQA Guidelines;
- species identified by California Department of Fish and Wildlife (CDFW) as Species of Special Concern;
- species listed as Fully Protected under the California Fish and Game Code;
- species afforded protection under local planning documents;
- plant taxa considered by the CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR). The CDFW system includes five rarity and endangerment ranks for categorizing plant species of concern; and
- bird species protected under the Migratory Bird Treaty Act.

All plants with a CRPR are considered "special plants" by CDFW. The term "special plants" is a broad term used by CDFW to refer to all of the plant taxa inventoried in CDFW's California Natural Diversity Database (CNDDB), regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, and 2 may qualify as endangered, rare, or threatened species within the definition of the CEQA Guidelines, California Code of Regulations Section 15380. CDFW recommends, and local governments may require, that CRPR 1A, 1B, and 2 species be addressed in CEQA documents.

For wildlife, special status species are considered those listed as threatened or endangered species under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA), or identified as a federal Species of Concern or California Species of Special Concern. The term "California Species of Special Concern" is applied by CDFW to animals not listed under the ESA or CESA, but that are considered to be declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist.

Special status species considered for this analysis are based on a review of existing documentation, including the CNDDB (2021), the Yuba County 2030 General Plan (Yuba County 2011a), the Yuba County General Plan 2030 Final Environmental Impact Report (Yuba County 2011b), and other recent documents pertaining to biological resources in the region.

The following criteria have been used to determine the potential for special status plants and wildlife species to occur within the Proposed Project area based on species life history characteristics, life history requirements, past observation and professional expertise.

- **High:** Species is known to occur on or near the project site (based on CNDDB records within five miles and/or based on professional expertise specific to the project site or species), and there is suitable habitat within the project site.
- **Low:** Species is known to occur in the vicinity of the project site, and there is marginal habitat within the project site, or species is not known to occur in the vicinity of the site, but there is suitable habitat on the site.
- **None:** Species is not known to occur on or in the vicinity of the project site and there is no suitable habitat within the project site, or species was surveyed for during the appropriate season with negative results, or species is not known in Yuba County. Species with no potential to occur are not discussed further in this analysis.

Special status plant and wildlife species that includes the common and scientific names for each species, regulatory status, habitat descriptions, and potential for occurrence at the Proposed Project site are listed in **Table 6**. Two bat species, the Hoary bat (*Lasiurus cinereus*) and Yuma myotis (*Myotis yumanensis*) were included in the CNDDB output for the Proposed Project vicinity. However, based on information from the Western Bat Working Group both species are secure which indicates they are at very low, or no risk of extinction. Therefore, there is little to no concern to these species from declines or threats and they are not classified as special status species for the purpose of this analysis. No special status invertebrates, reptiles, amphibians, or fish would be impacted by the Proposed Project. As such, species in these categories are not discussed further.

Table 6. Special Status Plant and Terrestrial Wildlife Species with the Potential to Occur on the Project Sites

Species	Status[1] FESA, CESA, CRPR	Habitat	Potential for Occurrence
Plants			
Brandegee's clarkia *Clarkia biloba* ssp. brandegeeae	—, —, 4.2	Chaparral, Cismontane woodland, and lower montane coniferous forest with serpentinite or volcanic soil substrates at elevations ranging from 985–3,280 feet. Blooms May–June.	High; suitable habitat exists for the species, and it has been documented in the project vicinity.
Butte County fritillary *Fritillaria eastwoodiae*	—, —, 3.2	Chaparral, cismontane woodland, and lower montane coniferous forest sometimes with serpentinite substrates. Blooms March–June.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Dwarf downingia *Downingia pusilla*	—, —, 2B.2	Foothill Woodland, Valley Grassland, Freshwater Wetlands, Wetland-riparian.	High; suitable habitat exists for the species and it has been documented in the project vicinity.
Wildlife			
Birds			
Bald eagle *Haliaeetus leucocphalus*	—, CE, — USFWS BCC	Found at most lakes, reservoirs, rivers and some rangelands. A small number of breeding pairs are found in the central Sierra Nevada foothills. Bald Eagles typically nest within 1 miles of water bodies in trees over 100 feet in height.	High; suitable habitat exists for the species.
American Peregrine Falcon *Falco peregrinus*	—, FP, — USFWS BCC	Breed in most terrestrial biomes in the Americas, with no preference for one specific biome. Nesting habitats	High; suitable habitat exists for the species and it has been documented in the project vicinity.

Species	Status[1]	Habitat	Potential for Occurrence
	FESA, CESA, CRPR		
		contain cliffs, large trees, and/or ground nests with open airspace.	
California Black Rail *Laterallusjamaicensis cotumiculus*	—, FP, — USFWS BCC	Habitat generally includes salt marshes and freshwater marshes with over 90% of the birds found in the northern San Francisco Bay Region. The species is also known to occur in the foothills of the Sierra Nevada (Spautz et al. 2005).	Low; although the species has been documented in the project vicinity the birds prefer shallow, densely vegetated wetlands, which is not present at the Proposed Project site.
Nuttail's Woodpecker *Dryobates nuttallii*	—, —, — Note: considered a USFWS BCC	Present from northern California to southern Baja. Nests in tree cavities within oak woodlands.	Medium. suitable habitat exists for the species, but it has not been documented in the project vicinity.
Oak titmouse *Baelolphus inomatus*	—, —, — Note: considered a USFWS BCC	Nests in tree cavities within oak woodlands. Also nest in juniper woodland and open forests.	Medium. suitable habitat exists for the species, but it has not been documented in the project vicinity.
Osprey *Pandion haliaetus*	—, —, — Note: considered a CDFW watchlist species	Nesting habitats occur near waterbodies with accessible fish. Species nests in large snags, cliffs, transmission/communication towers, artificial nest platforms, channel markers, and buoys.	High. Suitable habitat in close proximity to the Proposed Project Site.
Mammals			
Western Red Bat *Lasiurus blossevillii*	—, CSC, —	Widely distributed throughout California. Ranges from sea level up through mixed conifer forests; roosts in foliage, forages in open areas.	High; suitable habitat exists for the species and it has been documented in the project vicinity.

CRPR = California Rare Plant Rank; CNDDB = California Natural Diversity Database; CESA = California Endangered Species Act; FESA = Federal Endangered Species Act

[1] Legal Status Definitions:

Federal Endangered Species Act:

FC Candidate (no formal protection under the ESA).

California Endangered Species Act:

CE Endangered (legally protected)

CT Threatened (legally protected)

FP California Department of Fish and Wildlife Fully Protected

CSC = California species of concern

BCC = Bird of conservation concern

California Rare Plant Ranks:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

3 Plants about which more information is needed, A review list

4 Plants of limited distribution, A watch list

Threat ranks:

.1-Seriously threatened in California (greater than 80% of occurrences threatened / high degree and immediacy of threat)

.2-Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)

.3-Not very threatened in California (fewer than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Source: CNDDB 2021

Special Status Plants

No special status plants have been documented in the immediate vicinity or within one mile of the project site. The only special-status plant that has been documented within two miles of the project site is Butte County fritillary. According to CNDDB (2021) the only other special status plant species within a five-mile radius was one siting of *Dwarf downingia* which occurred over four miles from the Proposed Project site.

Special Status Wildlife

As identified in Table 6, four special status wildlife species have high potential to occur at the Proposed Project site. A brief description of each of these species, including their regulatory status, general life history, and presence in the Proposed Project vicinity is provided below.

Bald Eagle

The southern bald eagle (*H. leucocephalus leucocephalus*) was listed as endangered under the Endangered Species Act of 1966 (32 FR 4001). On February 14, 1978, the United States Fish and Wildlife Service (USFWS) ruled to delete the subspecies subspecific names for the southern and northern subspecies, resulting in the designation of a single species (*H. leucocephalus*; 43 FR 6230). This ruling also listed bald eagles endangered in 43 of the 48 contiguous states, including in California, and threatened in the remaining five states. On July 12, 1995, all bald eagles listed as endangered were reclassified as threatened, while the status of threatened remained in effect for the five other states (60 FR 36000). On August 8, 2007, the USFWS ruled to delist the bald eagle in all states (72 FR 37346).

In California the bald eagle was listed under CESA as endangered on June 27, 1971. Additional protections for bald eagles in California exist under Fish and Game Code Sections 3503, 3503.5, and 3513, which make it unlawful to take, possess, or needlessly destroy birds' nests or eggs; take possess, or destroy raptors and their eggs and nests; and take or possess any migratory nongame bird or part thereof, designated in the Migratory Bird Threat Act of 1918 (16 U.S.C. 703- 712; Ch. 128; July 13, 1918; 40 Stat 755) as amended). Since federal delisting, protection of bald eagle has continued under the Migratory Bird Threat Act, and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) as amended.

The bald eagle is a large raptor that typically nests within one mile of water bodies. Bald eagles choose hunting perches near shallow waters of deep lakes and reservoirs where fish concentrate and are more visible (YCWA 2014a). Prior to the onset of winter, bald eagles migrate from colder northern climates to warmer southern climates. In winter bald eagles spend nights in a roost. Paired adults roost in their nesting stand (Jackman et al. 1999, Jackman and Jenkins 2004, Merced Irrigation District 2010), whereas non-paired birds roost communally.

Nests are large structures that are typically found in the upper third of live dominant or co-dominant trees with some canopy above. Most nests are 100 ft or higher from the ground. A single pair of bald eagles use the same nest each year and may have alternate nests within their breeding territory. Bald eagles can breed as early as four to five years of age, but in healthy populations may not breed until much older (USFWS 2007 as cited in YCWA 2014a). In the Sierra Nevada foothills, breeding typically begins between January and mid-March and ends when young fledge in June or July (Jackman and Jenkins 2004).

CNDDB does not report any bald eagle occurrences within five miles of the Proposed Project Site (CNDDB 2021). Further, no bald eagle nests have been observed during any of the site visits. Nevertheless, it is possible for bald eagles to occur in the vicinity of the Proposed Project site.

American Peregrine Falcon

The American peregrine falcon was added to the U.S. Department of Interior's list of foreign endangered species on October 13, 1970. Listing was primarily due to the population decline linked to DDT. In 1972 DDT was banned from use in the United States and was followed by the restrictions of other pesticides including aldrin and dieldrin. Banning of these chemicals caused the reproductive rates of American peregrine falcons to increase. Increased populations of American peregrine falcons caused the bird to be delisted on August 25, 1999.

In California, the American peregrine falcon was listed under CESA as endangered on June 27, 1971. California also assigned the status of Fully Protected Bird Species (F.G.C. § 3511) to the American peregrine falcon. As of November 4, 2009, the American peregrine falcon was considered "Recovered" and subsequently removed from the list. However, the status of Fully Protected Bird Species remains today. The birds are also designated under the Migratory Bird Treaty Act (MBTA) as described below.

The American peregrine falcon is a medium-sized raptor that breeds in many terrestrial biomes in the Americas (White et al. 2002). American peregrine falcon use a number of habitat types during fall and spring migration including urban, suburban, and rural habitats. American peregrine falcons typically breed at 2 to 3 years of age. Incubation may begin as early as March and takes about 29 to 32 days, followed by a nesting period of 35 to 42 days (YCWA 2019). Post fledge American peregrine falcons are sensitive to disturbances for about two weeks.

American peregrine falcon have been documented in the vicinity of the powerhouse on several occasions. In April 2013 YCWA staff observed two vocal American peregrine falcons in flight and perched on a cliff across the canyon from the powerhouse (YCWA 2019). YCWA believe the perch site was in the vicinity of an occupied nest ledge. CDFW reported that the same pair fledged successfully in 2015 and 2016 (YCWA 2019).

Osprey

The Osprey (*Pandion haliaetus*) is not listed pursuant to either the California or federal ESAs; however, it is considered a CDFW watch list species. Osprey are present throughout much of North America (Bierregaard et al. 2020). Nest sites are usually close to water and breeding typically occurs from April through September.

CNDDB does not report any osprey occurrences within five miles of the Proposed Project Site (CNDDB 2021). Further no osprey nests have been observed during site visits. Nevertheless, it is possible for osprey to nest in the vicinity of the Proposed Project.

Nuttall's Woodpecker

The Nuttall's Woodpecker (*Dryobates nuttallii*) is not listed as threatened or endangered species under the federal or state ESA, but is considered a USFWS bird of conservation concern. The birds are resident from Siskiyou County south to Baja California. Nuttall's Woodpeckers

primarily nest in tree cavities within oak woodlands with breeding occurring from April through July. While there are no CNDDB documented occurrences of Nuttall's Woodpecker within five miles of the Project site, the trees in the foothill pine woodland surrounding the Project site provides suitable habitat for this species. As such, it is possible for Nuttall's Woodpecker to occur within the project vicinity.

Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) are not listed and protected under either the California or federal ESAs but are considered a USFWS bird of conservation concern. The breeding range for oak titmouse includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, and into Baja California. The species does not occur within the San Joaquin Valley. They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands. Nesting occurs during March through July. While there are no CNDDB documented occurrences of oak titmouse within five miles of the Project site, the foothill pine woodland in the project vicinity provides suitable habitat for this species. As such, it is possible for Nuttall's woodpecker to occur within the project vicinity.

Migratory Bird Treaty Act

Numerous birds are protected by the Migratory Bird Treaty Act (MBTA). These birds are also considered in the assessments below. The MBTA of 1918 makes it unlawful to take (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. The act protects more than 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species, and it was originally drafted to put an end to the commercial trade in birds and their feathers that, by the early years of the 20th century, had wreaked havoc on the populations of many native bird species.

Western Red Bat

The western red bat is small to medium sized bat that is red with white patches at the shoulders, elbows and thumbs (WBWG 2014). Western red bats are widely distributed and can be found from southern British Columbia, throughout the western United States, Mexico, Central America, Argentina and Chile. Western red bats are often solitary and roost primarily among foliage of trees or shrubs adjacent to streams, and open fields. The bats also occasionally roost in urban areas.

Western red bats migrate in groups and forages in close proximity with one another. Males and females appear to occupy different summer ranges, and also may differ in the timing of migration. Winter behavior is poorly understood, but it is believed that red bats occasionally wake from hibernation on warm days to feed. Mating occurs in late summer or early fall, and females postpone pregnancy until spring. Gestation is about 80−90 days, and up to five pups may be born (WBWG 2014).

CNDDB reports one occurrence of western red bat within five miles of the Proposed Project site (CNDDB 2021). The adjacent foothills do provide suitable habitat for the species and the species could occur in the project vicinity.

2.4.2 Discussion

The potential for project-related affects to biological resources is assessed below in responses to the Initial Study checklist questions. The assessment of effects primarily considers the likely presence of biological resources and their habitats in the project area, the magnitude and duration of direct and indirect effects to the species and their habitats, and the availability of feasible mitigation measures to avoid or minimize the effects.

a) The following discussion assesses potential impacts of the Proposed Project, both directly and through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW (formerly California Department of Fish and Game), USFWS or MBTA, occurring within the affected environment.

All special status species with the potential to occur in the project site are listed in Table 6 above. Special status species with the potential to occur in the Proposed Project sites and that have the potential to be substantially adversely affected, either directly or through habitat modifications, include species listed under CESA, are considered state or federal species of special concern, or are assigned a CRPR. No federally threatened or endangered species have the potential to occur in the project vicinity. No additional special status species with the potential to be substantially adversely affected are listed in any local or regional plans, policies, or regulations as candidate or sensitive.

Special-Status Plants

Two special status plants could occur on or adjacent to the Proposed Project site. Potential affects to these species are discussed below.

Potential effects to special status plant species include;

- Construction-related vegetation removal and tree trimming in advance of installing the electrical infrastructure and new pad;
- Potential annual vegetation maintenance; and,
- Operational-related activities including storage and testing of the back-up GSU transformer.

No special status plant species have been documented at the project sites. However, Butte Country fritillary has been documented at one site within one to two miles of the project site. Because implementation of the Proposed Project would require vegetation removal, it is possible that special status plants could be impacted by construction and maintenance activities.

The back-up GSU transformer would contain oil such that it is operationally ready should it be needed at the powerhouse. A concrete pad with 2’ tall by 6” wide containment walls would contain any oil should it leak from the back-up GSU transformer. Further, AMM 5 includes development and implementation of a SPCC. The SPCC includes instructions for

quick action to prevent potential release of the oil outside of the containment walls. As described in the SPCC if an oil leak does occur, all oil would be pumped from the containment area using the drain valve to a tanker truck and hauled off-site to specialized facility that accepts waste oil. The containment walls combined with the SPCC would reduce the potential for any oil leaks to move past the containment walls and affect surrounding vegetation. As, such, there would be no operational impacts to surrounding vegetation, including special status plants.

AMMs incorporated into the project include a WEAP training to educate workers about the potential construction-related and maintenance-related impacts to special status plants. Additionally, implementation of **Mitigation Measure BIO-1** would reduce these impacts to special status plants to a **less than significant** level.

Mitigation Measure BIO-1: Special Status Plant Surveys

YCWA would conduct special status plant surveys using approved CDFW/USFWS methods during the appropriate season for identification of special status plant species prior to construction and each maintenance period. If special status plant species are found in the construction areas, YCWA would enter such species into the CNDDB database. Where feasible, individual special status plants should be fenced for avoidance during construction. Where avoidance is not possible, losses shall be offset through inclusion of these species into the restoration planting palette.

Special Status Wildlife

The only special status wildlife species that may occur in the Proposed Project vicinity during the construction period are the bald eagle, American peregrine falcon, osprey, oak titmouse, Nuttall's woodpecker, and Western red bat. It is also possible for native nesting birds, which are protected by State Fish and Game Code and the MBTA, to be present.

Potential effects to special status wildlife species include;

- Construction-related vegetation removal and noise-disturbances;
- Potential annual vegetation maintenance; and,
- Operational-related activities including storage and testing of the back-up GSU transformer and general presence of the new infrastructure.

Adjacent woodlands could support a wide variety of nesting native birds. Potential nesting sites in the Proposed Project vicinity include trees, structures (e.g., existing shed and power poles), and ground vegetation. American peregrine falcon have been documented in the vicinity of the powerhouse on several occasions and are thought to have nested on a cliff across the canyon from the project site. Western red bats primarily roost among foliage of trees or shrubs, but are also known to roost on manmade structures, such as sheds (YCWA 2014). The closest known Western red bat roost is located in the powerhouse. This is over 700 feet downhill from the Proposed Project site and 550 feet downhill from the electrical work. As such, construction work would not impact the powerhouse bat roosts.

Indirect effects from construction activities, such as construction equipment noise, vibration, and human presence could potentially cause temporary disturbances to bald eagles, American peregrine falcons, osprey, oak titmouse, Nuttall's woodpecker, Western red bats, or migratory birds that may be present in the Proposed Project area. Such potential disturbances could cause birds and bats to temporarily move away from the area or to abandon nests.

Given that there would be no tree removal and only minor tree trimming as part of constructing the Proposed Project there would be minimal potential to directly impact perching, roosting, or tree nesting habitat for any of native birds or the Western red bat. Further, the area where the concrete pad will be placed is already developed and unlikely to support nesting habitat for any native bird species. Although it is possible for the shed to support bat roosts, no bat roosts have been documented at the shed and there would be no direct disturbances to the shed. Thus, there would be no potential for maternity roosts or other colonial night roosts to be removed or altered during project activities.

Minimal construction would be required to extend power from the existing overhead line between the powerhouse and intake structure in the steep hill to the site. This component of the Project would occur on a sparsely vegetated hillside and there is a small potential that construction workers could encounter a native bird nest in the ground vegetation in this area.

Minimal maintenance would be required for the Proposed Project to operate successfully. Some minor vegetation removal would be required (i.e., up to one day a year), but this maintenance would occur by hand and not generate substantial noise or other disturbances to special status wildlife.

As described above for special status plants the back-up GSU transformer would contain oil such that it is operationally ready should it be needed at the powerhouse. A concrete platform and 2' by 6" containment walls would surround the infrastructure to contain any oil should it leak from the back-up GSU transformer. The SPCC (AMM 5) includes instructions for quick action to prevent potential release of the oil outside of the containment walls. The containment walls combined with the SPCC would reduce the potential for any oil leaks to move past the containment walls and affect the surrounding area.

To prevent avian nesting on the new power poles, the top of each pole will be cut off at an angle, protectors/screens will be placed on top, and the new poles will not include crossmembers. As, such, there would be no operational impacts to surrounding vegetation, including potential ground nesting locations of native birds. There would be no operational impacts to bald eagles, American peregrine falcon, osprey, oak titmouse, Nuttall's Woodpecker, or Western red bats as these species would not be expected to use the back-up GSU transformer site, immediate surrounding area, or angled power poles.

Based on the discussion above, there would be no operational impacts to special status wildlife species. AMMs incorporated into the Proposed Project include a WEAP training to educate workers about special status species, surveys for special status species, and a

biological monitor if special status species are encountered during construction and maintenance activities. Combined with these AMMs, **Mitigation Measure BIO-2** would reduce impacts to bald eagles, American peregrine falcons, oak titmouse, Nuttall's Woodpecker, Western red bats and migratory birds to **less than significant**.

Mitigation Measure BIO-2: Avoid Impacts to Bald Eagles, American Peregrine Falcons, Oak Titmouse, Nuttall's Woodpecker, Other Migratory Birds, and Western Red Bat.

- A qualified biologist shall conduct pre-construction surveys for bald eagles, American peregrine falcons, and other migratory bird species no more than 14 days prior to construction in accordance with the *Bald Eagle Breeding Survey Instructions* (CDFG 2010), Protocols for Observing Known and Potential Peregrine Falcon Eyries in the Pacific Northwest (Pagel 1992), and methods described in the *Bald Eagle and American Peregrine Falcon Management Plan* (YCWA 2019).

- A qualified biologist shall conduct pre-construction surveys for Western red bats at the shed and trees in the immediate vicinity of the area. The surveys shall include inspections for cavities, guano accumulations, staining, and observable crevices.

- If no active nests or roosts are detected, no additional action is required.

- If applicable (i.e., nests are detected as a result of the pre-construction surveys), the qualified biologist shall perform at least two hours of pre-construction monitoring of the nest to characterize "typical" bird behavior. The qualified biologist shall monitor the nesting birds and shall increase the buffer if the qualified biologist determines the birds are showing signs of unusual or distressed behavior by project activities. Atypical nesting behaviors which may cause reproductive harm include, but are not limited to, defensive flights/vocalizations directed toward project personnel, standing up from a brooding position, and flying away from the nest.

- If applicable the qualified biologist shall have authority to order the cessation of all project activities if the nesting birds exhibit atypical behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young) until an appropriate buffer is established. To prevent encroachment, the established buffer(s) shall be clearly marked by high visibility material. The established buffer(s) shall remain in effect until the young have fledged or the nest has been abandoned as confirmed by the qualified biologist.

- If roosting bats are detected in the work area, a site-specific limited equipment/limited activity buffer would be implemented. Work would also be constrained to exclude construction activities within one hour after sunrise and one hour before sunset to minimize the potential disturbance to foraging adults.

b) Implementation of the Proposed Project would not involve any impact to any riparian zone. As such, the Proposed Project would have **no impact** to riparian habitat or other sensitive natural communities.

c) Implementation of the Proposed Project would not involve any impact to wetlands. Thus, the Proposed Project would have **no impact** on state or federally protected wetlands.

d) Although the area in the Proposed Project vicinity may serve as a migratory corridor for some terrestrial wildlife species, implementation of the Proposed Project would not include any structures or barriers that would substantially interfere with the movement of any wildlife species or established native resident or migratory wildlife corridors. The only wildlife nursery sites that may be present at the project site are native migratory bird nests or bat roosts. As described above in "Section 2.4.2 (a) on page 35, above" **Mitigation Measure BIO-2** would be implemented to ensure wildlife nursery sites are not disturbed.

   Based on the assessments provided above, inclusion of **Mitigation Measure BIO-2** into the Proposed Project would ensure a **less than significant impact** on the movement of any native or migratory wildlife species, established native resident of migratory wildlife corridors, or on native wildlife nursery sites.

e) The Proposed Project would not remove any trees and would involve only minor tree trimming. As such, the Proposed Project would have **no impact** in regard to conflicting with local policies or ordinances protecting trees or other biological resources.

f) Although a regional conservation plan is currently under development and is intended to serve as a combined federal Habitat Conservation Plan and state Natural Communities Conservation Plan for Yuba and Sutter counties, this plan has not been adopted and is not expected to be adopted before project implementation. Therefore, the Proposed Project would have **no impact** on consistency with an applicable habitat conservation plan or natural community conservation plan.

2.5 Cultural Resources

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☑	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☑	☐	☐

2.5.1 Setting

Setting information and impact conclusions are derived from the Cultural Resources Inventory and Effects Assessment for the Narrows 2 Generator Step-up Transformer Replacement Project by the Yuba County Water Agency, Yuba County, California (Natural Investigations Company 2021).

Prehistoric Setting

The prehistoric timeframes in California's lower foothills and Central Valley include Paleo-Indian (11,500–8550 cal [calibrated] B.C.), Lower Archaic (8550–5550 cal B.C.), Middle Archaic (5550–550 cal B.C.), Upper Archaic (550 cal B.C.–cal A.D. 1100), and Emergent Period (cal A.D. 1100–Historic Contact). While there is little evidence of the Paleo-Indian, Lower Archaic and early Middle Archaic periods, excavations of a number of archaeological sites in the subsequent periods show changes in distinct artifact types, subsistence orientation, and settlement patterns that lasted until historic contact by the Spanish Franciscan missionaries beginning in the late-1700s (Natural Investigations Company 2021).

Ethnographic Setting

The Nisenan (also known as the southern Maidu) historically occupied the project vicinity (Kroeber 1925; Wilson and Towne 1978; cited in Natural Investigations Company 2021). East from the Sacramento River to the crest of the Sierra Nevada, the drainages of the American, Bear, lower Feather, and Yuba rivers provided these seasonally mobile hunter-gatherers with an abundance of natural resources. Semi-permanent villages were typically situated along the main watercourses in their territory. Similar to other California Native American groups, the Nisenan employed a variety of tools, implements, and enclosures for hunting, fishing, and collecting natural resources. Acorns, of particular importance to the diet, were stored in village granaries before processing with bedrock or portable mortars and pestles.

The traditional culture and lifeways of the Nisenan were disrupted in the 1830s with disease epidemics that swept through the densely populated region and decimated native populations. The discovery in 1848 of gold in the heart of Nisenan territory and the ensuing Gold Rush had a devastating impact on the surviving Nisenan who retreated to the foothills and mountains or labored for the growing ranching, farming, and mining industries.

Historic Setting

The history of this region is deeply tied to the Gold Rush era. Mining communities along the rivers in Yuba County blossomed soon after Jonas Spect found gold in June 1848 on the Yuba River, approximately 18 miles east of Marysville and 2 miles downstream from the project. Gold was also found in 1848 on Dry Creek near its confluence with the Yuba River 1 mile downstream from the project. These discoveries led to the establishment of Yuba County in 1850 as one of California's original 27 counties. The town of Marysville, located at the confluence of the Yuba and Feather rivers, ultimately became the commercial center for the mines of the Northern Mother Lode, and is the county seat.

James Smart built a hotel in the spring of 1856 at what would become known as the Gold Rush town of Smartsville, located 2.5 miles southwest of the project. The Smartsville Mining District, which also includes Sicard Flat, Timbuctoo, Sucker Flat and Mooney Flat, was one of the most productive areas in the state for placer mining the Tertiary deposits along the Yuba River. The Smartville Complex, the geologic formation underlying the project, was named in honor of the small Gold Rush town. The town is also a California Historical Landmark (CHL No. 321).

Early on, miners focused on the sand bars in the rivers, which had a relatively high gold content and were easily accessible. Mining efforts moved farther from the rivers as the bars were exhausted. Mining technology also changed to include hydraulic mining in the late 1850s and then dredging shortly after the turn of the century. In the 1860s and 1870s, the hills along Smartsville, Sicard Flat, Camptonville, Brownville, and Timbuctoo were among many in the region that were subject to hydraulic mining operations. By 1878, the Excelsior Company at Smartsville had washed eight million cubic yards of detritus into the Yuba River. By 1879, hydraulic mining at Sicard Flat, four miles west of the project, had washed away about 50 acres of ground including Sicard's Bar on the Yuba River (Natural Investigations Company 2021).

The discharge of debris from placer and hydraulic mining compounded the flood risk in Yuba County. The debris changed the course of rivers and streams, raised the riverbeds, and caused extensive flooding. Historically, the Marysville and Yuba City area experienced the disruption of a major flood about once every ten years. In 1884, the Sawyer decision curtailed destructive, large-scale hydraulic mining, although the Caminetti Act of 1893 allowed hydraulic mining to continue if well-placed debris dams were constructed, as regulated by the California Debris Commission.

Upstream of the project, the first dam in the Bullards Bar area was constructed in 1899, with the most recent one completed in 1969. Englebright Dam was completed in 1941 downstream from Bullards Bar, in the steep Yuba River gorge known as the Narrows, 20 miles east of Marysville. The dam was constructed for the purposes of debris storage with no controlled outlet, but was later used as a source of hydraulic control "head" for subsequent hydroelectric power generation built by Pacific Gas and Electric Company (PG&E) (the Narrows Project) and by YCWA (Narrows 2 Powerhouse, completed in 1970). The dam and the 815-acre lake were named for local U.S. Representative Harry L. Englebright, who served the district from 1926-1943 (Gratreak et al. 2020; Natural Investigations Company 2021).

The Yuba County Water Resources Board was created by the Yuba County Board of Supervisors in 1951 and YCWA was established in 1959 as an independent special district. These agencies were established to help curb the major floods that had inundated southern Yuba County and poured over Bullards Bar Dam and Englebright Reservoir. In addition to providing water and flood control services to the county and member units, YCWA delivers hydroelectric power, fisheries enhancement, recreation, conservation, and water storage.

Results of Project Site Research and Survey

A literature search completed by the North Central Information Center on April 16, 2021, indicated four prior surveys had been conducted within portions of the project site, and one additional study completed within a 0.25-mile radius of the project. No cultural resources have been previously recorded within the project site. Within the 0.25-mile radius, seven cultural resources had been previously recorded (one prehistoric and six built environment). The prehistoric bedrock milling site (P-58-0425) was not relocated in 2018 and was assumed to have been misidentified in 1975 since other bedrock milling features recorded by the same field group have not been relocated (Kraus 2018 cited in Natural Investigations Company 2021). No other prehistoric and no ethnohistoric sites have been documented within the search radius.

One of six built-environment resources previously recorded within the search radius but outside the project site, Englebright Dam (P-29-4559 in Nevada County and P-58-0711 in Yuba County), has been previously determined eligible for listing in the National Register of Historic Places (NRHP) and is listed in the California Register of Historical Resources (CRHR). Three of the resources, Narrows 2 Powerhouse (P-58-2705), Narrows 2 Penstock/Power Tunnel (P-58-3308), and the Yuba River Development Project Historic Built Environment District (P-58-3309), have each been previously found ineligible for NRHP and CRHR inclusion. The remaining two built environment resources documented within the search radius are the Narrows 1 Powerhouse (P-29-0250) and Englebright Park Office ((P-29-4797) (Natural Investigations Company 2021).

Archival research indicates the project vicinity was part of the placer and hydraulic gold mining region along the Yuba River in the Smartsville District. Aerial photographs and historical maps indicate the project site remained otherwise undeveloped until construction of the access road and adjacent Englebright Dam in 1938-1941 and the Narrows 2 Penstock/Power Tunnel and Powerhouse in the late 1960s (Natural Investigations Company 2021).

An intensive-level archaeological survey of the project site was conducted by Natural Investigations Company on June 2, 2021, using survey transects spaced no greater than 15 meters apart. All visible ground surface within the project site was carefully examined for cultural material (e.g., flaked stone tools, tool-making debris, stone milling tools, or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics).

No prehistoric or historic-era archaeological sites, ethnographic sites, or historic-era built environment resources were identified during survey of the project site, and none have been previously recorded within the project site. There were no bedrock outcrops in the project site that may have been otherwise suitable for milling features (Natural Investigations Company 2021).

The project site has been disturbed by the grading and construction of the paved private access road, which also continues to provide maintenance access and previously provided access for construction of Englebright Dam in 1938-1941 and the Narrows 2 Penstock/Power Tunnel and Powerhouse in the late 1960s. The likelihood is low for discovery of archaeological deposits, materials, or features by implementation of the project. The project site is located within a disturbed area that is underlain by sediments formed millions of years prior to the presence of humans in this region (Natural Investigations Company 2021).

Native American Outreach

Natural Investigations Company contacted the Native American Heritage Commission (NAHC), requesting a search of their Sacred Lands File for traditional cultural resources within or near the project site. The reply from the NAHC, dated May 11, 2021, states that their search was negative for the presence of Native American sacred lands in the immediate vicinity.

By letter dated May 13, 2021, Natural Investigations contacted each of the Native American tribes and their representatives provided by the NAHC, requesting any information regarding sacred lands or other heritage sites that might be impacted by the proposed project. A response to the

letter was received via email on May 27, 2021, from Anna Starkey, Cultural Regulatory Specialist, of the United Auburn Indian Community of the Auburn Rancheria (UAIC), stating that the Tribe was not aware of any tribal cultural resources in the project area but, should resources be identified at any time during project activities, requesting that UAIC be notified immediately. Ms. Starkey also requested that unanticipated discovery mitigation measures be included in the CEQA document (Natural Investigations Company 2021).

On June 1, 2021, voice mail messages to contact Natural Investigations with any concerns were left for the other tribal representatives on the NAHC contact list: Pamela Cubbler, Treasurer, and Clyde Prout, Chairman, of the Colfax-Todds Valley Consolidated Tribe; Grayson Coney, Cultural Director, of the T-si Akim Maidu; and Steven Hutchason, Tribal Historic Preservation Officer (THPO), Dahlton Brown, Director of Administration, and Jesus Tarango, Chairperson, of the Wilton Rancheria (Natural Investigations Company 2021). To date, no responses have been received from the tribes other than the UAIC.

For more information regarding Native American outreach, please see Section 2.18, *Tribal Cultural Resources.*

2.5.2 Discussion

a) No prehistoric or historic-era archaeological sites, ethnographic sites, or historic-era built environment resources were identified during survey of the project site, and none have been previously recorded within the project site (Natural Investigations Company 2021). Although the potential for discovery of buried archaeological materials within the project site is considered to be low, it is possible that previously unknown historical resources could be discovered during grading and excavation work associated with construction of the project. Inadvertent discovery or damage to historical resources would be a significant impact. Implementation of **Mitigation Measure CULT-1** would ensure that the project would not result in adverse changes to historical or archaeological resources, by requiring cessation of work, evaluation of significance, and implementation of proper data recovery and/or preservation procedures upon discovery of previously unknown resources. As such, implementation of **Mitigation Measure CULT-1 would** reduce this impact to a **less than significant** level.

Mitigation Measure CULT-1. Inadvertent discovery of historical and archaeological resources.

In the unlikely event that buried cultural deposits (e.g., prehistoric stone tools, milling stones, historic glass bottles, foundations, cellars, privy pits) are encountered during project implementation, all ground-disturbing activity within 50 feet of the resources shall be halted and a qualified professional archaeologist (36 CFR 61) shall be notified immediately and retained to assess the significance of the find. Construction activities could continue in other areas. If the find is determined to be significant by the qualified archaeologist (i.e., because it is determined to constitute either a historical resource or a unique archaeological resource), the archaeologist shall develop appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.

b) No prehistoric or historic-era archaeological sites or ethnographic sites were identified during survey of the project site (Natural Investigations Company 2021). However, it is possible that buried or concealed archaeological resources could be present that may be discovered during ground-disturbing and other construction activities associated with the project. Inadvertent discovery or damage to archaeological resources would be a significant impact. Implementation of the following mitigation would reduce this impact to a less-than-significant level. Implementation of **Mitigation Measure CULT-1** would ensure that the project would not result in adverse change to archaeological resources, by requiring cessation of work, evaluation of significance, and implementation of proper data recovery and/or preservation procedures upon discovery of previously unknown resources. Therefore, this impact would be reduced to a **less than significant** level.

c) Based on the documentary research described above, no evidence suggests that any prehistoric or historic-era marked or unmarked human interments are present within or in the immediate vicinity of the project site (Natural Investigations Company 2021). However, there is the potential for unmarked, previously unknown Native American or other graves to be present and be uncovered during construction activities. California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and grave-associated items from vandalism and inadvertent destruction and any substantial change to or destruction of these resources would be a significant impact. Implementation of **Mitigation Measure CULT-2** would ensure that proper procedures would be followed in the event of the discovery of previously unknown human remains. Therefore, this impact would be reduced to a **less than significant** level.

Mitigation Measure CULT-2. Inadvertent discovery of human remains.

In accordance with the California Health and Safety Code (CHSC), Section 7050.5, and the Public Resources Code (PRC) 5097.98, regarding the discovery of human remains, if any such finds are encountered during project construction, all work within the vicinity of the find shall cease immediately, a 50-foot-wide buffer surrounding the discovery shall be established, and the YCWA shall be immediately notified. The County Coroner shall be contacted immediately to examine and evaluate the find. If the coroner determines that the remains are not recent and are of Native American descent, the Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

2.6 Energy

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☑	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☑	☐

2.6.1 Setting

The location where the concrete pad will be built and the adjacent shed have no existing power source. However, there are existing overhead power lines on the hillside between Proposed Project site and the powerhouse.

The Proposed Project site would require power to maintain and test the transformer fans and pumps. Power is also required at the shed adjacent to the back-up GSU transformer site. Thus, a component of the Proposed Project would extend power from the existing overhead line between the powerhouse and intake structure up a steep hill to the site. Given the nature of the Proposed Project, the sources of energy that would be most relevant are electricity to maintain and test the transformer, oil used to operate the step-up transformer, and short-term consumption of diesel and gasoline powered construction equipment.

2.6.2 Discussion

a, b) Construction

Proposed Project construction would involve consumption of energy resources related to use of oil, gasoline, and diesel fuel for construction work vehicle trips, cement truck trips, materials, delivery truck trips, and operation of off-road construction equipment. Construction would not require the use of natural gas appliances or equipment. Diesel-powered construction equipment includes a small excavator, small loader (bobcat), a steel delivery truck, power auger, and concrete truck. However, at most, only two pieces of diesel-powered construction equipment would operate at one time during the construction period. Equipment would operate on average for eight hours per day. This represents a small demand on local and regional fuel supplies and demand would cease as soon as construction was complete. Further, this construction-related energy consumption would be temporary and there would be no noticeable effect on peak or baseline demands for energy.

The operation of all construction equipment would be regulated by the CARB In-Use-Off-Road Diesel Vehicle Regulation. This regulation is intended to reduce emissions from in-use off-road, heavy-duty diesel vehicles by limiting idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into construction fleets, reducing emissions by retiring, replacing, or repowering older engines. These regulations would result in the use of fuel-efficient construction vehicles.

Based on FRAQMD's Indirect Source Review Guidelines, the Proposed Project is a "Type 1" project, which is a land use that would generate operational emissions. A Type 1 project is considered to have a less than significant impact if the daily construction and operational emissions do not exceed 25 pounds per day (lbs/day) of nitrogen oxide (NO_X) or reactive organic gases (ROG), and the daily emissions of 80 lbs/day of PM_{10}, as shown above in Table 3. As shown above in Section 3.3, Air Quality Table 4 and Table 5, daily and annual emissions would not exceed the FRAQMD thresholds of significance for construction or operational emissions.

Maintenance and Operations

The Proposed Project would extend power to the site from the existing overhead line between the powerhouse and intake structure up a steep hill to the site. Once the concrete pad is complete and power has been extended to the site, the electrical infrastructure would be installed. Power would also be supplied to the existing storage shed that is located adjacent to the proposed concrete pad location. This power source in the shed would be available for YCWA to use occasionally if they needed a source of electrical power while in the area.

Operational activities would consist of testing the transformer fans and pumps monthly to ensure the bearings remain ready for operation if the spare generator is needed for service. Testing the fans and pumps would require approximately five minutes per month (one hour per year) to complete. Because staff visit the powerhouse frequently, there would be no additional vehicle trips necessary to maintain and operate the Proposed Project. For the shed, YWCA would use the power source infrequently to plug-in equipment.

The additional use of electricity to test the transformer fans and pump monthly and to provide power in the shed would not result in much additional energy use relative to existing conditions.

Based on the above considerations, the Proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Further, the Proposed Project would not conflict with or obstruct a State or local plan for renewable energy and energy efficiency. As such, the Proposed Project would have a **less than significant** impact on energy.

2.7 Geology/Soils

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☑	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑

2.7.1 Setting

Geological and Soil Characteristics

The project area is generally comprised of Paleozoic metasediments and metavolcanics, metavolcanic, granitic formation, Paleozoic and Mesozoic plutonic rocks, and a Mesozoic ophiolite (USGS 2005). The bedrock around the Proposed Project area is classified as Jurassic-Mafic volcanic and consists of dikes, interdike metavolcanic rocks, and intrusive quartz diorite.

Two primary soil types are located within the Proposed Project area (NRCS 2021). The Auburn-Sobrante complex is well-drained shallow soil found on hillslopes or toeslopes. The top 20 to 24 inches are a silt loam with some clay content that transitions to weathered schist parent rock with depth, up to 34 inches. The Sobrante-Timbuctoo is a well-drained, shallow to moderately deep soil. The top 20 to 24 inches are a silty and gravelly loam to clay loam; clay content increases with depth. The bottom 34 to 45 inches also include increasing metamorphic igneous material. Ridge tops, such as where the Proposed Project will be constructed, are capped by Eocene auriferous sediments deposited by the ancestral Yuba River, Miocene-Pliocene rhyolites, rhyolitic sediments, and esitic lahars (USGS 2005).

Seismicity

The region lies within an area of relatively low seismic activity. There are no Alquist-Priolo seismic faults located in Yuba County. The Cleveland Hill Fault, located about 20 miles northeast of Marysville was the source of the 1975 Oroville earthquake which was a 5.7 magnitude event. This earthquake is associated with the first historic surface rupture in the Sierra Nevada foothills. The Foothills Fault system in Yuba County is a continuation of the Cleveland Hill Fault (USACE 2012). The Swan Ravine Fault, part of the Foothills Fault System, northern reach section, is located approximately 3.5 miles west of the Project site, and the Spenceville Fault, also within the Foothills Fault System, northern reach section, is located approximately 6.5 miles south of the Project site). It is estimated that the seismic activity in the Proposed Project vicinity has a very long recurrence

interval. Thus, special seismic zoning for the Foothills Fault system is not necessary (USACE 2012).

Paleontological Resources

Project plans, geologic maps of the project site, and relevant geological and paleontological literature were reviewed to determine which geologic units are present within the project site and whether fossils have been recovered within the project site or from those or similar geologic units elsewhere in the region. A search for known fossil localities was also conducted on May 27, 2021, by Natural Investigations Company through the online collections database of the University of California Museum of Paleontology (UCMP) in order to determine the status and extent of previously recorded paleontological resources within and surrounding the project site.

The UCMP database indicates there are no vertebrate localities, one invertebrate locality, and two fossil plant localities in Yuba County, none of which are in the project vicinity (UCMP 2021). The invertebrate locality, which is Recent in age, and the Tertiary-age marine plant localities have no specimens listed in the database.

None of the rock units listed in the UCMP database for Yuba County are present within the project site, which is underlain by the sheeted and unsheeted dike complex (dc) of the Late Jurassic (~160 million years) Smartville Complex (Saucedo and Wagner 1992).

Paleontological Sensitivity

The igneous rocks that underlie the project site have a zero sensitivity for paleontological resources, as fossils are absent due to the high temperature and pressure conditions associated with their formation. Additionally, the project site contains no unique geologic features.

2.7.2 Discussion

a-i−iii) The Proposed Project area is not located within an Alquist Priolo Earthquake Fault Zone. The Proposed Project sites are located a considerable distance from the Cleveland Hills fault, that is considered active. Although there is a low probability for earthquake hazards, there is potential for some ground shaking to occur if an earthquake were to occur within the Cleveland Hills Fault.

The concrete pad and containment walls would be designed using sound engineering practices and the 2019 California Building Code requirements. As part of the building code structures must be designed to resist minor earthquake without damage, resist moderate earthquakes without structural damage but with some nonstructural damage, and resist major earthquakes without collapse but some structural and nonstructural damage. As such, there would be **less than significant** impact on the exposure of people or structures to adverse effects involving fault lines or seismic-related ground shaking and failure.

a-iv) The Proposed Project occurs at the top of and along a hillside. The Proposed Project does not include any tree or root removal. Only minimal vegetation will be removed at the site of the concrete pad area and some trees will be trimmed along the hillside where the overhead power lines and power poles will be installed. The Proposed Project does not

include any activities that would create or exacerbate slope failure. As such there would be **no impact** related to landslides.

b) Construction of the Proposed Project involves minimal excavation. The temporary exposure of disturbed soils could result in soil erosion. However, the Proposed Project would be constructed during dry periods which would ensure minimal potential erosion or loss of topsoil.

After construction is complete any remaining exposed earthwork would be seeded and mulched to ensure that erosion does not occur during the wet season. It is anticipated that disturbed sediments would be substantially stabilized and resistant to mobilization and transport within the first year after construction is finished. Therefore, the Proposed Project would have a **less than significant** impact on soil erosion and loss of topsoil.

c) The Proposed Project site is not located in an area of unstable geological materials. Furthermore, the Proposed Project would not affect the stability of the underlying materials. Therefore, the Proposed Project would have a **less than significant** impact on the potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

d) The Proposed Project is not in an area containing expansive soils. Therefore, the Proposed Project would have **no impact** on the risk to life or property from expansive soils.

e) The Proposed Project would not involve the construction of septic tanks or alternative wastewater disposal systems. Therefore, the Proposed Project would have **no impact** on soils utilized for septic tanks or alternative wastewater disposal systems.

f) No paleontological resources or unique geologic features are known to exist within or near the project site. As noted, the project site is underlain by Late Jurassic igneous rocks that have zero sensitivity for paleontological resources. No mitigation measures for paleontological resources are required. Therefore, the Proposed Project would have **no impact** on a unique paleontological resource or site or unique geologic feature.

2.8 Greenhouse Gas Emissions

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

2.8.1 Setting

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).

The United Nations IPCC expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatonnes of anthropogenic CO2 was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Furthermore, since the late 1700s to 2019, estimated concentrations of CO_2, methane, and nitrous oxide in the atmosphere have increased by over 46 percent, 163 percent, and 23 percent, respectively, primarily due to human activity (U.S. EPA 2021b). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40

percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target.

The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (discussed further below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017).

Thresholds

Individual projects do not generate sufficient GHG emissions to influence climate change directly. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines Section 15064[h][1]). According to the CEQA Guidelines, projects can tier off of a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in its white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (AEP 2016). Neither the Yuba County Water Agency nor Yuba County has an adopted GHG reduction plan and thus this approach is not currently feasible for this analysis.

To evaluate whether a project may generate a quantity of GHG emissions that may have a significant impact on the environment, a number of operational bright-line significance thresholds have been developed by state agencies. Significance thresholds are numeric mass emissions thresholds which identify the level at which additional analysis of project GHG emissions is necessary. Projects that generate less than the significance target, with or without mitigation, would result in less than significant GHG emissions.

FRAQMD has not established quantitative significance thresholds for evaluating GHG emissions in CEQA analyses. Instead, FRAQMD, in its *Indirect Source Review Guidelines*, recommends using the California Air Pollution Control Officers Association *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act* white paper and other resources when developing GHG evaluations (FRAQMD 2010; California Air Pollution Control Officers 2008). The CEQA and Climate Change paper provides a common platform of information

and tools to support local governments and was prepared as a resource, not as a guidance document. However, CEQA Guidelines section 15064.4 expressly provides that a "lead agency shall have discretion to determine, in the context of a particular project," whether to "[u]se a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use." A lead agency also has discretion under the CEQA Guidelines to "[r]ely on a qualitative analysis or [quantitative] performance-based standards."

The *Yuba County 2030 General Plan* includes the following applicable policies related to reducing GHG emissions in Yuba County (Yuba County 2011b):

- **Policy HS5.5**: For proposed industrial projects, including those with new stationary sources of emissions and other uses where location, land use mix, and density is not an important indicator of GHG emissions rate, the County will require incorporation of feasible technologies or management practices and best available control technologies, in coordination with Feather River Air Quality Management District, and in compliance with regulations effective at the time of project review.

- **Policy HS6.1:** New developments shall implement emission control measures recommended by the Feather River Air Quality Management District for construction, grading, excavation and demolition, to the maximum extent feasible.

In light of the lack of a specific GHG threshold from FRAQMD, it is appropriate to refer to guidance from other agencies when discussing GHG emissions. Thus, for the purposes of this analysis, thresholds developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) are considered to determine the significance of GHG emissions. These thresholds are intended to evaluate a project for consistency with GHG targets established in AB 32, SB 32, and the 2017 CARB Climate Change Scoping Plan, particularly for operational emissions occurring post 2030. SMAQMD recommends the following project-level threshold for construction GHG emissions (SMAQMD 2021):

- 1,100 MT of CO_2e per year for construction related GHG emissions

Methods

Emissions associated with construction activities were estimated using CalEEMod, version 2020.4.0 (see Appendix D). Construction would include mobilization, clearing and grubbing, construction of concrete pad, extending power to the Project site by installing new power poles from the powerhouse, installation of electrical infrastructure, and demobilization phases. Construction equipment, phases, and schedule were provided by the project engineer, as described in Section 1, Project Description. For phases where construction equipment was not provided, default CalEEMod assumptions were used. Assumptions were also made regarding average worker commute trips by construction phase, average haul truck capacity (13 yd^3), and worker, vendor, and hauling trip lengths, as detailed in Section 3.3, Air Quality. CalEEMod assumptions and results are summarized in Appendix E.

2.8.2 Discussion

a) Construction activity is estimated to occur over a period of approximately 10 weeks. As shown in Table 7, construction activity for the Proposed Project would generate an estimated 11 MT of CO_2e. Construction related GHG emissions from the Proposed Project would not exceed the SMAQMD threshold of 1,100 MT of CO_2e per year. Therefore, impacts would be **less than significant.**

Table 7. Estimated Construction Emissions of Greenhouse Gases

Construction Year	Annual Emissions (CO_2e MT/year)
2022	11
CO_2e = carbon dioxide equivalents; MT= Metric Tons [1]Modeled values represent total emissions that would occur over the duration of the construction period. See Appendix F for detail on model inputs, assumptions, and project specific modeling parameters.	

b) The Proposed Project would be generally consistent with applicable regulations and plans addressing GHG reductions. As discussed in paragraph "a" above, the Proposed Project's construction emissions would not exceed SMAQMD recommended thresholds for GHG emissions. SMAQMD's recommended construction and operational thresholds and mitigation measures were developed to show consistency with the GHG reduction goals of AB 32 and SB 32. Therefore, the Proposed Project would not conflict with or obstruct implementation of CARB's 2017 Scoping Plan for achieving GHG reductions consistent with AB 32 and SB 32 and would achieve reductions consistent with SMAQMD's guidance. The Proposed Project would also be consistent with the *Yuba County 2030 General Plan* since it would implement construction BMPs to control fugitive dust during construction (Policy HS6.1) and there would be no GHGs generated during project operation. This impact would be **less than significant**.

2.9 Hazards & Hazardous Materials

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☑
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☑	☐

2.9.1 Setting

Existing and past land uses are used as common indicators of sites where hazardous material storage and use may have occurred, or where potential contamination may currently exist. Although common household products such as solvents, household cleaning products and gasoline are present in Yuba County there are programs in place to ensure that these wastes are disposed of properly. Hazardous materials and wastes are regulated by federal and state laws and are required to be recycled or properly disposed.

Yuba County is the local Certified Unified Program Agency that manages programs for hazardous materials storage and hazardous waste disposal. No hazardous waste sites are located within or adjacent to the project area (California Department of Toxic Substances Control 2018). The potential severity of a hazardous material incident depends on the type, location, and quantity of the material released. The potential for hazardous material or waste spills during transport generally reflects the greatest risk of public exposure given residences that are typically close to transportation corridors.

The Proposed Project sites are located on land owned by YCWA. Project sites are in an area identified by the CalFire with very high fire hazard severity (CalFire 2019), which is the highest fire hazard rating. Project sites are located within the Smartsville Fire Protection District of the Yuba County Foothills Wildfire Protection Plan.

The Proposed Project sites are generally located within the “threat” zone of the Smartsville Fire Protection District, which is the lowest level of risk to people or structures, aside from unrated lands. A number of wildfires have ignited in the vicinity of the project area and are documented in Yuba County’s Wildfire Protection Plan (Yuba County 2014). However, this district has a lower overall wildfire risk than surrounding areas because the predominant fuels that will carry fire in

the lower elevations are grass. Altogether, the results of the Wildfire Protection Plan assessment place the project area in an area of moderate wildland fire hazard. Nevertheless, based on CalFire's assessment, steep slopes, and highly flammable vegetation in the project vicinity the Proposed Project is considered to be at very high risk of wildfire.

There are no airports in the vicinity of the Proposed Project. The closest airport is Beale Air Force Base which is approximately 10 miles from the Proposed Project Site.

2.9.2 Discussion

a) Hazardous materials such as fuel, and potentially other construction materials, would be present on the project site for the Proposed Project. During the construction period, vehicle and maintenance fluids would be stored at the construction staging areas and no acutely hazardous materials would be used. All potentially hazardous materials would be used in accordance with applicable federal, state, and local laws, including Cal-OSHA requirements and manufacturer's instructions. Therefore, the Proposed Project would have a **less than significant** impact on the creation of a significant hazard to the public or the environment through the routine transport of disposal materials.

b) As discussed above in paragraph "a" the Proposed Project would not result in the routine transport, use, disposal, handling, or emission of any hazardous materials that would create a significant hazard to the public or the environment.

The back-up GSU transformer would contain oil such that it is operationally ready should it be needed at the powerhouse. If an oil leak were to develop and cause oil to drain in the area or to the vegetated hillside it could create a significant hazard to the public or environment. Numerous measures would be implemented to ensure that any oil leak that could develop would be immediately contained. First, a concrete pad and 2' tall by 6" wide containment walls would surround the GSU transformer to contain any oil should it leak. The containment area would be sufficient to contain any oil should it leak from the back-up GSU transformer. Second, if an oil leak does occur, all oil would be pumped from the containment area using the drain valve to a tanker truck and hauled off-site to specialized facility that accepts waste oil as outlined in YCWA's SPCC (AMM 5). Finally, monthly maintenance would include YCWA personnel inspecting the equipment to ensure that it was in proper working order and not leaking or prone to any type of leak.

The containment walls combined with the SPCC (AMM 5) and regular maintenance would reduce the potential for any oil leaks to move past the containment walls and affect the surrounding area or any area downslope of the Proposed Project. As, such, operations and maintenance of the Proposed Project would not be expected to create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions. Therefore, the Proposed Project would have a **less than significant** impact on the creation of a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions.

c) The project area is not located within one-quarter mile of an existing or proposed school. Therefore, the Proposed Project would have **no impact** on a school as related to emission of hazardous materials, substances, or waste.

d) Under Government Code § 65962.5, the DTSC and the State Water Board are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. DTSC and State Water Board lists indicate no open cases of hazardous waste violations on or near the Proposed Project site. Therefore, the Proposed Project is not located on a parcel included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 (DTSC 2021; State Water Board 2021). As such, the Proposed Project would have **no impact** on the related safety of people residing or working in the project area.

e) The Proposed Project is not located within an airport land use plan or within two miles of a public airport or public use airport. In fact, the closest airport is Beale Air Force Base which is approximately 10 miles from the Proposed Project Site. The Proposed Project is outside of the Beale Air Force safety zones. Therefore, the Proposed Project would have **no impact** on safety hazards or excessive noise for people residing or working in an airport land use plan area or within two miles of a public or public use airport.

f) Construction of the Proposed Project would require hauling of equipment and materials on county- and state-maintained roads, which could temporarily slow the passage of vehicles during emergencies. However, project-related construction activities would be temporary over the course of approximately 10 weeks requiring up to approximately two to three construction-related trips per day during the most intensive portion of the construction period. Thus, the project-related trips would not substantially hinder the passage of emergency vehicles or the implementation of any evacuation plan. Therefore, the Proposed Project would have a **less than significant** impact on an emergency response plan or emergency evacuation plan.

g) Construction activities for the Proposed Project's facilities would occur in an area designated by CalFire as very high fire hazard severity "very high" wildland fire risk. Although the Wildfire Protection Plan assessment places the project area in an area of moderate wildland fire hazard the combination of steep slopes, vegetation, and CalFire designation suggest the area is at very high fire risk. Construction of the Proposed Project could present a potential for substantial risk of wildland fire if proper fire prevention measures are not implemented. However, as indicated in Section 1.3.10, a fire plan would be developed and implemented for the construction activities that would reduce the potential construction-related fire hazard. The fire plan would include standard fire prevention measures such as identifying construction sites as non-smoking areas, training personnel about potential for equipment to generate sparks, and equipping personnel with portable communication devices.

Under existing conditions there are a number of power poles on the hillside uphill from the powerhouse. The Proposed Project would only add two new poles with enough additional overhead electrical lines to reach the back-up GSU transformer and adjacent shed. While

the Proposed Project would result in additional overhead electrical lines, the increase in risk of ignition associated with the additional line would be minimal relative to existing conditions as there are already numerous overhead wires on the same hillside. In addition, annual maintenance will include tree trimming, which will significantly reduce the potential of trees coming into contact with the overhead lines. The new electrical line equipment would be less likely to generate fires than older aging equipment. Further, multiple personnel are traveling down the access road to the powerhouse on a daily basis. In the event that any equipment failure occurred, YCWA personnel would be onsite daily to respond to such failure and to any potential increase for fire generation as well as having access to firefighting equipment housed at the powerhouse.

Therefore, the Proposed Project would have a **less than significant** impact on the exposure of people or structures involving wildland fires.

2.10 Hydrology/Water Quality

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☑	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	☐	☐	☐	☑
c) Substantially alter the existing drainage pattern of the site or area including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would;				
i. Result in substantial erosion or siltation on-or off site;	☐	☐	☑	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☑	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☑	☐
iv. Impede or redirect flood flows	☐	☐	☑	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants to project inundation.	☐	☐	☐	☑
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	☐	☐	☐	☑

2.10.1 Setting

The Proposed Project site is located in the Upper Yuba Watershed (Hydrologic Unit Code #18020125) within the greater Sacramento River hydrologic region. The Sacramento River hydrologic region covers approximately 17.4 million acres (27,200 square miles). The Yuba River has three forks: North, Middle, and South Yuba. The North and Middle Yuba Rivers converge below New Bullards Bar Reservoir and form the mainstem Yuba River. Englebright Dam marks the division between the Upper and Lower Yuba River.

The lower Yuba River is a tributary to the Feather River, which is the largest natural tributary to the Sacramento River. The Upper Yuba Watershed drains approximately 1,340 square miles of the western slope of the Sierra Nevada, including portions of Sierra, Placer, Yuba, and Nevada Counties and is approximately 40 miles from east to west at its confluence with the Feather River in Marysville, CA.

Site Hydrology

The Proposed Project site is located on the western side of Englebright Reservoir. The Proposed Project construction will primarily occur on a graded gravel area on the top of a hill. A small staging area would also be located nearby in a graded gravel area. Power pole installation and associated overhead power lines will be installed on the steep hillside between the powerhouse and back-up GSU transformer site within the graded gravel area.

Storm drainage in the area is provided through natural drainage. There is one existing aboveground 1’ diameter plastic storm drainage pipe that runs from a gravel graded area approximately 1/10 of a mile north of the site to the lake. However, stormwater at the Proposed Project site would likely percolate into the ground or flow into Englebright Lake from the hillside directly adjacent to the Proposed Project site.

Regulatory Framework and Water Quality

The federal Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants to surface waters within the United States. The CWA authorizes the U.S. EPA to delegate many permitting, administrative, and enforcement aspects of the law to state governments. In such cases, however, U.S. EPA still retains oversight responsibilities. Such responsibility has been delegated to the State of California, which administers the CWA through the State Board and nine regional water quality control boards (Regional Boards).

The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by Section 303 of the federal CWA to establish water quality standards (i.e., water quality objectives, beneficial uses, and anti-degradation policies) for the protection of navigable waters (Central Valley Regional Board 2018). The Proposed Project site is under the Basin Plan for the Sacramento River Basin and San Joaquin River Basin (Central Valley Regional Board 2018). The Central Valley Regional Board designates beneficial uses and water quality objectives for the Yuba River. Designated beneficial uses for surface waters in the Yuba River reach upstream of Englebright Dam include: municipal and domestic supply, hydropower, irrigation, stock watering, contact and non-contact recreation, cold freshwater habitat, spawning of coldwater fishes, and wildlife habitat.

The Basin Plan's designated existing beneficial uses for the Yuba River downstream of Englebright Dam are hydropower, irrigation, stock watering, contact and non-contact recreation, warm and cold freshwater habitat, migration of warmwater and coldwater aquatic organisms, spawning of warmwater and coldwater fishes, and wildlife habitat.

Englebright Reservoir and the lower Yuba River from Englebright Reservoir to the Feather River are Clean Water Act (CWA) Section 303(d) listed for impairments associated with mercury. Total maximum daily loads for the mercury listings in the Yuba River Basin are expected to be completed by 2027. The Yuba River watershed contains a substantial amount of sediments with mercury, as a result of the large-scale use of mercury in historical gold mining operations. It is transported by erosion processes and can be converted into methylmercury by bacteria within the sediments. Methylmercury bioaccumulates through the trophic levels of the food chain such that the top trophic levels (i.e., larger predatory fishes) have greater concentrations of methylmercury in their tissues than do the lower trophic levels (e.g., algae and invertebrates). The California Office of Environmental Health Hazard Assessment evaluates bioaccumulation of mercury in fishes and, when appropriate, issues fish ingestion advisories. It issued mercury-based fish ingestion advisories for Englebright Reservoir in 2009 and 2017 (FERC 2019).

The Proposed Project is less than one acre so it would not be required to obtain NPDES coverage under Orders 2010-0014-DWQ and 2012-0006-DWQ (General Construction Permit). Instead, standard BMPs to control pollution and stormwater runoff are incorporated into AMM 3 (see Section 1.3.10).

2.10.2 Discussion

a) The following discussion addresses potential effects to water quality from temporary construction and long-term operations and maintenance of the Proposed Project.

Construction

The only construction activity that that could potentially effect water quality within Englebright Reservoir is the installation of power poles on the steep hillside between the powerhouse and intake structure. Power pole installation would occur on the vegetated hillside directly upslope (approximately 150 ft) of Englebright Reservoir. Holes for the new power poles will be bored five to eight ft deep using a power auger with a rock bit attached to a tracked skip loader. Once the poles are secured in the hole it will be backfilled with clean gravel.

Work for the power pole installation is planned to occur in a single construction period, over the course of four weeks, during periods of low rainfall (less than ¼-inch per 24-hour period) and periods of dry weather (with less than a 40% chance of rain) to ensure related stormwater runoff at the site would be minimal. Power pole installation could result in temporary water quality effects to the following physical or chemical constituents: total suspended solids (TSS), turbidity, oil and grease, petroleum hydrocarbons, and trash. Construction-related eroded soil and runoff also may contain organic matter, plant nutrients (nitrogen and phosphorus), and other contaminants such as trace metals.

All other construction activities would occur on top of the hillside in the gravel graded areas and would not have potential to affect water quality within Englebright Reservoir. As such these other construction activities are not discussed further.

Total Suspended Solids and Turbidity

The distance between the power pole installation site and Englebright Reservoir (i.e., approximately 150 ft up a vegetated hillside from the reservoir) reduces potential for water quality effects to occur from the Proposed Project. Nevertheless, small direct discharges of soil and suspended sediment to Englebright Reservoir resulting in increases in TSS and turbidity levels could potentially occur.

Aquatic life beneficial uses would be most sensitive to elevated TSS and turbidity levels in Englebright Reservoir. At very high and sustained levels, TSS/turbidity can reduce feeding and growth; displace juveniles; cause physiological stress, respiratory impairment, and gill damage; reduce tolerance to disease and toxicants; reduce survival; and cause direct mortality (Sigler et al. 1984, Stern 1988, Newcombe and Jensen 1996, Bash et al. 2001, Madej et al. 2004). However, the temporary nature of the construction during a four-week dry period, the location of the power pole installation on the hillside, and implementation of appropriate erosion control and pollution prevention BMPs (AMM 3) would all avoid and minimize construction-related erosion and potential for TSS and turbidity from the construction work to enter into Englebright Reservoir.

In short, runoff from the power pole installation site during construction of the Proposed Project is not expected to occur, however if in the unlikely event runoff did enter Englebright Reservoir, the area of the reservoir that would be affected would be very small and TSS/turbidity levels in Englebright Reservoir would not reach levels high enough, or last long enough, to cause adverse feeding or growth effects, permanently displace juvenile fishes from the area, cause physiological stress, cause respiratory impairment or gill damage, reduce fish health and thus tolerance to disease and toxicants, reduce survival, or cause direct mortality. Moreover, if elevated TSS/turbidity levels were to occur they would return to background levels every night (i.e., half of every 24-hour period), and would not reach TSS/turbidity levels as high as those that occur every winter during and immediately following substantial rain events.

There would be no potential for soil disturbance or generation of TSS after completion of the Proposed Project because all disturbed areas would be hydroseeded (See AMM 6; Section 1.3.10) to prevent erosion and after substantial revegetation, there would be no new exposed soils relative to those that occur under existing conditions. As such, the Proposed Project would not contribute to long-term changes in TSS and turbidity levels in Englebright Reservoir, the Yuba River, or downstream waterbodies.

Petroleum Hydrocarbons and Other Construction-Related Contaminants

The use of motorized equipment, and storage and handling of fuels and equipment lubricants and fluids, may result in petroleum product discharges that could be harmful to water quality if they directly enter Englebright Reservoir or are spilled on the ground where they may enter the groundwater, or be mobilized and transported in stormwater runoff

following construction. Other potential construction-related contaminants associated with the equipment used or inadvertently discharged by construction workers may include trash, cleaners, solvents, and human sanitary wastes.

Aquatic life beneficial uses would be most sensitive to the discharge of contaminants to Englebright Reservoir. For example, petroleum products can cause oily films to form on the water surface that can reduce dissolved oxygen levels available to aquatic organisms. The magnitude of effects on aquatic life resulting from accidental contaminant spills would depend on several factors related to the spill, including the proximity to the water body; the type, amount, concentration, and solubility of the contaminant; and the timing and duration of the discharge. The severity of the effect would also depend on species and life stage sensitivity, duration of exposure, condition, or health of individuals (e.g., nutritional status), and physical or chemical properties of the water (e.g., temperature, dissolved oxygen). Potential effects can range from no effects to mortality of aquatic organisms.

The greatest potential for construction related contaminants to enter Englebright Reservoir would occur from operating the power auger and tracked skip loader to install the power poles. However, as stated above, power pole installation would be conducted during a four-week period when stormwater runoff would be low or nonexistent (i.e., during periods of low rainfall (less than ¼-inch per 24-hour period) and periods of dry weather (with less than a 40% chance of rain). Further, YCWA would require its contractors to implement appropriate construction BMPs for all activities that may result in the discharge of construction-related contaminants from disturbed construction areas.

Implementation of appropriate pollution prevention BMPs would avoid and minimize construction-related contaminant discharges. Except for the power pole installation described above, most of the Proposed Project site and Englebright Reservoir are separated by a vegetated hillside (i.e., over 150 ft). As such, the potential for indirect discharges of contaminants during the construction period, or via stormwater runoff following construction into Englebright Reservoir, is considered very low.

In summary, the risk of direct discharges of construction-related contaminants to water would be very low, site disturbances would be of short duration during a single season when with limited exposure to rainfall and stormwater runoff, and implementation of construction BMPs would further avoid and minimize potential adverse construction-related effects. Additionally, because construction-related disturbances and potential constituent discharges would be relatively small and temporary, construction activities would not be expected to cause any substantial increase in levels of any bioaccumulative pollutants that would result in measurably higher body burdens of a pollutant in aquatic organisms or wildlife, nor contribute to long-term water quality degradation from mercury by measurable levels such that the Clean Water Act Section 303(d)-designated beneficial use impairment for Englebright Reservoir and the Yuba River would be made discernibly worse. Furthermore, the Proposed Project would not be expected to cause constituent discharges of sufficient frequency and magnitude to result in a substantial increase of exceedances of water quality objectives/criteria, nor substantially degrade water quality

with respect to constituents of concern, and thus would not adversely affect any beneficial uses in Englebright Reservoir or the Yuba River.

Operations and Maintenance

The back-up GSU transformer would contain oil such that it is operationally ready should it be needed at the powerhouse. As described directly above in construction, if an oil leak were to develop and cause oil to drain over the vegetated hillside and into Englebright Reservoir, aquatic life beneficial uses would be most sensitive to oil discharged into Englebright Reservoir.

Numerous measures would be implemented to ensure that any oil leak that could develop would be immediately contained. First, a concrete pad and 2' tall by 6" wide containment walls would surround the GSU transformer to contain any oil should it leak. These containment walls would be sufficient to contain any oil should it leak from the back-up GSU transformer. Second, if an oil leak does occur, all oil would be pumped from the containment area using the drain valve to a tanker truck and hauled off-site to a specialized facility that accepts waste oil as outlined in YCWA's SPCC (AMM 5). Finally, monthly maintenance would include YCWA personnel inspecting the equipment to ensure that it was in proper working order and not prone to any type of leak.

The containment walls combined with the SPCC (AMM 5), and regular maintenance would reduce the potential for any oil leaks to move past the containment walls and affect the surrounding area or any area downslope of the Proposed Project. As, such, operations and maintenance of the Proposed Project would not be expected to cause constituent discharges of sufficient frequency and magnitude to result in a substantial increase of exceedances of water quality objectives/criteria, nor substantially degrade water quality with respect to constituents of concern, and thus would not adversely affect any beneficial uses in Englebright Reservoir or the Yuba River.

Summary

In summary, the Proposed Project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality; potential construction-related and operational/maintenance-related water quality impacts would be **less than significant**.

b) The Proposed Project would not involve extraction of groundwater or a change in surface water diversion capacity that would impede groundwater recharge. Therefore, the Proposed Project would have **no impact** on groundwater supplies or recharge or the sustainable groundwater management of the underlying basin.

c) The Proposed Project would result in minor temporary changes in site hydrology resulting from construction disturbances such as excavation, general equipment use, and small amounts of vegetation removal. However, these activities would take place during dry periods, thus reducing potential for such hydrologic changes. The 18' x 27' concrete pad that would hold the back-up GSU transformer would create a small new area of impervious surface within the Proposed Project footprint.

c-i) Construction of the Proposed Project would cause temporary disturbances to occur at the location of the back-up GSU transformer and on the vegetated hillside where power pole installation would occur. Construction of the Proposed Project would occur during periods of low rainfall (less than ¼-inch per 24-hour period) and periods of dry weather (with less than a 40% chance of rain) so soil erosion is unlikely to occur from rainfall or stormwater runoff events. Implementation of erosion control BMPs would be employed to ensure no substantial erosion or siltation into surrounding drainages. Thus, the small temporary disturbance zones and earthwork would not cause substantial erosion or siltation at the Proposed Project sites or in the vicinity of the Proposed Project during construction.

At the back-up GSU transformer site the new infrastructure and associated foundations would exist in a flat gravel area. Thus, there would be no new exposed soil surfaces and no potential for generation of erosion or siltation on- or off- site during the maintenance and operational phase of the Proposed Project.

Power pole installation would occur on a steep hillside, but after construction is completed the area would be reseeded so that no soils are exposed. During maintenance activities some tree trimming would occur by hand, but this would not result in additional soil exposure. This maintenance would not cause potential increases in landslides, slope instability, or substantial drainage changes. Therefore, the Proposed Project would have a **less than significant** impact on erosion or siltation on or off-site.

c-ii) Construction of the Proposed Project would require installation of a 18' x 27' concrete pad for the back-up GSU transformer. This would create a small new area of impervious surface within the existing graded gravel area. All storm drainage in the direct vicinity of the Proposed Project is provided through natural drainage. The pervious nature of the area prevents substantial surface runoff. Creation of a new small area of impervious surface would not change runoff patterns from those that occur under existing conditions as water would continue to drain through the pervious surface.

The new impervious surface and small areas of graded soil are not large enough to cause a substantial change in the drainage pattern at the Proposed Project sites. Further, soils would continue to adsorb precipitation and not create substantial amounts of additional runoff. Therefore, the Proposed Project would have a **less than significant impact** on the amount of surface runoff from the site and on- or off-site flooding.

c-iii) As described above in paragraph "a," the Proposed Project would not result in substantial contributions of pollutants to adjacent waters. There are no existing or planned stormwater drainage systems at the Proposed Project sites. The Proposed Project would not change the existing aboveground 1' diameter plastic storm drainage pipe that is approximately 1/10 of a mile north of the location where the back-up GSU transformer platform would be constructed. Water would continue to drain through the existing gravel and soils surrounding the new concrete platform. Thus, drainage would continue to function similarly to drainage under existing conditions. The Proposed Project's contribution of

runoff water would have a **less than significant impact** on the capacity of existing or planned stormwater drainage systems or additional sources of polluted runoff.

c-iv) The Proposed Project consists of a 25 yd^3 excavation of native material for the concrete pad as well as power pole installation on the adjacent hillside. A small new area of impervious surface would be created within the existing graded gravel area for the new concrete pad. The small size of temporary and permanent disturbances would not impede or redirect flood flows. Therefore, the Proposed Project would have a **less than significant** impact on flood flows.

d) The Proposed Project is not located in a region subject to a seiche or tsunami. The Proposed Project is also not in a flood hazard zone. Further, the construction period would occur during dry periods. As such, there would be no risk of flooding during the construction period. Therefore, the Proposed Project would have **no impact** on pollutant release due to a flood hazard or due to inundation by seiche or tsunami.

e) As described above in paragraph "b" the Proposed Project would not result in depletion of groundwater or impeded groundwater recharge in the project area.

The Proposed Project site is under the Basin Plan for the Sacramento River Basin and San Joaquin River Basin (Central Valley Regional Board 2018). The Proposed Project site is not located within the boundaries of any groundwater management plan (YCWA 2010). The Sierra Foothill region of Yuba County to the east of the North Yuba and South Yuba groundwater basins is largely supplied by groundwater from fractured rock aquifers. Due to the highly unreliable and unpredictable nature of fractured-rock wells, the portion of Yuba County where the Proposed Project would occur is not covered by the YCWA Groundwater Management Plan (YCWA 2010).

The Basin Plan provides objectives for the protection of surface and ground water quality within the Sacramento River Basin. As described above, there is potential for localized small increase of sediment and turbidity in the Englebright Lake due to construction. However, these water quality impacts would be short-term and would not affect water quality in the Lower Yuba River. Additionally, implementation of AMM 3, construction BMPs, would further avoid and minimize potential adverse construction-related effects to water quality.

In summary, the Proposed Project would have **no impact** with regard to conflicting with or obstructing the implementation of a water quality control plan or sustainable groundwater management plan.

2.11 Land Use/Planning

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☑

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑

2.11.1 Setting

The Yuba County General Plan is the governing document for the Proposed Project area. The Proposed Project is located in an unincorporated area of Yuba County in an area zoned as "Public" land. Although zoned as "Public", the land is owned by YCWA and is not accessible to the public.

2.11.2 Discussion

a) The Proposed Project consists of temporary construction activities over the course of approximately 10 weeks in a rural area on privately owned lands, and there are no residential communities in the near vicinity of the Proposed Project area. Therefore, no local communities would be divided as a result of the Proposed Project. As such, the Proposed Project would have **no impact** on an established community.

b) The Proposed Project is located within lands zoned for public use. However, the land is privately owned and not accessible to the public. The Proposed Project would not affect the public use of these lands or conflict with any land use plan, policy, or regulation. Therefore, the Proposed Project would have **no impact** due to a conflict with any applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigation environmental effects.

2.12 Mineral Resources

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

2.12.1 Setting

Precious metals and commercially valuable rock and minerals are available in Yuba County, as documented in the Yuba County General Plan (Yuba County 2011a). The General Plan policies

serve to balance compatible mineral resources development and other land uses. Numerous precious metal and mineral mining operations exist within the Sierra Nevada foothills, however, there are no mineral resource extraction activities occurring within the Proposed Project area.

2.12.2 Discussion

a,b) The Proposed Project would involve a relatively minor amount of temporary construction activity. The construction activity would not result in the removal of any mineral resources potentially underlying the project area, nor preclude any future mineral extraction activities that might arise. Therefore, the Proposed Project would have **no impact** on the availability of mineral resources.

2.13 Noise

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

2.13.1 Setting

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Human Perception of Sound

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake

magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

Sound Propagation and Shielding

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions.

Sound levels are described as either a "sound power level" or a "sound pressure level," which are two distinct characteristics of sound. Both share the same unit of measurement, the dB. However, sound power (expressed as Lpw) is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers, such as an eardrum or microphone, which is the sound pressure level. Sound measurement instruments only measure sound pressure, and noise level limits are typically expressed as sound pressure levels.

Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA's guidance indicates that modern building construction generally provides an exterior-to-interior noise level reduction of 10 dBA with open windows and an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows (FHWA 2011).

Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptor used for this study is the equivalent noise level (L_{eq}).

L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A weighted sound level equal to the average

sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65 dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (DNL or L_{DN}), which is the 24 hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). Community noise can also be measured using Community Noise Equivalent Level (CNEL or LDEN), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). The relationship between the peak-hour Leq value and the LDN/CNEL depends on the distribution of noise during the day, evening, and night; however, noise levels described by LDN and CNEL usually differ by 1 dBA or less. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 CNEL, while areas near arterial streets are in the 50 to 60+ CNEL range (FTA 2018).

The *Yuba County 2030 General Plan Public Health & Safety Element* (Yuba County 2011) contains the following policies related to noise that are relevant to the Proposed Project:

- **Policy HS10-4:** If existing noise levels exceed the maximum allowable levels listed in Table Public Health & Safety-2 [see **Table 8**], projects are required to incorporate mitigation to reduce noise exposure in outdoor activities areas to the maximum extent feasible and include mitigation to achieve acceptable interior levels, as defined in Table Public Health & Safety-1.

- **Policy HS10-7**: New developments shall ensure that construction equipment is properly maintained and equipped with noise control components, such as mufflers, in accordance with manufacturers' specifications.

Table 8. Maximum Allowable Noise Exposure from Non-transportation Noise Sources at Noise-sensitive Land Uses

Noise Descriptor	Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)
Hourly Energy-Equivalent Noise Level (L_{eq})	60 dBA	45 dBA
Maximum Noise Level (L_{max})	75 dBA	65 dBA
Notes: dBA=A-weighted decibel Each of the noise levels shall be lowered by 5 dBA for simple tone noises, noises consisting primarily of speech, music or for recurring impulsive noises. These noise-level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings). Noise-sensitive land uses include schools, hospitals, rest homes, long-term care facilities, mental care facilities, residences, and other similar land uses. Source: Yuba County 2011b		

Section 8.20.310 of the Yuba County Code states that it shall be unlawful for anyone within 500 feet of a residential zone to operate construction equipment between 10:00 p.m. and 7:00 a.m. in such a manner that a reasonable person of normal sensitiveness residing the area is caused discomfort or annoyance unless a permit has been granted.

Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV), or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials (AASHTO) has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in **Table 9.**

Table 9. AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5
Source: Caltrans 2020	

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in **Table 10**.

Table 10. Vibration Annoyance Potential Criteria

Human Response	Vibration Level (in/sec PPV)

	Transient Sources	Continuous/Frequent Intermittent Sources[1]
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

[1] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with each of these uses. The Yuba County General Plan defines noise sensitive land uses as: residences, schools, hospitals, rest homes, long-term medical or mental care facilitates, and similar uses (Yuba County 2011a). Noise sensitive receivers closest to the Project site include houseboats and liveaboards in the Skipper's Cove Marina approximately a half mile (2,640 feet) east of the Project site. Therefore, this noise analysis is based on the distance to the nearest receivers from the Project site.

2.13.2 Discussion

a) Construction Noise

The Proposed Project would generate temporary construction noise that would exceed existing ambient noise levels in the project vicinity. Noise impacts associated with construction activity are a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. The nearest noise sensitive receptors, houseboats and liveaboards, are located approximately half mile (2,640 feet) east of the Project site in Skipper's Cove Marina.

Construction noise was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. RCNM provides reference noise levels for standard construction equipment, with an attenuation of 6 dBA per doubling of distance for stationary equipment and 3 dBA per doubling of distance for mobile equipment. The model does not take into consideration topographic variation of the area; as such, it provides more conservative results. Construction equipment for each phase of construction was provided by the project applicant as described in Section 1, Project Description. Using RCNM, construction noise levels were estimated for the nearest noise sensitive receiver at 2,640 feet.

Table 11 shows the maximum expected noise levels at the nearest sensitive receiver based on the combined construction equipment anticipated to be used concurrently during each phase of construction as modeled in RCNM.

Table 11. Construction Noise Levels by Phase

Construction Phase[1]	Equipment	Construction Noise Level (dBA L_{eq}) at 2,640 feet[2]	Construction Noise Level (dBA L_{max}) at 2,640 feet[2]
Mobilization	Grader, Loader	48	51
Vegetation Trimming, Clearing, and Grubbing	Grader, Dozer, Loader	49	51
Construction of Concrete Pad	Crane, Excavator, Forklift, Loader	46	46
Extend Power to the Site	Auger Drill Rig, Loader, Truck	46	50
Installation of Electrical Infrastructure	Truck	37	41

[1] Demobilization phase was not modeled because the phase would not involve use of construction equipment.
[2] Distance to nearest sensitive receiver
L_{eq} = equivalent noise level
Source: For RCNM results see Appendix C

As shown in Table 11, construction noise could reach as high as approximately 49 dBA L_{eq} and 51 dBA L_{max} at the nearest noise sensitive receiver. This exceeds the Yuba County nighttime exterior noise standards for sensitive land uses of 45 dBA L_{eq}, but does not exceed the daytime exterior noise standard of 60 dBA L_{eq} or the County's maximum noise level of 65 dBA at sensitive land uses. However, as described in Section 1, Project Description, construction would occur Monday through Friday from 7:00 a.m. to 6:00 p.m., excluding legal holidays, per AMM 1. Therefore, project construction would not occur during nighttime and thus would not exceed nighttime noise levels at the nearest receivers. Construction noise would be **less than significant.**

Operational Noise

Operation of the Proposed Project would result in a minor increase in operations at the existing facility. Additional activities would involve testing the transformer fans and pumps monthly, which would require approximately five minutes of testing per month. In addition, one day a year would be required for trimming and clearing vegetation.

Testing the transformer fans and pumps for 5 minutes a month (1 hour per year) would not be audible at nearby sensitive receivers 2,640 feet east of the Project site due to the short amount of time that equipment would be tested and the distance to receptors. Equipment would be tested during daytime hours and would not exceed the County's daytime exterior noise standards or maximum noise level standards at nearby receivers.

A single loader would be used for vegetation clearing and tree trimming. As shown in Appendix G, a single loader would result in noise levels of 41 dBA L_{eq} and 45 dBA L_{max} at the nearest noise sensitive receivers. This noise level would not exceed the Yuba County daytime or nighttime exterior noise standards for sensitive land uses or the County's maximum noise level of 65 dBA at sensitive land uses. Operational noise impacts would be **less than significant**.

b) Construction activity associated with the Proposed Project would be a temporary source of groundborne vibration in the project vicinity. Similar to construction noise, vibration levels would be variable depending on the phase of construction and related equipment use. Vibratory construction equipment used during project construction would include a small excavator. An excavator is of similar size and type as a small bulldozer, which has a vibratory level of 0.003 in/sec PPV at 25 feet (FTA 2018). This would equate to a vibration level of less than 0.001 in/sec PPV and less than 1 VdB at 2,640 feet, the distance to the nearest sensitive receiver and structure. At 2,640 feet, vibration levels would be lower than the structural damage impact threshold to residential structures of 0.2 in/sec PPV and human perception threshold of 0.25 in/sec PPV. The Proposed Project would not involve long-term use of any equipment or process that would result in substantial levels of groundborne vibration. Impacts would be **less than significant**.

c) The Project site is not located within an airport land use plan, within two miles of a public airport or public use airport, or in the vicinity of a private air strip. There are no airports in the vicinity of the Proposed Project. The closest airport is Beale Air Force Base which is approximately 10 miles from the Proposed Project Site. Therefore, the Proposed Project

would have **no impact** and would not subject people to excessive noise levels from airports.

2.14 Population/Housing

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

2.14.1 Setting

The Proposed Project is located in a rural area of unincorporated Yuba County. Scattered rural residences are located around Englebright Reservoir. The community of Smartsville is the closest residential area and is located approximately three miles southwest of the project area.

2.14.2 Discussion

a, b) The Proposed Project would not include construction of new housing or commercial businesses. Construction would be short-term and would not result in construction employees relocating to the project vicinity. No additional permanent staff would be needed for project operation. The Proposed Project would not remove any homes or result in displacement of people. Therefore, the Proposed Project would have **no impact** on population growth, displacement of existing housing, or displacement of people.

2.15 Public Services

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
i) Fire protection?	☐	☐	☐	☑
ii) Police protection?	☐	☐	☐	☑
iii) Schools?	☐	☐	☐	☑
iv) Parks?	☐	☐	☐	☑
v) Other public facilities?	☐	☐	☐	☑

2.15.1 Setting

The Proposed Project site is located in the jurisdiction of the CAL-FIRE Nevada-Yuba-Placer Unit which serves as the fire lead agency within the State Responsibility Areas. The nearest CAL-FIRE station is at 8839 Hwy 20 Smartsville, Ca, approximately 11 miles from the Project site. The Smartsville Fire Protection District offers volunteer firefighting services to the area. Law enforcement services for the project area are provided by the Yuba County Sheriff's Department from the Brownsville office approximately 10 miles west of the Proposed Project site. The nearest school is the Pleasant Valley Elementary School in Penn Valley, California approximately four miles from the Proposed Project site.

2.15.2 Discussion

a) The Proposed Project involves temporary construction activities, vegetation maintenance, and permanent placement of the back-up GSU transformer and associated infrastructure on a relatively small area of YCWA owned-lands, which would not directly or indirectly affect existing public services, nor require alteration or provision of additional public services. Therefore, the Proposed Project would have **no impact** on fire and police protection services, schools, parks, or other public facilities.

2.16 Recreation

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☑

2.16.1 Setting

The Proposed Project site and surrounding area is located on private land that is not accessible to the public. The area is characterized by open grasslands and oak forests and is located at the top of a steep hill. The closest recreational area is Englebright Reservoir which is accessible from Skippers Cove Marina. The marina is located across the reservoir from the Proposed Project site. There are no parks located in the vicinity of the Proposed Project area.

2.16.2 Discussion

a,b) The Proposed Project does not include any components that would result in increased use of an existing neighborhood or regional park or other recreational facility. Further, the Proposed Project would result in no change to the existing population and does not include construction or expansion of recreational facilities and would not require the construction or expansion of recreational facilities. Therefore, the Proposed Project would have **no impact** on the physical deterioration of existing neighborhood or regional parks or other recreational facilities, or the need for the construction or expansion of recreational facilities.

2.17 Transportation

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☐	☑
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☑	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
d) Result in inadequate emergency access?	☐	☐	☐	☑

2.17.1 Setting

The project site is located within the area covered by the Yuba County 2030 General Plan. Traffic and transportation are discussed in the Community Development Element of the General Plan (Yuba County 2011a), which includes the following policies that are relevant to the Proposed Project:

- **Policy CD16.3:** On County roads in rural areas, Level of Service (LOS) "D" shall be maintained, as feasible, during the p.m. Peak Hour.

- **Policy CD16.11:** The County would analyze and mitigate transportation impacts in CEQA documents according to their relative increase in vehicular travel demand.

Major roadways within the project vicinity include the following facilities:

- State Route 20 is a regional east-west highway extending west from Marysville through the Yuba County foothills and into Nevada County. The segment of State Route 20 closest to the Project site near the intersections of Peoria Road, Sicard Flat Road, and east to the intersection of Hammonton-Smartsville Road has operated at or below LOS C. The annual average daily traffic volume on State Route 20 ranges from 8,000 vehicles at Marysville Road to 9,000 vehicles at the Yuba/Nevada County line (California Department of Transportation 2017).

- Peoria Road is identified in the Yuba County 2030 General Plan Final EIR as a northeast/southwest trending two-lane rural minor collector road. Peoria Road has operated at or below Yuba County's LOS C, indicating a maximum of 7,000 vehicles per PM Peak Hour traffic volume.

- Sicard Road and Scott Forbes Roads are identified as 2-lane local roads providing access to sparse rural residences, the University of California Sierra Foothill Research and Extension Center, and Englebright Dam and its associated Narrows 2 hydropower facilities.

According to the Yuba-Sutter Bikeway Master Plan (Fehr & Peers Associates, Inc. 1995), the Yuba County 2030 General Plan Final EIR, and Sacramento Area Council of Governments' (SACOG) 2009 Regional Bicycle, Pedestrian, and Trails Master Plan there are no existing bicycle or pedestrian facilities within the vicinity of the Proposed Project site.

The nearest bus route is the Foothills Route, which offers round trip service from Challenge, Brownsville, and Dobbins to Marysville and points in between. The bus route is approximately 10 miles from the Proposed Project site (Yuba County 2011a).

2.17.2 Discussion

a) During construction of the Proposed Project, there would be a minor temporary increase in construction-related traffic from materials delivery and construction workers traveling to and from the project site. During the most intensive portion of the construction period two to three additional construction-related trips would be required in a day. This would occur during construction of the concrete pad when haul and material delivery trucks will be utilized. The primary roadways that would be used to access the Proposed Project sites would be Peoria Road via State Route 20. These roads are operating at acceptable levels of service (Yuba County 2011b). The addition of construction-related vehicle trips would be relatively small compared to existing volumes and temporary and would not cause any level of service thresholds to be exceeded nor result in a substantial increase in overall traffic volumes.

   The same staff that operate equipment at the powerhouse would be responsible for maintenance (i.e., vegetation maintenance) and operations. Maintenance and operations would occur while staff were already onsite to work on the existing infrastructure as these staff are already on site daily. As such, no additional vehicle trips would be necessary for

the maintenance and operational phases of the Proposed Project. Thus, the Proposed Project would not substantially affect the capacity, congestion patterns, or traffic circulation on affected roads. Consequently, the temporary construction-related trips for the Proposed Project would not substantially affect the capacity or congestion patterns on affected roads.

The Proposed Project is not located near bicycle or pedestrian facilities. Nevertheless, following traffic safety laws, the construction equipment/trucks would yield to bicyclists before turning. The Proposed Project would not have either a permanent or temporary effect on the performance or safety of bicycle facilities. The proposed construction would not affect any sidewalks, hiking trails or other pedestrian facilities.

Therefore, the Proposed Project would have **no impact** on a program plan, ordinance or policy addressing the local circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b) Section 15064.3 of the State CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Per Section 15064.3, generally analysis of vehicle miles traveled (VMT) attributable to a project is the most appropriate measure of transportation impacts. The VMT refers to the amount of distance of automobile travel attributable to a specific project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in Section 15064.3(b)(2) regarding roadway capacity, a project's effect on automobile delay does not constitute a significant environmental impact under CEQA. The total VMT attributable to the Proposed Project is estimated to be 1,090 miles all from project construction activities (Appendix I).

   The Proposed Project would not create new developments or other infrastructure that would result in additional VMTs relative to existing conditions. Although the construction component of the Proposed Project would cause additional VMTs for four months, these VMTs would be temporary. Further, the temporary additional VMTs would not substantially affect transit and non-motorized vehicle travel or regional VMTs. As such, the Proposed Project would have a **less than significant impact** on the potential to conflict with or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision(b).

c) The Proposed Project would not make any temporary or permanent changes to the roads in the vicinity of the project site. Further, during the construction period the construction equipment would not be working on roadways. Therefore, the Proposed Project would have **no impact** on increased transportation hazards due to a geometric design feature or incompatible uses.

d) Emergency access to the powerhouse would continue to be provided from the powerhouse access road, Peoria Road, and State Route 20 during the entire Proposed Project construction period. As such the Proposed Project would have **no impact** on emergency access.

2.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Listed or eligible for listing on the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☑	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☑	☐	☐

2.18.1 Setting

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." Assembly Bill 52 establishes that, "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

To initiate the AB 52 consultation process, tribes must submit a written request to a lead agency to be informed through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe (PRC Section 21080.3.1[b]). YCWA is thus responsible for notifying and responding to any requests received in writing from geographically affiliated tribes for consultation regarding the potential of the project to impact tribal cultural resources.

Pursuant to the requirements of Assembly Bill 52 (AB 52) that established tribal consultation procedures for evaluation of potential effects to tribal cultural resources, to initiate the AB 52 consultation process, tribes must submit a written request to a lead agency to be informed through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe (PRC Section 21080.3.1[b]). YCWA is thus responsible for notifying and responding to any requests received in writing from geographically affiliated tribes for consultation regarding the potential of the project to impact tribal cultural resources.

On May 18, 2021, YCWA sent AB 52 notification letters describing the project with maps depicting the project location and requesting information or concerns regarding tribal cultural resources that may be present in the project area to the following Native American contacts on YCWA's AB 52 notification list: Shingle Springs Band of Miwok Indians and United Auburn Indian Community of the Auburn Rancheria (UAIC). Correspondence with each tribe is summarized below:

- **Shingle Springs Band of Miwok Indians:** No response has been received from the Tribe to date.

- **UAIC:** The Cultural Regulatory Specialist of the UAIC responded via email on May 27, 2021, that the Tribe was not aware of any tribal cultural resources in the project area but, should resources be identified at any time during project activities, requested UAIC be notified immediately. The Tribe also requested that unanticipated discovery mitigation measures be included in the CEQA document. YCWA's Environmental Compliance Officer replied via email on the same day that unanticipated discovery mitigation measures will be included and UAIC will be notified immediately in the event of an inadvertent discovery.

2.18.2 Discussion

a, b) The consulted Tribes did not identify specific tribal cultural resources within the project site. Unanticipated discovery mitigation measures, however, were recommended in the tribal response in the event resources are discovered during construction. Therefore, the impact is considered potentially significant. Implementation of **Mitigation Measures CULT-1** and **CULT-2,** would reduce impacts to tribal cultural resources to a **less than significant** level.

2.19 Utilities/Service Systems

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☑	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☑
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers existing commitments?	☐	☐	☐	☑

Would the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☑	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☑	☐

2.19.1 Setting

Water Services

YCWA is a major water rights holder on the Yuba River. YCWA diverts water for consumptive uses to unincorporated areas of Yuba County. Water infrastructure in the region provides hydropower, flood control, water supply, recreational opportunities, and environmental benefits. Untreated water used for agricultural purposes in the region is supplied from by Browns Valley Irrigation District, which receives its water from YCWA (FERC 2019). No potable or irrigation water infrastructure or facilities occur in the Proposed Project area.

Wastewater and Stormwater

No developed wastewater drainage utilities are located in the area. Although there are no formal storm drainage facilities on site, drainage in the area is provided through natural drainage and through one existing aboveground 1’ diameter plastic storm drainage pipe that runs from the gravel graded area approximately 1/10 of a mile north of the site to Engelbright Lake. However, based on the Proposed Project site configuration, and distance of the site to the pipe it is unlikely that any of the water at the site drains through the pipe. Instead, stormwater likely percolates through the ground onsite or drains over the hillside immediately adjacent to the Proposed Project site.

Electrical Services

There is no power at the site where the back-up GSU will be placed or at the adjacent shed; however, there are existing overhead power lines on the hillside between Proposed Project site and the powerhouse.

Solid Waste

The Yuba-Sutter Regional Waste Management Authority (YSRWMA) is the area’s regional waste management agency. YSRWMA was established in 1990 through an agreement between Sutter and Yuba counties and the cities of Live Oak, Marysville, Wheatland, and Yuba City for the purpose of providing reliable, economical, integrated, and environmentally sound waste management services to the residents, businesses, and organizations of the bi-county area (YCWA 2011b). The majority of the YSRWMA solid waste is disposed of at the Recology Yuba-Sutter facility near Marysville approximately 20 miles southwest of the project site.

No solid waste treatment or storage facilities or service are provided at the Project Area.

2.19.2 Discussion

a) The Proposed Project does not involve any changes to water, wastewater, stormwater drainage, natural gas, or telecommunications facilities in the project area. The Proposed Project also would not generate wastewater that would require a wastewater treatment facility or involve any changes in wastewater disposal activities. The Proposed Project would involve installing electrical infrastructure to power the spare GSU transformer. Electrical infrastructure would include pad mounted 480V and 208V transformers, a 480V disconnect and plug, a 208V 3 phase panel, a 208V 3 phase circuit from the new panel to the pad, and two new power poles with overhead power lines to extend power to the site to maintain and operate the onsite electrical infrastructure.

   This minor expansion of electrical power to the new concrete pad and the adjacent shed would lead to some very small temporary impacts to the surrounding area due to ground disturbance and use of construction equipment. However, implementation of AMMs, including AMM 1 (i.e., timing of work), AMM 2 (i.e., species protection), and AMM 3 (i.e., construction BMPs) the project would not cause significant environmental effects.

   The project itself would not require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, natural gas, or telecommunication facilities. As such the Proposed Project would have a **less than significant** impact on the environment.

b) No new water services are required as part of the project. Therefore, the Proposed Project would have **no impact** on the need for new or expanded water supplies to serve the project.

c) As described above in paragraph "b," the Proposed Project does not require water service, thus the project would not involve any changes to wastewater services in the project area. Therefore, there would be **no impact** on wastewater treatment plant capacity.

d,e) Due to the size of the Proposed Project the amount of construction waste will be minimal. No solid waste would be generated from the operation or maintenance of the Proposed Project. Any excess excavated material would be disposed of at a YCWA-maintained soil disposal site or the Recology Yuba-Sutter transfer station and landfill. In addition to any trash or refuse produced by construction personnel, the disposal of any solid wastes would comply with applicable federal, state, or local regulations for solid waste disposal. The Proposed Project would not impair the attainment of solid waste reduction goals. Therefore, this impact would be **less than significant** on compliance with statutes and regulations related to solid waste.

2.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project …	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☑	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☑	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☑	☐

2.20.1 Setting

As described above in Section 3.9, Hazards and Hazardous Materials, the project site is in an area directly adjacent to an area identified by the California Department of Forestry and Fire Protection with very high fire hazard severity (CalFire 2019), which is the highest fire hazard rating. A number of large fires have occurred throughout Yuba County.

To prepare the County for future wildland fires the Yuba Watershed Protection & Firesafe Council developed the *Yuba Foothills Community Wildfire Protection Plan* (Yuba County 2014). A component of this document is designed to assist public agencies in making valid and timely decisions for wildfires and evacuation. YCWA also prepared a Fire Prevention and Response Plan as part of its application for FERC relicensing of its Yuba River Development Project (Fire Plan) (YCWA 2017), which includes the powerhouse and ancillary structures. This Fire Plan provides fire prevention procedures, reporting, and safe fire practices for YCWA personnel and contractors responsible for operating and maintaining the Yuba River Development Project.

YCWA does not own fire suppression equipment suitable for combating wildland fires. The only fire suppression equipment in the vicinity of the Proposed Project is fire extinguishers located at all YCWA buildings and in employee vehicles. At the powerhouse, approximately one-half mile down the access road fire suppression equipment consists of permanently installed CO2 systems within the powerhouse, a water trailer, back-pack water tanks, shovels, picks and axes (YCWA 2017).

2.20.2 Discussion

a) As described above in Section 3.17, *Transportation*, the temporary construction-related trips for the Proposed Project would not substantially affect the capacity or congestion patterns on affected roads as there would only be two to three construction-related trips during peak construction. Emergency access to the access road would continue to be provided via the powerhouse access road, Peoria Road, and State Route 20 during the entire Proposed Project. As such the Proposed Project would not interfere with *The Yuba Foothills Community Wildfire Protection Plan*, or any other emergency response or emergency evacuation plan. Therefore, there would be a **less than significant** impact on an adopted emergency response plan or emergency evacuation plan.

b) Construction activities associated with the back-up GSU transformer (i.e., the concrete pad and associated infrastructure) would occur in a gravel area on the shoulder of the access road. There is minimal vegetation in the immediate proximity of this proposed work. The power poles would be installed on a grassy hillside with some sparse trees just downhill from the back-up GSU transformer site. Risk for wildfire would be very low during the construction phase especially since the work would occur outside of the primary wildfire months (i.e., February through April). Nevertheless, it is possible for construction equipment that runs on fossil fuels to potentially generate sparks.

   To reduce wildfire risk from construction at the back-up GSU transformer site and the power pole installation sites the Proposed Project includes AMM 4. This avoidance and minimization measure requires development of a fire plan that includes preventative measures, emergency procedures to be followed, current emergency telephone numbers, and an area map to ensure there is no additional risk for starting a wildfire from construction, maintenance, or operations. In addition, construction and maintenance vehicles would be equipped with fire extinguishers to address any possibility of a small fire that could be ignited by construction activities. Additional fire suppression resources would be provided at the powerhouse.

   In regards to maintenance and operations of the Proposed Project, the concrete pad that would house the back-up GSU transformer and associated infrastructure would be located in a gravel area on the shoulder of the access road with minimal vegetation. Appropriate defensible space would continue to be maintained around this site to further reduce the risk of wildfire. Maintenance vehicles would access the site via the existing access road which would reduce potential for sparks to come into contact with vegetation. The probability of a major transformer failure for operational equipment that would result in a fire is approximately 1% per year (CIGRE 2012). The risk of the back-up GSU transformer causing a fire would be substantially lower than this because it would generally be stored in a non-operational mode when there would be little, if any, risk of malfunctions that could generate a fire.

   There would be a slightly increased risk, relative to the back-up GSU transformer being in non-operational mode, for accidental fire to occur when maintenance personnel were onsite to test the transformer fans and pumps monthly to ensure the bearings remain ready for operation if the spare GSU transformer is needed for service. Testing the fans and pumps

would require approximately five minutes per month (one hour per year) to complete. Because maintenance personnel would be onsite, they would be ready to respond to a fire immediately if one were to occur. As described above construction and maintenance vehicles would be equipped with fire extinguishers to address any possibility of a small fire that could be ignited, and additional fire suppression resources would be available at the powerhouse.

During the operational phase, the electrical infrastructure at the back-up GSU transformer site would be powered by above ground power lines from the two new poles on the adjacent hillside. Above ground electrical lines can start a fire if an object such as a tree limb or other object contacts the power line conductors simultaneously with a second object, like the ground or a portion of the supporting power pole. A fire can also start from conductor-to-conductor contact, which can occur when extremely high winds force two conductors on a single pole to oscillate so excessively that they contact one another resulting in sparks that can ignite surrounding vegetation. Older and failing equipment increases potential fire related risks.

Under existing conditions there are a number of power poles on the hillside uphill from the powerhouse. The Proposed Project would only add in two new poles with enough additional overhead electrical lines to reach the back-up GSU transformer and adjacent shed. While the Proposed Project would result in additional overhead electrical lines, the increase in risk of ignition associated with the additional line would be minimal relative to existing conditions as there are already numerous overhead wires on the same hillside. In addition, annual maintenance will include tree trimming, which will significantly reduce the potential of trees coming into contact with the overhead lines. The new electrical line equipment would be less likely to generate fires than older aging equipment. Further, multiple personnel are traveling down the access road to the powerhouse on a daily basis. In the event that any equipment failure occurred YCWA personnel would be onsite daily to respond to such failure and to any potential increase for fire generation as well as having access to firefighting equipment housed at the powerhouse.

Based on the above considerations, including AMM 4 that requires development of a fire plan, the Proposed Project would have a **less than significant** impact on exacerbating wildfire risks and thereby, creating pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

c) As described in detail above in paragraph "b" measures are in place to ensure that maintenance and operations of the Proposed Project would not exacerbate fire risk or cause temporary or ongoing impacts to the environment associated with wildfire. Therefore, the Proposed Project would have a **less than significant** impact on exacerbating fire risk or other temporary or ongoing impacts to the environment.

d) As discussed above in section 2.7, *Geology and Soils*, the Proposed Project sites are located on soils that are generally considered stable. The Proposed Project would not involve construction of structures or changes to site drainage. Relatively minimal ground disturbance would be required in the flat, graveled area where the back-up GSU

transformer would be placed. Locating the structure in the existing gravel area would represent little change from existing conditions.

Two new power poles would be installed on a moderately steep slope but is not located near any other structures other than other power poles. The installation and operation of these two power poles would not cause the slope to become less stable as the poles would occupy a very small area on the slope. Further, these two power poles would not change the drainage in the area.

All temporary disturbance areas would be returned to pre-project conditions. During the maintenance and operational phases, the back-up GSU transformer and associated infrastructure, including the two power poles, would not cause increases in landslides or slope instability. As such, the Proposed Project would have a **less than significant** impact on risks to people or structures as a result of runoff, post-fire slope instability, or drainage changes.

2.21 Mandatory Findings of Significance

Does the project…	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☑	☐
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☑	☐

2.21.1 Discussion

a) Based on the information provided in this Initial Study, including the mitigation measures, the Proposed Project would not substantially degrade the overall quality of the environment in the project area.

With respect to terrestrial wildlife as discussed in Section 3.4, *Biological Resources*, implementation of the Proposed Project has the potential to result in temporary

construction-related disturbance to potential habitats in the project area and wildlife species if present during the time of construction. However, feasible project-specific mitigation measures are identified to minimize and avoid the potential adverse effects. Although presence of the new concrete pad, back-up GSU transformer, power poles, and associated infrastructure would be permanent, it would not cause significant impacts to wildlife. As described in Hydrology and Water Quality the project would also cause less than significant impacts to aquatic species.

The majority of the impact determinations are either no impact or less than significant. For those impacts where the potential for significant impacts exists, the implementation of mitigation measures would ensure that the Proposed Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Consequently, this impact is considered **less than significant**.

b) Cumulative environmental effects are multiple individual affects that, when considered together, would be considerable or compound or increase other environmental impacts. Individual effects may result from a single project or a number of separate projects and may occur at the same place and point in time or at different locations and over extended periods of time.

The Proposed Project would result in a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of implementing the Proposed Project is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or
- the cumulative effects of related projects (past, current, and probable future projects) are already significant, and implementation of the Proposed Project would make a considerable contribution to the effect. The standards used herein to determine a considerable contribution are that either the impact must be substantial or must exceed an established threshold of significance.

The Proposed Project would have no impact on Agricultural and Forestry Resources, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, or Recreation. As such, there would be no cumulative effects to these resource categories.

Temporary construction activities, operations, and maintenance of the Proposed Project would cause less than significant impacts to Aesthetics, Air Quality, Biological Resources (with mitigation), Cultural Resources (with mitigation), Geology and Soils, Green House Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation/Traffic, Tribal Cultural Resources (with mitigation), Utilities and Service Systems, and Wildfire. Since construction activities are short-term and localized, construction activities would not combine in such a way that a significant cumulative effect

could occur to these resource categories. In addition, as described in Section 1.3.10, the Proposed Project includes avoidance and minimization measures that would avoid or minimize potential contributions to cumulative environmental impacts. Presence of the new infrastructure, and the minimal additional energy load needed to maintain and operate the Proposed Project would also not contribute to significant cumulative impacts. Finally, there are no other approved or pending projects in the region. Therefore, the Proposed Project would not have the potential to result in cumulatively considerable impacts to the physical environment.

Consequently, the Proposed Project would not have impacts that are individually limited, but cumulatively considerable and this impact would be **less than significant**.

c) Based on the nature and scope of the Proposed Project which includes temporary construction activity, establishment of a location to house the back-up GSU transformer and associated electrical infrastructure, and limited maintenance and operation to sustain the new infrastructure, and the analysis herein, the Proposed Project would not result in any direct or indirect substantial adverse effects on human beings. No substantial direct or indirect adverse effects on human beings would occur; the impact would be **less than significant**.

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Appendix A Proposed Project 90% Engineering Drawings

Appendix B California Emissions Estimator Model Results

Appendix C Roadway Construction Noise Model

GENERAL

1. THE SCOPE OF WORK INCLUDES DESIGN OF A CONCRETE PAD WITH OIL CONTAINMENT TO STORE A GSU TRANSFORMER NEAR NARROWS 2 POWERHOUSE, AND DESIGN OF OIL CONTAINTMENT FOR NEW GSU TRANSFORMER AND BLAST WALL AT POWERHOUSE TO PROTECT PERSONNEL IN THE EVENT OF TRANSFORMER FAILURE.

2. THE APPLICABLE BUILDING CODE IS THE 2016 CALIFORNIA BUILDING CODE (CBC).

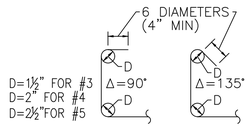
3. ALL PROPOSED MATERIALS SHALL BE SUBMITTED AND APPROVED BY THE EOR AND YWA PRIOR TO CONSTRUCTION, PER THE LIST BELOW:

   3.1. CONCRETE INCLUDING MIX DESIGN, CURING METHOD, AND COMPRESSION TEST RESULTS.
   3.2. ANCHORAGE, DOWELS, AND REINFORCING.
   3.3. ANCHORAGE ADHESIVE

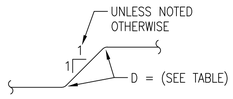
4. ALL ITEMS ARE NEW EXCEPT WHERE LABELED AS EXISTING.

MINIMUM LEGNTHS

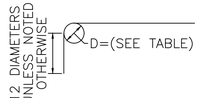
BAR SIZE	HOOK LEG	LAP SPLICE	EMBEDMENT	BEND DIAMETER
#3	6"	12"	15"	2.3"
#4	7"	15"	20"	3.0"
#5	8"	19"	24"	3.8"
#6	10"	23"	29"	4.5"
#7	12"	26"	42"	5.3"
#8	14"	30"	48"	6.0"



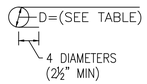
STIRRUPS AND TIES



OTHER BENDS



90° HOOK



180° HOOK

TYPICAL REINFORCEMENT BENDS — 1 / –
SCALE: N.T.S.

ABBREVIATIONS

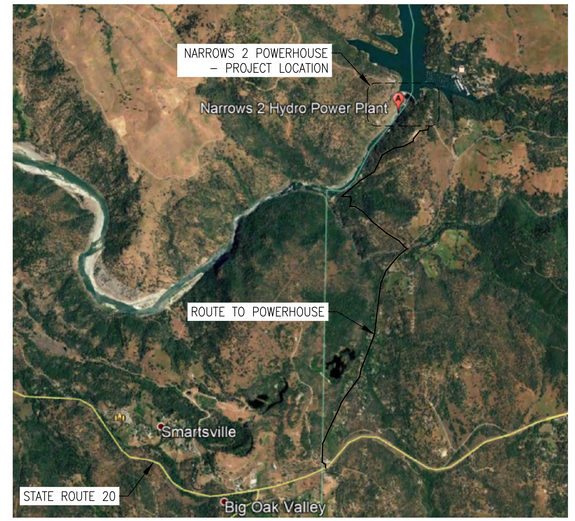
@	AT
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
APPROX	APPROXIMATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
CA	CALIFORNIA
(CAL)-OSHA	(CALIFORNIA) OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CLR	CLEAR
CONC	CONCRETE
DET	DETAIL
DIA	DIAMETER
DWG	DRAWING
EL/ELEV	ELEVATION
EMBED	EMBEDMENT
EOR	ENGINEER OF RECORD
EQ	EQUAL
(E)	EXISTING
FT	FOOT (FEET)
GALV	GALVANIZED
GR	GRADE
HORIZ	HORIZONTAL
ID	INSIDE DIAMETER
LB	POUND
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
NTS	NOT TO SCALE
OC	ON CENTER
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION
SIM	SIMILAR
SQ	SQUARE
SSD	SATURATED SURFACE DRY
STA	STATION
TBD	TO BE DETERMINED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VOC	VOLATILE ORGANIC COMPOUNDS
W/	WITH
YWA	YUBA WATER AGENCY

DRAWING LIST

DRAWING NUMBER	TITLE
C-1	GENERAL NOTES, REFERENCES, & ABBREVIATIONS
C-2	GSU PAD DETAILS & SECTIONS
C-3	PH OIL CONTAINMENT & BLAST WALL PLAN AND SECTIONS

YWA REFERENCE DRAWINGS

DRAWING NUMBER	TITLE
EP-3569332C1	MAIN TRANSFORMER SKID BASE
EP-356787R1	MAIN TRANSFORMER SHIPPING DIMENSIONS
ET-3593400R4	OUTLINE OF 55 MVA TRANSFORMER
ZEC-41-301	POWERPLANT REINFORCEMENT – PLAN @ EL. 348.0
ZEC-42-201	POWERPLANT GENERAL ARRANGEMENT LONITUDINAL SECTION
ZEC-42-202	POWERPLANT GENERAL ARRANGEMENT PLANS EL. 348 & EL. 324
ZEC-47-201	POWERPLANT BUS, TRANSFORMER & BREAKER ELEVATIONS
ZEC-47-801	POWERPLANT CONDUIT LAYOUT TOP DECK



VICINITY MAP

SITE PLAN — N.T.S. — – / C-1

MATERIAL SPECIFICATIONS

1. ALL CONCRETE SHALL BE NORMAL WEIGHT, STRUCTURAL, AIR-ENTERED CONCRETE COMPOSED OF CEMENT, POZZOLAN, ADMIXTURES, AND AGGREGATES. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI IN 28 DAYS WITH A 4-INCH SLUMP, ±1-INCH. SLUMP WITH HIGH RANGE WATER REDUCER SHALL BE 8-INCH, ± 1-INCH.
2. PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C150, TYPE II/V CONTAINING LESS THAN 0.6% ALKALIES. 5 SACK MINIMUM PER CUBIC YARD.
3. COARSE AND FINE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C33, 1-INCH MAXIMUM COARSE AGGREGATE SIZE.
4. POZZOLAN/FLY ASH SHALL CONFORM TO THE REQUIREMENTS OF ASTM C618, TYPE C, N, OR F.
5. SUPERPLASTICIZER (HIGH RANGE WATER REDUCER) SHALL CONFORM TO THE REQUIREMENTS OF ASTM C494, TYPE A OR D.
6. AIR ENTRAINING ADMIXTURE SHALL BE MASTER AIR AE 200 OR EQUIVALENT AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM C260. AGENT SHALL PRODUCE A TOTAL ENTRAINED AIR CONTENT OF 4% TO 6%.
7. NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CHLORIDE FROM SOURCES OTHER THAN RESIDUAL IMPURITIES IN ADMIXTURE INGREDIENTS WILL BE PERMITTED.
8. WATER USED IN CONCRETE MIX SHALL BE POTABLE. WATER FROM CONCRETE PRODUCTION OPERATIONS SHALL NOT BE USED.
9. MIXING AND PROPORTIONING OF CONCRETE SHALL COMPLY WITH ACI 301. CONCRETE SHALL BE FURNISHED BY AN ACCEPTABLE READY MIXED CONCRTETE SUPPLIER IN CONFORMANCE WITH ASTM C94.
10. PLACE CONCRETE IN ACCORDANCE WITH ACI 305 WHEN TEMPERATURE EXCEEDS 85° F.
11. CONCRETE SHALL BE CONSOLIDATED FOLLOWING PLACEMENT BY VIBRATION PER ACI 309.
12. ALL EXPOSED CONCRETE SURFACES SHALL BE WATER CURED OR COATED WITH A CURING AGENT PER ACI 308 AND ACCORDING TO THE RECOMMENDED DURATIONS THEREIN.
13. REINFORCEMENT STEEL SHALL BE GRADE 60 OR GRADE 75 DEFORMED BARS IN CONFORMANCE WITH ASTM A615 OR ASTM A706.
14. PLACE REINFORCEMENT PER ACI 301 AND ACI SP 66.
15. BAR SUPPORTS, SPACERS, AND SPREADERS ARE NOT SHOWN ON DRAWINGS AND SHALL BE INSTALLED PER THE RECOMMENDATIONS OF ACI 315.
16. UNLESS OTHERWISE SHOWN OF THE DRAWINGS, CONCRETE COVER FOR REINFORCING BARS SHALL BE 2" FOR STIRRUPS/TIES AND 3" FOR PRIMARY REINFORCEMENT.
17. ALL REINFORCING/EMBEDS SHALL BE SECURED AND HELD FIRMLY AND ACCURATELY IN PLACE ACCORDING TO THE SPACING AND POSITION AS SHOWN ON THE DRAWINGS THROUGHOUT THE DURATION OF CONCRETE PLACEMENT.
18. ALL SPLICES, SHALL BE CONTACT LAP SPLICES WITH MINIMUM LAP LENGTHS OF THE LARGER DIAMETER BAR. SPLICES, STANDARD HOOKS, BENDS, AND MINIMUM EMBEDMENTS SHALL BE PROVIDED PER ACI 318. SEE TYPICAL REINFORCEMENT BENDS DETAIL ABOVE.
19. CONCRETE BONDING AGENT MATERIAL SHALL BE SIKADUR HI-MOD 32 OR APPROVED EQUIVALENT.

SYMBOLS

- CONCRETE
- REINFORCEMENT IN SECTION
- MORTAR OR GROUT
- STEEL IN SECTION
- LIMITS OF DEMOLITION AND/OR REMOVAL

LINE TYPES

- BELOW GRADE OR HIDDEN
- PROPOSED
- BREAK LINE
- CENTERLINE
- EXISTING (SCREENED)
- CHAIN LINK FENCE

REGISTERED PROFESSIONAL ENGINEER — SHANE SHIMABUKURO — No. 87483 — CIVIL — STATE OF CALIFORNIA

APPROVED FOR CONSTRUCTION

No.	DATE	MADE	CHKD.	APPD.
1	10-30-21	–	–	–
–				

REVISIONS

YUBA COUNTY WATER AGENCY
YUBA RIVER DEVELOPMENT
NARROWS 2 PROJECT

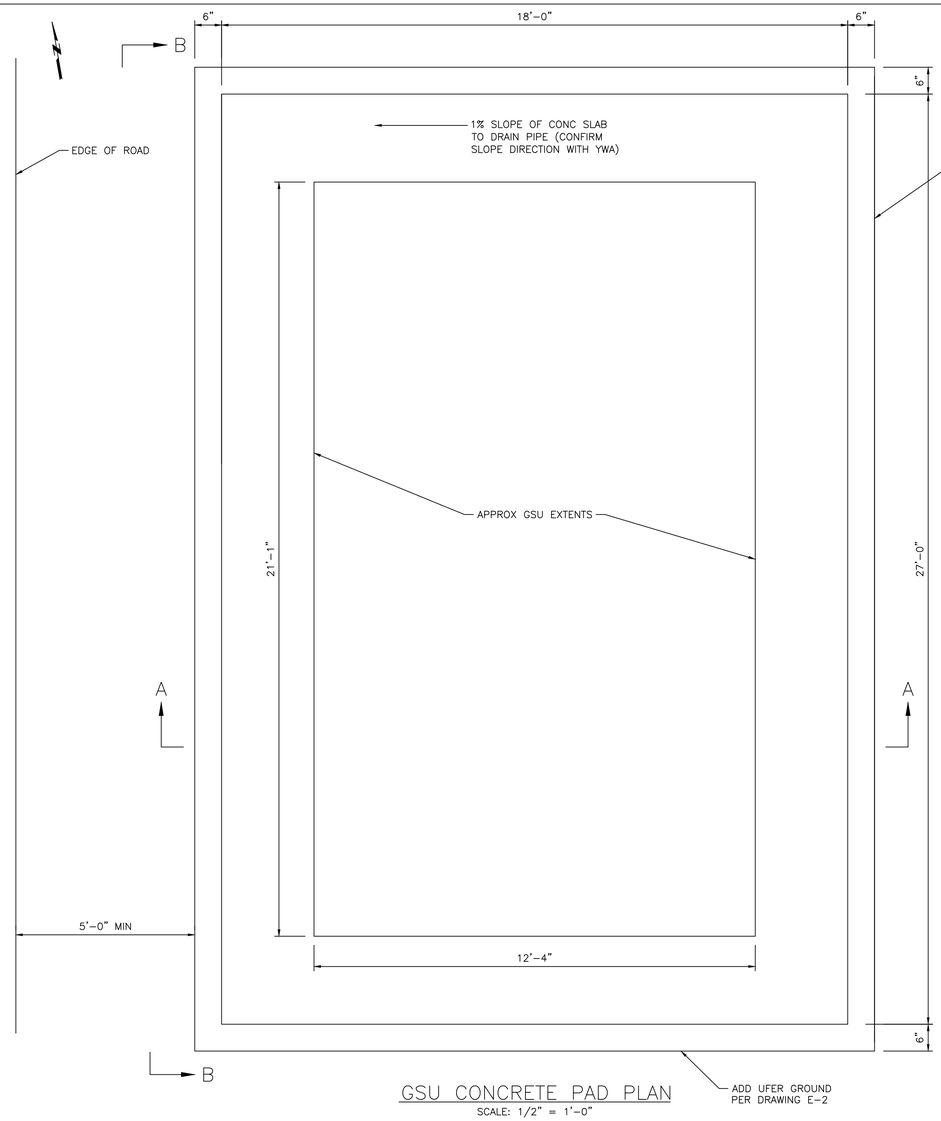
ELECTRICAL UPGRADES GENERAL NOTES, REFERENCES, & ABBREVIATIONS

BLACK & VEATCH

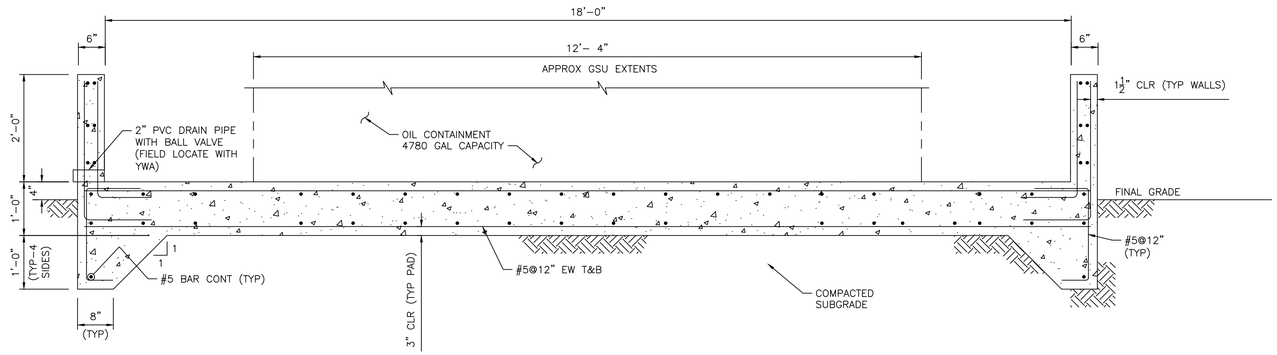
DESIGNED EA | CHKD. SS | SUBMITTED
DRAWN JD | INSP. – | RECOMMENDED | APPROVED

YUBA COUNTY, CALIFORNIA
DATE: OCTOBER 30, 2021

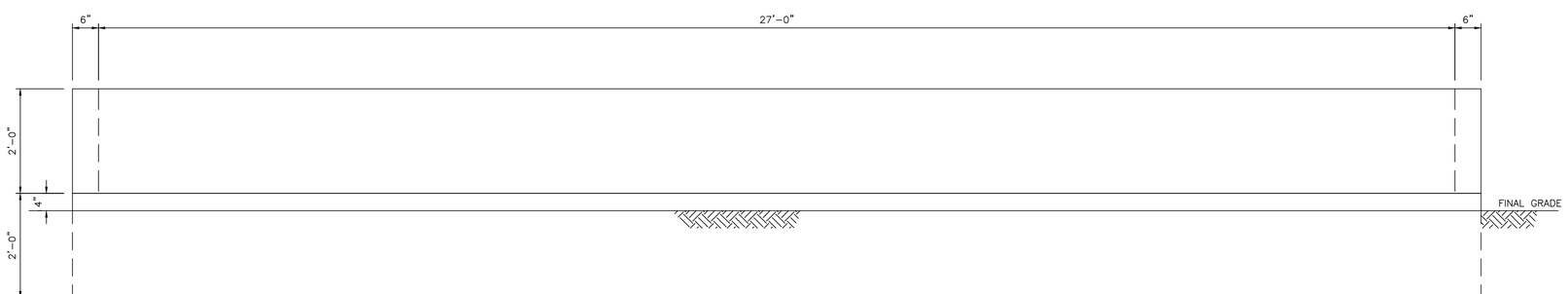
C-1 R1



GSU CONCRETE PAD PLAN
SCALE: 1/2" = 1'-0"



GSU CONCRETE PAD SECTION — A
SCALE: 3/4" = 1'-0"



GSU CONCRETE PAD ELEVATION — B
SCALE: 3/4" = 1'-0"

APPROVED FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
SHANE SHIMABUKURO
No. 87483
CIVIL
STATE OF CALIFORNIA

No.	DATE	MADE	CHKD.	APPD.
8				
7				
6				
5				
4				
3				
2				
1				

REVISIONS

YUBA COUNTY WATER AGENCY
YUBA RIVER DEVELOPMENT
NARROWS 2 PROJECT

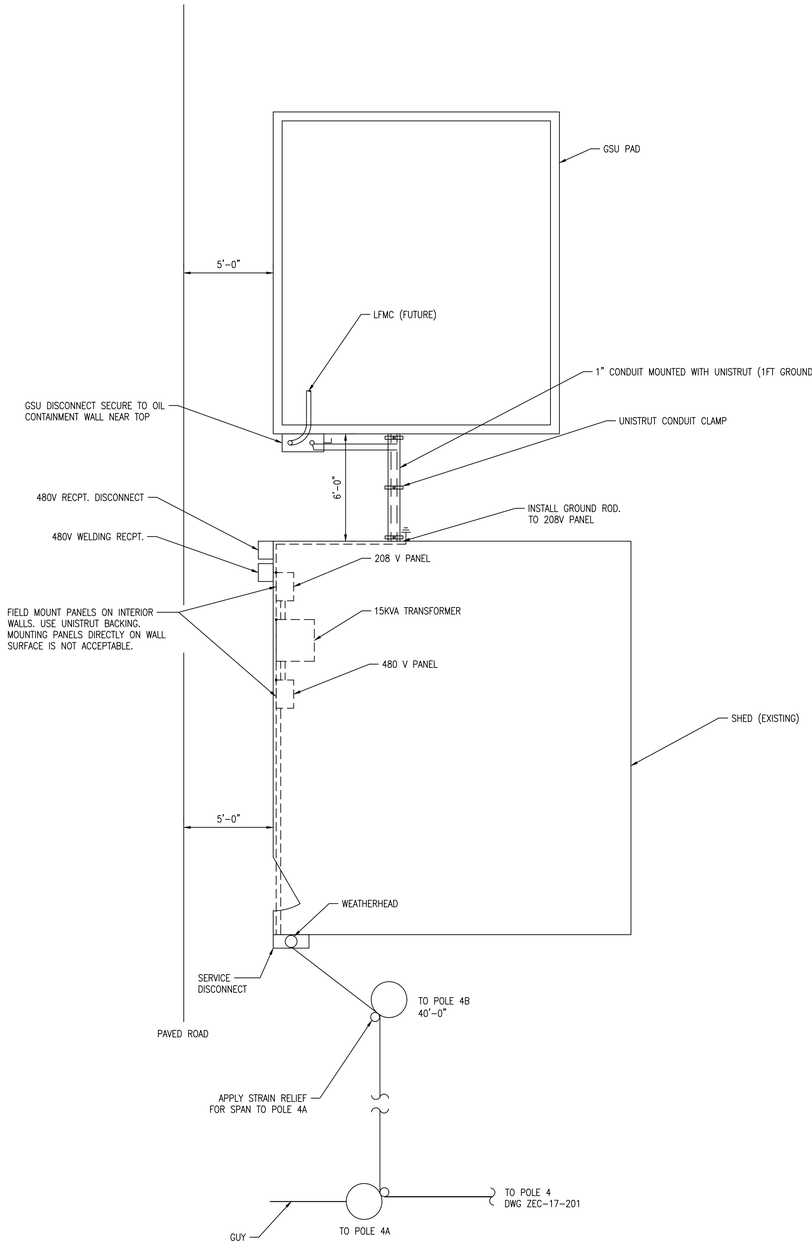
ELECTRICAL UPGRADES GSU PAD DETAILS AND SECTIONS

BLACK & VEATCH

DESIGNED EA	CHKD. SS	SUBMITTED	
DRAWN JD	INSP. –	RECOMMENDED	
		APPROVED	

YUBA COUNTY, CALIFORNIA
DATE: OCTOBER 30, 2021

C-2 R0



SHED AND GSU STORAGE PAD — 1 / –

SCALE: NONE

REGISTERED PROFESSIONAL ENGINEER
MARTIN A. NOLL
No. 21123
ELECTRICAL
STATE OF CALIFORNIA

No.	DATE	MADE	CHKD.	APPD.
	REVISIONS			

No.	DATE	MADE	CHKD.	APPD.
	REVISIONS			

YUBA COUNTY WATER AGENCY
YUBA RIVER DEVELOPMENT

NARROWS 2 PROJECT

POWERPLANT
SPARE GSU STORAGE PAD
PLAN VIEW

BLACK & VEATCH

DESIGNED MN	CHKD. DS	SUBMITTED	
DRAWN SK	INSP. –	RECOMMENDED	
		APPROVED	

YUBA COUNTY, CALIFORNIA
DATE: OCTOBER 22, 2021

E-1 R0

NOTE:

REFERENCE DRAWINGS

SPARE GSU STORAGE PAD PLAN VIEW E1

LICENSED PROFESSIONAL ENGINEER
MARTIN A. NOLL
E 21123
EXP.
ELECTRICAL
STATE OF CALIFORNIA

APPLES TO
REV. 5 ONLY

5	10-22-21	SPARE GSU STORAGE PAD	SK	DS	MN
			TEC		
			TEC	TEC	
		General Revision			
	DATE	REVISIONS	MADE	CHKD	APPD

YUBA COUNTY WATER AGENCY
YUBA RIVER DEVELOPMENT
NEW NARROWS PROJECT

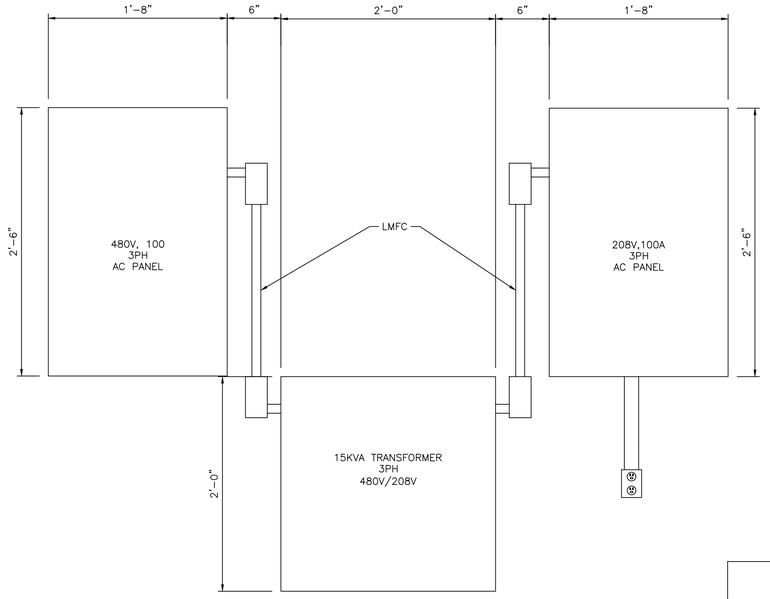
INTAKE
FEEDER

INTERNATIONAL ENGINEERING COMPANY, INC.

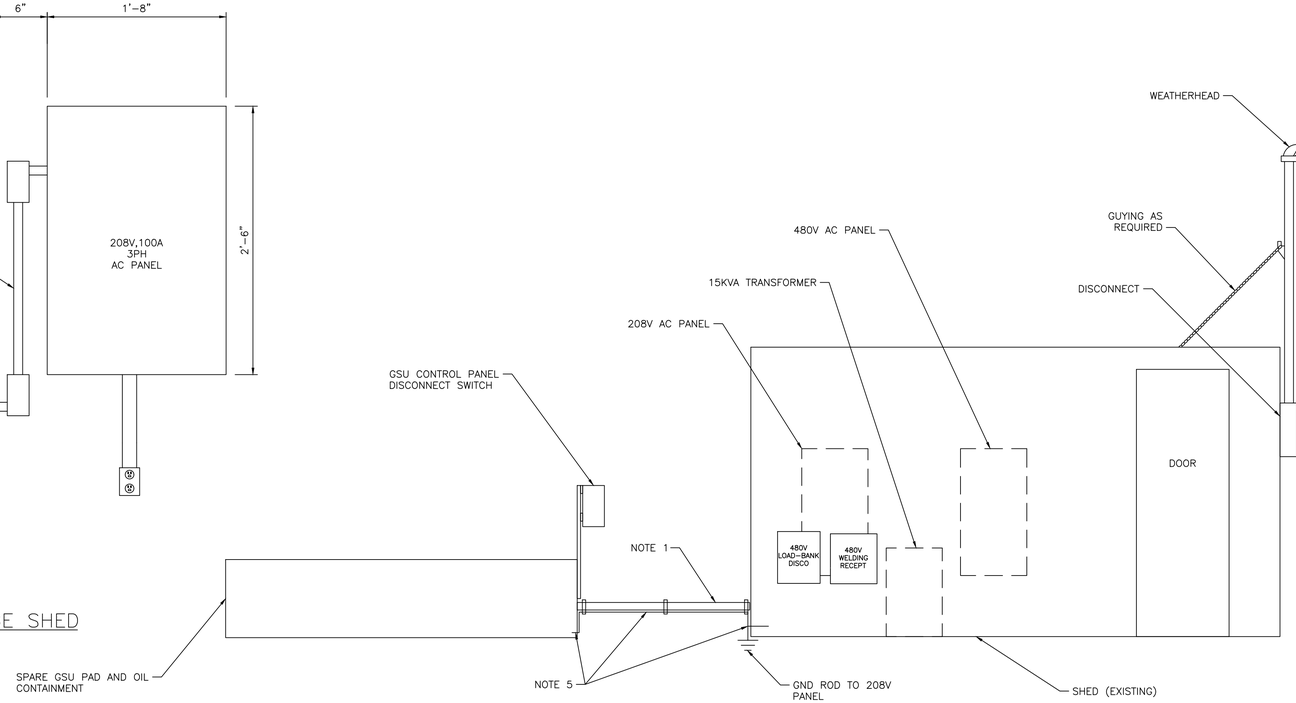
DESIGNED
DRAWN
CKD
INSP
SUBMITTED
RECOMMENDED
APPROVED

SAN FRANCISCO, CAL.
1967

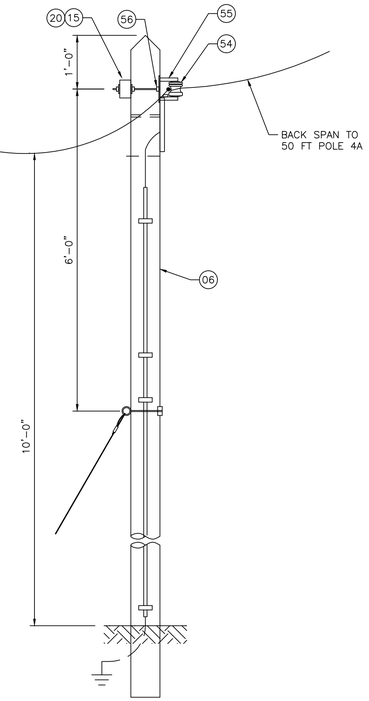
ZEC-17-201 R5



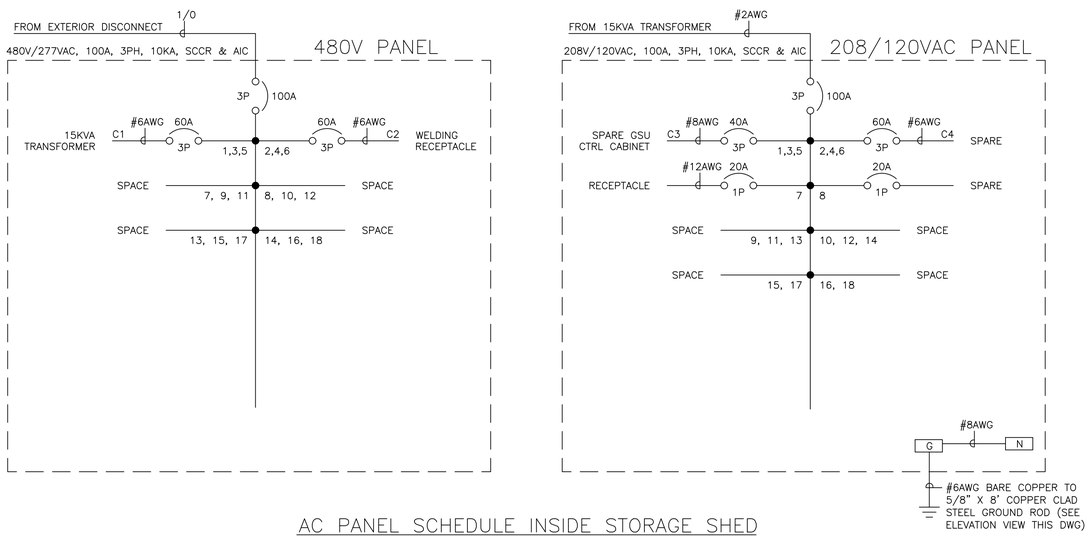
ELEVATION VIEW INSIDE STORAGE SHED



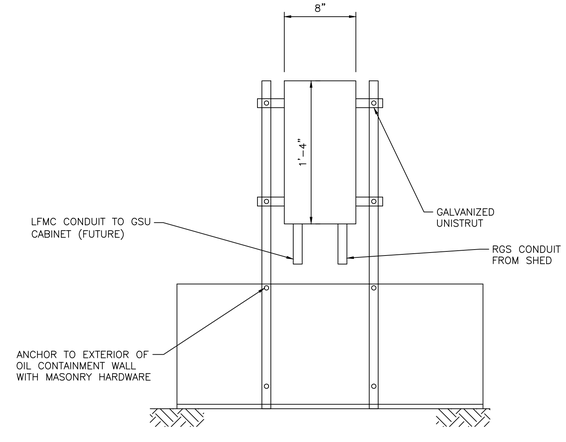
ELEVATION VIEW



SIDE VIEW OF POLE 4B



AC PANEL SCHEDULE INSIDE STORAGE SHED



DISCONNECT FOR GSU

NOTES:
1. CONDUIT WILL BE MOUNTED ON THE UNISTRUT. PAINT CONDUIT AND UNISTRUT YELLOW W/ BLACK STRIP WITH OUTDOOR RATED PAINT.
2. POLE SHALL HAVE TOP CUT AT AN ANGLE TO AVOID BIRD NESTING.
3. ALL CABLES SHALL BE COPPER XHHW-2.
4. USE GROUND BUSHINGS ON ALL CONDUITS.
5. BRING UFER GROUND OUT FROM REBAR WITH BARE COPPER #4 AND CONNECT TO GROUND SYSTEMS WITH IRREVERABLE CRIMP OR SECOND ACORN ON GROUND ROD.

REGISTERED PROFESSIONAL ENGINEER
MARTIN A. NOLL
No. 21123
ELECTRICAL
STATE OF CALIFORNIA

No.	DATE	MADE	CHKD.	APPD.
	REVISIONS			

No.	DATE	MADE	CHKD.	APPD.
	REVISIONS			

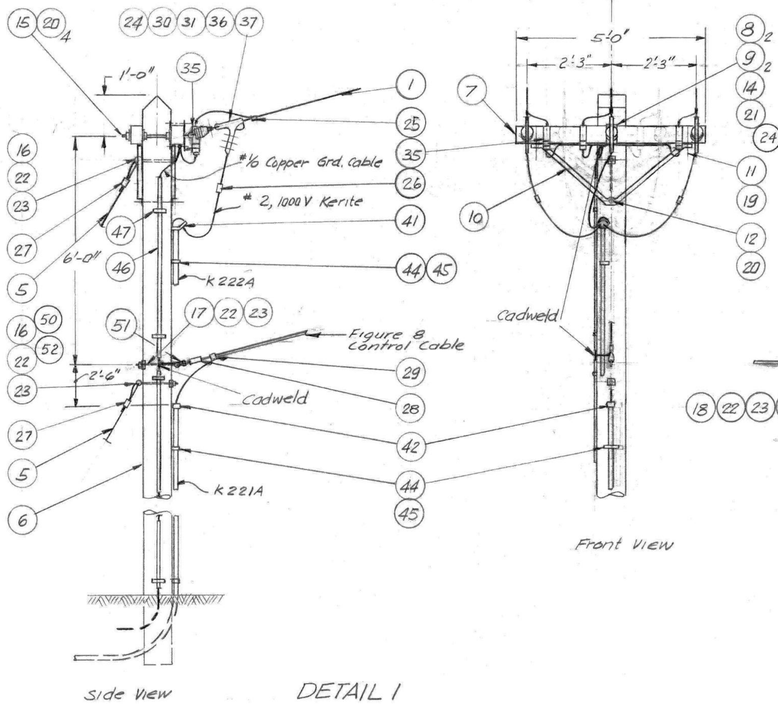
YUBA COUNTY WATER AGENCY
YUBA RIVER DEVELOPMENT
NARROWS 2 PROJECT
POWERPLANT
SPARE GSU ELEVATIONS AND ARRANGEMENTS

BLACK & VEATCH

DESIGNED MN	CHKD. DS	SUBMITTED	
DRAWN SK	INSP. –	RECOMMENDED	
		APPROVED	

YUBA COUNTY, CALIFORNIA
DATE: OCTOBER 22, 2021

E-2 R0

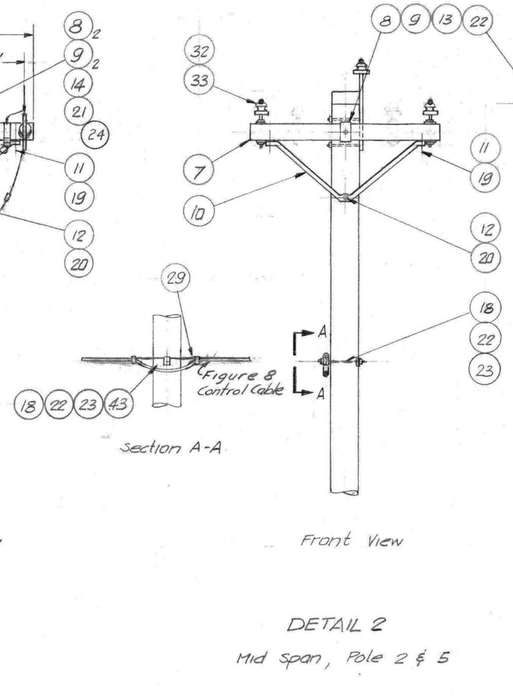


Side View

DETAIL 1

Dead - End Structure
at Powerplant, Pole #1

Front View

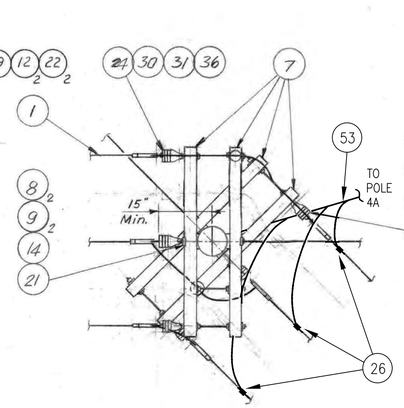


Section A-A

Front View

DETAIL 2

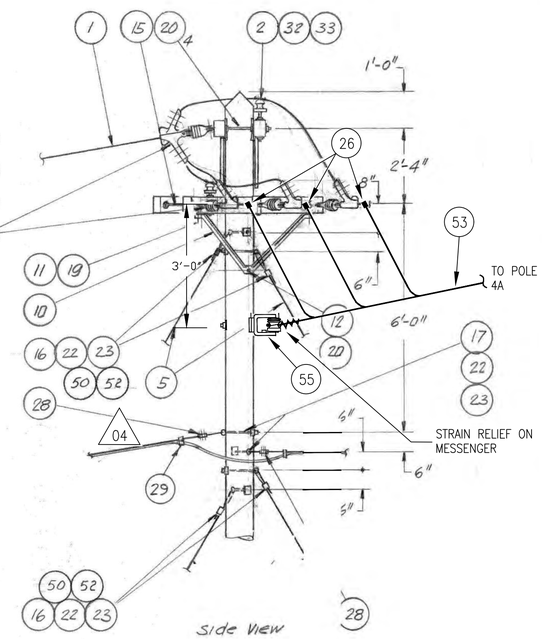
Mid Span, Pole 2 & 5



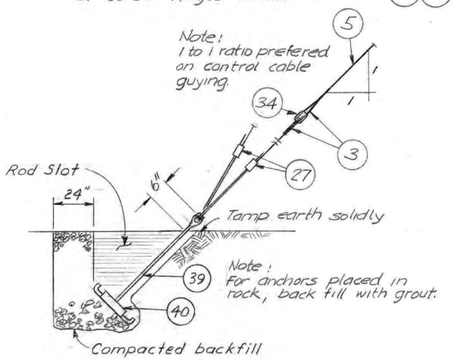
Plan

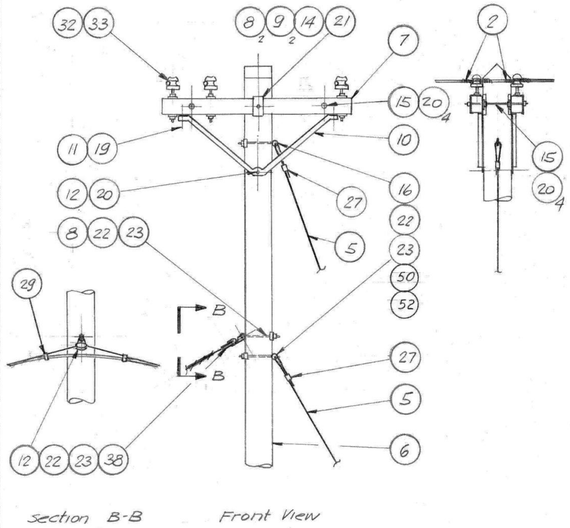
DETAIL 3

Dead - End Structure
Pole # 4
31° to 90° Angle Structure



Side View





Section B-B Front View

DETAIL 4

5° to 30° Angle Structure
Pole # 3

DETAIL 6

Note: Anchor used for 2 downguys

APPLIES TO REV. 4 ONLY

NOTE

This Dwg. supersedes : rent Dwg. ZE - 17 - 205R1

REFERENCE DRAWINGS

Intake - Feeder _____ ZEC-17-201
Intake - Pole Line Details
Sheet 2 of 2 _____ ZEC-17-206

No Scale

NO	DATE	REVISIONS	MADE	CHKD	APPD
4	10-22-21	SPARE GSU STORAGE PAD	SK	DS	MN
3		As Built & Tested	A S		
2	10-18-68	Deleted Detail 5	TEC	WFU	WFU
1	4-26-68	Relocated Center Phase and revised anchor	C.V.B.	A.P	WFU

YUBA COUNTY WATER AGENCY
YUBA RIVER DEVELOPMENT

NEW NARROWS PROJECT

INTAKE
POLE LINE DETAILS
SHEET 1 OF 2

INTERNATIONAL ENGINEERING COMPANY, INC.

DESIGNED WFU/H.J. CHKD. WFU SUBMITTED
DRAWN H.J. INSP. RECOMMENDED
APPROVED

SAN FRANCISCO, CAL.
DATE JULY 13, 1967

ZEC-17-205R4

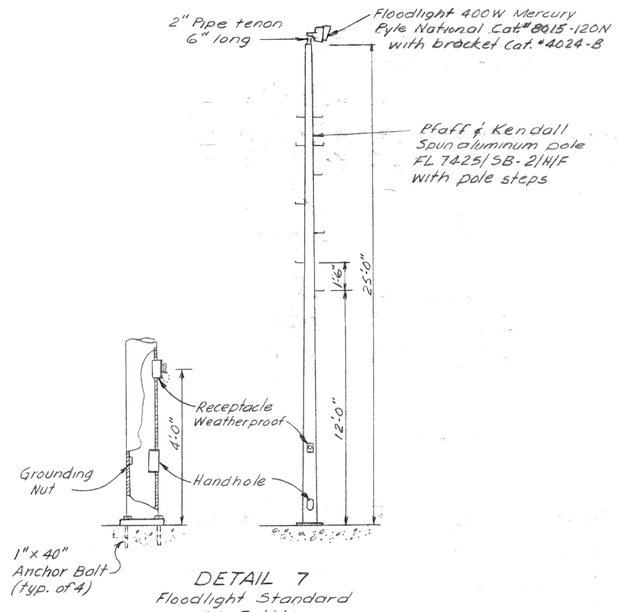
LICENSED PROFESSIONAL ENGINEER MARTIN A. NOLL E 21123 EXP. ELECTRICAL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CARLOS F. RAULD No. 6303 ELECTRICAL STATE OF CALIFORNIA

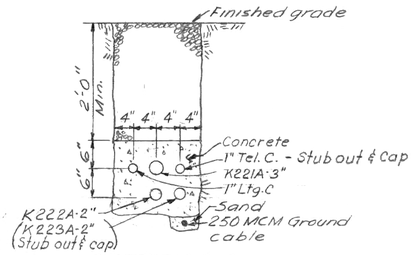
REGISTERED CIVIL ENGINEER ARCHIE A. STONE No. 14457 STATE OF CALIFORNIA

MATERIAL LIST

ITEM NUMBER	DESCRIPTION	SIZE	MANUFACTURER CAT. No.
1	WIRE, ACSR (RAVEN)	1/0	ALCOA
2	PREFORMED LINE GUARD		PREFORMED LINE PRODUCT
3	PREFORMED GUY GRIP		PREFORMED LINE PRODUCT
4			
5	WIRE, GALV. STEEL SPECIFICATION GRADE	1/2 INCH	AMERICAN STEEL WIRE CO.
6	POLE CLASS II	As req'd	
7	CROSSARM	3 1/4" x 4 1/4" x 5'-8"	
8	POLE GAIN		HUBBARD No. 5099
9	CROSSARM REINFORCING PLATE	3 1/4" x 4 1/4"	HUBBARD No. 5042
10	ANGLE CROSSARM BRACE	48" x 18"	HUBBARD No. 7941
11	MACHINE BOLT W/NUT	1/2" x 6"	HUBBARD No. 9706
12	MACHINE BOLT W/NUT	5/8" x 10"	HUBBARD No. 9810
13	MACHINE BOLT W/NUT	3/4" x 14"	HUBBARD No. 9914
14	MACHINE BOLT W/NUT	3/4" x 20"	HUBBARD No. 9920
15	DOUBLE ARMING BOLT	5/8" x 20"	HUBBARD No. 9870
16	HUBEYE ANGLE BOLT	3/4" x 12"	HUBBARD No. 9162
17	HUBEYE BOLT	3/4" x 12"	HUBBARD No. 9082
18	MACHINE BOLT W/ 2 SQUARE NUTS	5/8" x 14"	HUBBARD No 9814
19	ROUND WASHER	3/16" x 1 3/8"	HUBBARD No. 7803
20	ROUND WASHER	11/16" x 1 3/4"	HUBBARD No. 7805
21	ROUND WASHER	13/16" x 1 3/4"	HUBBARD No. 7805 1/2
22	SQUARE CURVED WASHER	3/4" x 3" x 3" x 1/4"	HUBBARD No. 7822 1/2
23	LOCKNUT TYPE ME	3/4"	HUBBARD No. 4519
24	STANDARD EYE NUT	5/8"	HUBBARD No. 7502
25	PARALLEL CLAMP	1/0 ALTO #2 COPPER	BURNDY No. CP252C
26	COPPER TO ALUMINUM CONNECTOR	1/0 AL. TO #2 COPPER	BURNDY No. KSU25
27	GUY CLAMP	5/16" TO 1/2"	HUBBARD No. 7461
28	GUY CLAMP	3/16 TO 7/16"	HUBBARD No. 7449
29	CABLE STRAP		
30	STRAIN CLAMP FOR ALUMINUM		OHIO BRASS No. 86537
31	DISTRIBUTION INSULATOR	4 1/2"	OHIO BRASS No. 42399
32	PIN-TYPE INSULATOR ASA CL. 55-2	7.2 KV	OHIO BRASS No. 12847
33	PIN-INSULATOR	10 3/4"	HUBBARD No. 381
34	GUY STRAIN INSULATOR NEMA CL. 54.3		OHIO BRASS No. 31506
35	LIGHTNING ARRESTOR W/ FM MTG. BRACKET	650 VOLT	
36	CHAIN LINK		OHIO BRASS No. 79271
37	ANCHOR SHACKLE		OHIO BRASS No. 79609
38	THIMBLE CLEVIS		LINE MATERIAL No. DM5C2
39	ROD ANCHOR, DOUBLE STRAIN EYE	1" x 8'-0"	LINE MATERIAL No. WDA3D8
40	ANCHOR CROSSPLATE		CHANCE No. X-20-1
41	SERVICE ENTRANCE CONDUIT ETC TYPE F	2"	CROUSE-HINDS No. F686
42	CABLE TERMINATOR (T-1.995#) (T-.695#)	3"	O-Z No. CRC 300
43	CABLE HANGER (THREE PARTS)	1/4" MESSENGER	JOSLYN CO. No. J2235
44	PIPE STRAP, 2-HOLE (RS CONDUIT)	2	
45	LAG SCREW	1/2" x 2"	HUBBARD No. 9722
46	PROTECTED MOULDING	7/8" x 1"	JOSLYN CO. SIZE NO. 1
47	STAPLE, ROLLED POINT	3" x 1 11/16" x 1/4"	JOSLYN CO.
48	CABLE 12 Pr, 2 Pr Shielded	AWG # 16	
49	POLE TOP PIN (PRESSED STEEL)	24"-1" DIA. THRD.	HUBBARD No. 3171
50	LOAD PLATE, GUY		HUBBARD No. 8888
51	COPPER TO STEEL CONNECTOR	1/0 COPPER TO 1/4" STEEL	BURNDY No. KSU25
52	LAG SCREW	1/2" X 6"	HUBBARD NO 9756
53	QUADRUPLEX SERVICE DROP ALUMINIUM CONDUCTOR (COSTENA)	1/0	AMERICAN WIRE GROUP
54	PREFORMED TIE (AS REQUIRED)	–	–
55	INSULATOR, SPOOL AND CLEVIS–TYPE 1–3/4"	1–3/4"	PLP SPL–1352–P
56	WASHER, 3"x3", CURVED STEEL	–	–
57	SAFETY SWITCH, FUSIBLE, HEAVY, 600V AC/250V DC VOLTAGE, 100A, NEMA 3R	–	EATON–DH363FRK
58	EATON PRLA2a 240V; NUMBER OF BRANCH CIRCUIT–18	–	EATON P2aB4C1–18FDB
59	EATON PRL2a 480V/277 VAC; NUMBER OF BRANCH CIRCUIT–18	–	EATON P2aB4C1–18FDB
60	SAFETY SWITCH, FUSIBLE, HEAVY, 600V AC/250V DC VOLTAGE, 30 AMPS, NEMA 3R (QTY–2)	–	EATON–DH362FRK
61	UNISTRUT PARALLEL PIPE CLAMP FOR THE UNISTRUT WITH CLAMP MOUNT P1565–RG		UNISTRUT BUFFALO SUPPORTS
62	POWERTITE 60AMP PIN AND SLEEVE PLUGS AND RECEPTACLES 4W/4P ADRE6044–150		APPLETON
63	15 KVA TRANSFORMER, 480V TO 208Y/120V FLOOR MOUNT.	–	EATON V48M28T1516CU



DETAIL 7
Floodlight Standard
At Intake
ZEC-17-202



SECTION A-A
ZEC-17-201

6

CONSTRUCTION NOTE:

SOME MATERIALS MAY NOT BE LISTED. CONTRACTOR IS RESPONSIBLE FOR PROCUREMENT OF ALL ITEMS REQUIRES FOR THE PROJECT EVEN IN NOT LISTED.

NOTE
This Dwg. supersedes contract Dwg. ZE-17-206R1

REFERENCE DRAWINGS:
Intake - Feeder _____ ZEC-17-201
Intake - Power & Lighting Layout _ ZEC-17-202
Intake - Pole Line Details Sh. 1 of 2 - ZEC-17-205
Intake - Conduit Schedule _____ ZEC-17-850
Powerplant - Conduit Schedule _____ ZEC-47-850

6

APPLIES TO REV. 6 ONLY

LICENSED PROFESSIONAL ENGINEER — MARTIN A. NOLL — E 21123 — EXP. ____ — ELECTRICAL — STATE OF CALIFORNIA

REGISTERED CIVIL ENGINEER — ARCHIE A. STONE — No. 14457 — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CARLOS F. AZALDE — No. 6303 — ELECTRICAL — STATE OF CALIFORNIA

6	10-22-21	SPARE GSU STORAGE PAD	SK	DS	MN
5		As Built & Tested	AS		
4	8-469	Deleted Section B-B	D.W.S	WFU	WFU
3	10-1848	Deleted Item # 53, 54, 55	T.E.C	WFU	WFU
2	9-23-68	Added Conduits to Sect. A-A, added Sect. B-B and Item # 53, 54, 55	TEC	TEC	WFU
1	4-26-68	Changed Cond. No. 5 Sect. A-A, Delet. Sect. B-B & added Items # 49, # 50 & 52	C.Y.B.	A.L.P	WFU
NO	DATE	REVISIONS	MADE	CHKD	APPD

YUBA COUNTY WATER AGENCY
YUBA RIVER DEVELOPMENT

NEW NARROWS PROJECT

INTAKE
POLE LINE DETAILS
SHEET 2 OF 2

INTERNATIONAL ENGINEERING COMPANY, INC.

DESIGNED RAE	CHKD. RAE/WFU	SUBMITTED	
DRAWN HC	INSP.	RECOMMENDED	
		APPROVED	

SAN FRANCISCO, CAL.
DATE JULY 13, 1967

ZEC-17-206 R 6

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

YCWA Narrows 2 Generator Step-Up Replacement Project AQ

Feather River AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.53	1000sqft	0.01	532.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	67
Climate Zone	1			**Operational Year**	2022
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project in Yuba County

Land Use - structure would cover an area of 19’ x 28’ (532 feet)

Construction Phase - Applicant provided schedule

Off-road Equipment - Applicant provided equipment list

Off-road Equipment - Equipment needed: small excavator, small loader (Bobcat)

Off-road Equipment - Demobilization will not require the use of heavy-duty equipment

Off-road Equipment - Assuming an aerial lift of some kind will be necessary for installing the new polse and supporting existing poles

Off-road Equipment - No heavy-duty equipment needed for the installation of the electrical infrastrucutre.

Off-road Equipment - Mobilization will require moving of equipment to the staging area. No equipment would be used during this phase.

Off-road Equipment - Clearing activities are expected to be completed using a small loader. All trees would be trimmed with a chain saw and hand tools. Use default loader assumption

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Trips and VMT - Worker Trip Length = 25 miles to Yuba City. During Con, haul 25 cy offsite and use 25 cy of aggregate onsite.30 cy of cement. Included cement truck trips (one truck, 2-way trip) as vendor trips. Added workers for other phases using Con worker number

Grading - No import or export of soil materials needed

Vehicle Trips - The project would not generate daily trips

Area Coating - There would be no painting application

Construction Off-road Equipment Mitigation - AMM 3: Construction BMPs includes watering, 15 mph limit to protect water quality

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	32	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	NumDays	100.00	16.00
tblConstructionPhase	NumDays	5.00	16.00
tblConstructionPhase	NumDays	5.00	2.00
tblLandUse	LandUseSquareFeet	530.00	532.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00

2.0 Emissions Summary

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

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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					
2022	4.4000e-003	0.0364	0.0659	1.2000e-004	3.3000e-003	1.5800e-003	4.8800e-003	8.8000e-004	1.4600e-003	2.3400e-003	0.0000	10.4952	10.4952	2.4600e-003	1.6000e-004	10.6034
Maximum	**4.4000e-003**	**0.0364**	**0.0659**	**1.2000e-004**	**3.3000e-003**	**1.5800e-003**	**4.8800e-003**	**8.8000e-004**	**1.4600e-003**	**2.3400e-003**	**0.0000**	**10.4952**	**10.4952**	**2.4600e-003**	**1.6000e-004**	**10.6034**

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					
2022	4.4000e-003	0.0364	0.0659	1.2000e-004	3.3000e-003	1.5800e-003	4.8800e-003	8.8000e-004	1.4600e-003	2.3400e-003	0.0000	10.4952	10.4952	2.4600e-003	1.6000e-004	10.6034
Maximum	**4.4000e-003**	**0.0364**	**0.0659**	**1.2000e-004**	**3.3000e-003**	**1.5800e-003**	**4.8800e-003**	**8.8000e-004**	**1.4600e-003**	**2.3400e-003**	**0.0000**	**10.4952**	**10.4952**	**2.4600e-003**	**1.6000e-004**	**10.6034**

	ROG	NOx	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**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2022	4-30-2022	0.0401	0.0401
		Highest	0.0401	0.0401

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	3.0000e-005	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-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	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	3.0000e-005	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-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	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-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	Mobilization	Site Preparation	2/1/2022	2/2/2022	5	2	2 days
2	Vegetation trimming, clearing, and grubbing	Grading	2/3/2022	2/3/2022	5	1	1 day
3	Construction of the concrete pad	Building Construction	2/4/2022	2/25/2022	5	16	3 weeks

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4	Extension of power to the site	Trenching	2/26/2022	3/25/2022	5	20	4 weeks
5	Installation of electrical infrastructure	Paving	3/26/2022	4/18/2022	5	16	2 weeks
6	Demobilization	Paving	4/19/2022	4/20/2022	5	2	2 days

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.01

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
Mobilization	Graders	0	8.00	187	0.41
Mobilization	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Vegetation trimming, clearing, and grubbing	Graders	0	6.00	187	0.41
Vegetation trimming, clearing, and grubbing	Rubber Tired Dozers	0	6.00	247	0.40
Vegetation trimming, clearing, and grubbing	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction of the concrete pad	Cranes	0	4.00	231	0.29
Construction of the concrete pad	Excavators	1	8.00	158	0.38
Construction of the concrete pad	Forklifts	0	6.00	89	0.20
Construction of the concrete pad	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Extension of power to the site	Aerial Lifts	1	8.00	63	0.31
Demobilization	Cement and Mortar Mixers	0	6.00	9	0.56
Demobilization	Pavers	0	7.00	130	0.42
Demobilization	Rollers	0	7.00	80	0.38
Demobilization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Installation of electrical infrastructure	Cement and Mortar Mixers	0	6.00	9	0.56
Installation of electrical infrastructure	Pavers	0	7.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Installation of electrical infrastructure	Rollers	0	7.00	80	0.38
Installation of electrical infrastructure	Tractors/Loaders/Backhoes	0	7.00	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
Mobilization	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Vegetation trimming, clearing, and grubbing	1	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Construction of the concrete pad	2	6.00	2.00	7.00	25.00	7.30	25.00	LD_Mix	HDT_Mix	HHDT
Extension of power to the site	1	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Installation of electrical infrastructure	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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3.2 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					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	0.0000	0.0000	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**	**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	3.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0879	0.0879	0.0000	0.0000	0.0887
Total	**3.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0879**	**0.0879**	**0.0000**	**0.0000**	**0.0887**

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3.2 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					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	0.0000	0.0000	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**	**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	3.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0879	0.0879	0.0000	0.0000	0.0887
Total	**3.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0879**	**0.0879**	**0.0000**	**0.0000**	**0.0887**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

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3.3 Vegetation trimming, clearing, and grubbing - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-005	7.3000e-004	9.8000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1196	0.1196	4.0000e-005	0.0000	0.1205
Total	**7.0000e-005**	**7.3000e-004**	**9.8000e-004**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1196**	**0.1196**	**4.0000e-005**	**0.0000**	**0.1205**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.7000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0440	0.0440	0.0000	0.0000	0.0444
Total	**2.0000e-005**	**1.0000e-005**	**1.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0440**	**0.0440**	**0.0000**	**0.0000**	**0.0444**

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3.3 Vegetation trimming, clearing, and grubbing - 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					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	7.0000e-005	7.3000e-004	9.8000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1196	0.1196	4.0000e-005	0.0000	0.1205
Total	**7.0000e-005**	**7.3000e-004**	**9.8000e-004**	**0.0000**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1196**	**0.1196**	**4.0000e-005**	**0.0000**	**0.1205**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.7000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0440	0.0440	0.0000	0.0000	0.0444
Total	**2.0000e-005**	**1.0000e-005**	**1.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0440**	**0.0440**	**0.0000**	**0.0000**	**0.0444**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Construction of the concrete pad - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9400e-003	0.0276	0.0439	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8151	5.8151	1.8800e-003	0.0000	5.8621
Total	**2.9400e-003**	**0.0276**	**0.0439**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8151**	**5.8151**	**1.8800e-003**	**0.0000**	**5.8621**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.6000e-004	1.2000e-004	0.0000	7.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2568	0.2568	0.0000	4.0000e-005	0.2689
Vendor	4.0000e-005	9.1000e-004	2.7000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3221	0.3221	0.0000	5.0000e-005	0.3367
Worker	2.7000e-004	2.3000e-004	2.7100e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.7035	0.7035	2.0000e-005	2.0000e-005	0.7096
Total	**3.3000e-004**	**1.8000e-003**	**3.1000e-003**	**1.0000e-005**	**1.0500e-003**	**2.0000e-005**	**1.0700e-003**	**2.8000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.2825**	**1.2825**	**2.0000e-005**	**1.1000e-004**	**1.3152**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Construction of the concrete pad - 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	2.9400e-003	0.0276	0.0439	7.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	5.8151	5.8151	1.8800e-003	0.0000	5.8621
Total	**2.9400e-003**	**0.0276**	**0.0439**	**7.0000e-005**		**1.4100e-003**	**1.4100e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**5.8151**	**5.8151**	**1.8800e-003**	**0.0000**	**5.8621**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	6.6000e-004	1.2000e-004	0.0000	7.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2568	0.2568	0.0000	4.0000e-005	0.2689
Vendor	4.0000e-005	9.1000e-004	2.7000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3221	0.3221	0.0000	5.0000e-005	0.3367
Worker	2.7000e-004	2.3000e-004	2.7100e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.7035	0.7035	2.0000e-005	2.0000e-005	0.7096
Total	**3.3000e-004**	**1.8000e-003**	**3.1000e-003**	**1.0000e-005**	**1.0500e-003**	**2.0000e-005**	**1.0700e-003**	**2.8000e-004**	**2.0000e-005**	**3.1000e-004**	**0.0000**	**1.2825**	**1.2825**	**2.0000e-005**	**1.1000e-004**	**1.3152**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Extension of power to the site - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6000e-004	5.6000e-003	0.0109	2.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4753	1.4753	4.8000e-004	0.0000	1.4872
Total	**3.6000e-004**	**5.6000e-003**	**0.0109**	**2.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**1.4753**	**1.4753**	**4.8000e-004**	**0.0000**	**1.4872**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.9000e-004	3.3800e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	0.0000	3.0000e-004	0.0000	0.8794	0.8794	2.0000e-005	2.0000e-005	0.8870
Total	**3.4000e-004**	**2.9000e-004**	**3.3800e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**0.8794**	**0.8794**	**2.0000e-005**	**2.0000e-005**	**0.8870**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Extension of power to the site - 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	3.6000e-004	5.6000e-003	0.0109	2.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4753	1.4753	4.8000e-004	0.0000	1.4872
Total	**3.6000e-004**	**5.6000e-003**	**0.0109**	**2.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**1.4753**	**1.4753**	**4.8000e-004**	**0.0000**	**1.4872**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.9000e-004	3.3800e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	0.0000	3.0000e-004	0.0000	0.8794	0.8794	2.0000e-005	2.0000e-005	0.8870
Total	**3.4000e-004**	**2.9000e-004**	**3.3800e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**0.8794**	**0.8794**	**2.0000e-005**	**2.0000e-005**	**0.8870**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Installation of electrical infrastructure - 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
Paving	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	0.0000	0.0000	0.0000	0.0000	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	2.7000e-004	2.3000e-004	2.7100e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.7035	0.7035	2.0000e-005	2.0000e-005	0.7096
Total	**2.7000e-004**	**2.3000e-004**	**2.7100e-003**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**2.3000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**0.7035**	**0.7035**	**2.0000e-005**	**2.0000e-005**	**0.7096**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Installation of electrical infrastructure - 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
Paving	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	0.0000	0.0000	0.0000	0.0000	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	2.7000e-004	2.3000e-004	2.7100e-003	1.0000e-005	8.8000e-004	0.0000	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.7035	0.7035	2.0000e-005	2.0000e-005	0.7096
Total	**2.7000e-004**	**2.3000e-004**	**2.7100e-003**	**1.0000e-005**	**8.8000e-004**	**0.0000**	**8.8000e-004**	**2.3000e-004**	**0.0000**	**2.4000e-004**	**0.0000**	**0.7035**	**0.7035**	**2.0000e-005**	**2.0000e-005**	**0.7096**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demobilization - 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
Paving	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0879	0.0879	0.0000	0.0000	0.0887
Total	**3.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0879**	**0.0879**	**0.0000**	**0.0000**	**0.0887**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demobilization - 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
Paving	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	3.0000e-005	3.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0879	0.0879	0.0000	0.0000	0.0887
Total	**3.0000e-005**	**3.0000e-005**	**3.4000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0879**	**0.0879**	**0.0000**	**0.0000**	**0.0887**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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
Other Non-Asphalt Surfaces	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
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.492132	0.047711	0.174855	0.165250	0.044878	0.009373	0.012559	0.016346	0.000424	0.000411	0.029692	0.001839	0.004531

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	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			
Other Non-Asphalt Surfaces	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

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	3.0000e-005	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	3.0000e-005	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-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	3.0000e-005					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	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	3.0000e-005					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	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	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			
Other Non-Asphalt Surfaces	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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

YCWA Narrows 2 Generator Step-Up Replacement Project AQ

Feather River AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.53	1000sqft	0.01	532.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	67
Climate Zone	1			**Operational Year**	2022
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project in Yuba County

Land Use - structure would cover an area of 19’ x 28’ (532 feet)

Construction Phase - Applicant provided schedule

Off-road Equipment - Applicant provided equipment list

Off-road Equipment - Equipment needed: small excavator, small loader (Bobcat)

Off-road Equipment - Demobilization will not require the use of heavy-duty equipment

Off-road Equipment - Assuming an aerial lift of some kind will be necessary for installing the new polse and supporting existing poles

Off-road Equipment - No heavy-duty equipment needed for the installation of the electrical infrastrucutre.

Off-road Equipment - Mobilization will require moving of equipment to the staging area. No equipment would be used during this phase.

Off-road Equipment - Clearing activities are expected to be completed using a small loader. All trees would be trimmed with a chain saw and hand tools. Use default loader assumption

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT - Worker Trip Length = 25 miles to Yuba City. During Con, haul 25 cy offsite and use 25 cy of aggregate onsite.30 cy of cement. Included cement truck trips (one truck, 2-way trip) as vendor trips. Added workers for other phases using Con worker number

Grading - No import or export of soil materials needed

Vehicle Trips - The project would not generate daily trips

Area Coating - There would be no painting application

Construction Off-road Equipment Mitigation - AMM 3: Construction BMPs includes watering, 15 mph limit to protect water quality

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	32	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	NumDays	100.00	16.00
tblConstructionPhase	NumDays	5.00	16.00
tblConstructionPhase	NumDays	5.00	2.00
tblLandUse	LandUseSquareFeet	530.00	532.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00

2.0 Emissions Summary

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2022	0.4117	3.6642	5.9548	0.0101	0.1372	0.1787	0.3158	0.0368	0.1644	0.2012	0.0000	987.5148	987.5148	0.2617	0.0147	998.4505
Maximum	**0.4117**	**3.6642**	**5.9548**	**0.0101**	**0.1372**	**0.1787**	**0.3158**	**0.0368**	**0.1644**	**0.2012**	**0.0000**	**987.5148**	**987.5148**	**0.2617**	**0.0147**	**998.4505**

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					
2022	0.4117	3.6642	5.9548	0.0101	0.1372	0.1787	0.3158	0.0368	0.1644	0.2012	0.0000	987.5148	987.5148	0.2617	0.0147	998.4505
Maximum	**0.4117**	**3.6642**	**5.9548**	**0.0101**	**0.1372**	**0.1787**	**0.3158**	**0.0368**	**0.1644**	**0.2012**	**0.0000**	**987.5148**	**987.5148**	**0.2617**	**0.0147**	**998.4505**

	ROG	NOx	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**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-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	0.0000
Total	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.0000**	**1.2000e-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	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-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	0.0000
Total	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	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	Mobilization	Site Preparation	2/1/2022	2/2/2022	5	2	2 days
2	Vegetation trimming, clearing, and grubbing	Grading	2/3/2022	2/3/2022	5	1	1 day
3	Construction of the concrete pad	Building Construction	2/4/2022	2/25/2022	5	16	3 weeks
4	Extension of power to the site	Trenching	2/26/2022	3/25/2022	5	20	4 weeks
5	Installation of electrical infrastructure	Paving	3/26/2022	4/18/2022	5	16	2 weeks
6	Demobilization	Paving	4/19/2022	4/20/2022	5	2	2 days

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.01

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
Mobilization	Graders	0	8.00	187	0.41
Mobilization	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Vegetation trimming, clearing, and grubbing	Graders	0	6.00	187	0.41
Vegetation trimming, clearing, and grubbing	Rubber Tired Dozers	0	6.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vegetation trimming, clearing, and grubbing	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction of the concrete pad	Cranes	0	4.00	231	0.29
Construction of the concrete pad	Excavators	1	8.00	158	0.38
Construction of the concrete pad	Forklifts	0	6.00	89	0.20
Construction of the concrete pad	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Extension of power to the site	Aerial Lifts	1	8.00	63	0.31
Demobilization	Cement and Mortar Mixers	0	6.00	9	0.56
Demobilization	Pavers	0	7.00	130	0.42
Demobilization	Rollers	0	7.00	80	0.38
Demobilization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Installation of electrical infrastructure	Cement and Mortar Mixers	0	6.00	9	0.56
Installation of electrical infrastructure	Pavers	0	7.00	130	0.42
Installation of electrical infrastructure	Rollers	0	7.00	80	0.38
Installation of electrical infrastructure	Tractors/Loaders/Backhoes	0	7.00	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
Mobilization	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Vegetation trimming, clearing, and grubbing	1	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Construction of the concrete pad	2	6.00	2.00	7.00	25.00	7.30	25.00	LD_Mix	HDT_Mix	HHDT
Extension of power to the site	1	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Installation of electrical infrastructure	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	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
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	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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	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
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**		**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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Vegetation trimming, clearing, and grubbing - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726		263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**0.0000**	**0.0789**	**0.0789**	**0.0000**	**0.0726**	**0.0726**		**263.5841**	**263.5841**	**0.0853**		**265.7153**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive 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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Vegetation trimming, clearing, and grubbing - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726	0.0000	263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**0.0000**	**0.0789**	**0.0789**	**0.0000**	**0.0726**	**0.0726**	**0.0000**	**263.5841**	**263.5841**	**0.0853**		**265.7153**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive 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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Construction of the concrete pad - 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	0.3671	3.4526	5.4931	8.2800e-003		0.1760	0.1760		0.1620	0.1620		801.2542	801.2542	0.2591		807.7328
Total	**0.3671**	**3.4526**	**5.4931**	**8.2800e-003**		**0.1760**	**0.1760**		**0.1620**	**0.1620**		**801.2542**	**801.2542**	**0.2591**		**807.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.9400e-003	0.0775	0.0149	3.3000e-004	9.5800e-003	8.3000e-004	0.0104	2.6300e-003	8.0000e-004	3.4200e-003		35.3750	35.3750	9.0000e-005	5.5600e-003	37.0343
Vendor	4.5800e-003	0.1079	0.0330	4.2000e-004	0.0136	1.2500e-003	0.0148	3.9000e-003	1.1900e-003	5.1000e-003		44.3662	44.3662	2.2000e-004	6.7300e-003	46.3763
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0445**	**0.2116**	**0.4617**	**1.8000e-003**	**0.1372**	**2.6200e-003**	**0.1398**	**0.0368**	**2.4900e-003**	**0.0393**		**186.2606**	**186.2606**	**2.5700e-003**	**0.0147**	**190.7177**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Construction of the concrete pad - 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	0.3671	3.4526	5.4931	8.2800e-003		0.1760	0.1760		0.1620	0.1620	0.0000	801.2542	801.2542	0.2591		807.7328
Total	**0.3671**	**3.4526**	**5.4931**	**8.2800e-003**		**0.1760**	**0.1760**		**0.1620**	**0.1620**	**0.0000**	**801.2542**	**801.2542**	**0.2591**		**807.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.9400e-003	0.0775	0.0149	3.3000e-004	9.5800e-003	8.3000e-004	0.0104	2.6300e-003	8.0000e-004	3.4200e-003		35.3750	35.3750	9.0000e-005	5.5600e-003	37.0343
Vendor	4.5800e-003	0.1079	0.0330	4.2000e-004	0.0136	1.2500e-003	0.0148	3.9000e-003	1.1900e-003	5.1000e-003		44.3662	44.3662	2.2000e-004	6.7300e-003	46.3763
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0445**	**0.2116**	**0.4617**	**1.8000e-003**	**0.1372**	**2.6200e-003**	**0.1398**	**0.0368**	**2.4900e-003**	**0.0393**		**186.2606**	**186.2606**	**2.5700e-003**	**0.0147**	**190.7177**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Extension of power to the site - 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	0.0361	0.5603	1.0940	1.6800e-003		0.0104	0.0104		9.5700e-003	9.5700e-003		162.6199	162.6199	0.0526		163.9347
Total	**0.0361**	**0.5603**	**1.0940**	**1.6800e-003**		**0.0104**	**0.0104**		**9.5700e-003**	**9.5700e-003**		**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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Extension of power to the site - 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	0.0361	0.5603	1.0940	1.6800e-003		0.0104	0.0104		9.5700e-003	9.5700e-003	0.0000	162.6199	162.6199	0.0526		163.9347
Total	**0.0361**	**0.5603**	**1.0940**	**1.6800e-003**		**0.0104**	**0.0104**		**9.5700e-003**	**9.5700e-003**	**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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Installation of electrical infrastructure - 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
Paving	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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Installation of electrical infrastructure - 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
Paving	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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demobilization - 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
Paving	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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demobilization - 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
Paving	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	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
Worker	0.0380	0.0262	0.4139	1.0500e-003	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		106.5194	106.5194	2.2600e-003	2.4500e-003	107.3071
Total	**0.0380**	**0.0262**	**0.4139**	**1.0500e-003**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**106.5194**	**106.5194**	**2.2600e-003**	**2.4500e-003**	**107.3071**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	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
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.492132	0.047711	0.174855	0.165250	0.044878	0.009373	0.012559	0.016346	0.000424	0.000411	0.029692	0.001839	0.004531

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004
Unmitigated	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.9000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004
Total	**2.0000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**		**1.2000e-004**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.9000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004
Total	**2.0000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**		**1.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

YCWA Narrows 2 Generator Step-Up Replacement Project AQ

Feather River AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.53	1000sqft	0.01	532.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	67
Climate Zone	1			**Operational Year**	2022
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project in Yuba County

Land Use - structure would cover an area of 19’ x 28’ (532 feet)

Construction Phase - Applicant provided schedule

Off-road Equipment - Applicant provided equipment list

Off-road Equipment - Equipment needed: small excavator, small loader (Bobcat)

Off-road Equipment - Demobilization will not require the use of heavy-duty equipment

Off-road Equipment - Assuming an aerial lift of some kind will be necessary for installing the new polse and supporting existing poles

Off-road Equipment - No heavy-duty equipment needed for the installation of the electrical infrastrucutre.

Off-road Equipment - Mobilization will require moving of equipment to the staging area. No equipment would be used during this phase.

Off-road Equipment - Clearing activities are expected to be completed using a small loader. All trees would be trimmed with a chain saw and hand tools. Use default loader assumption

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trips and VMT - Worker Trip Length = 25 miles to Yuba City. During Con, haul 25 cy offsite and use 25 cy of aggregate onsite.30 cy of cement. Included cement truck trips (one truck, 2-way trip) as vendor trips. Added workers for other phases using Con worker number

Grading - No import or export of soil materials needed

Vehicle Trips - The project would not generate daily trips

Area Coating - There would be no painting application

Construction Off-road Equipment Mitigation - AMM 3: Construction BMPs includes watering, 15 mph limit to protect water quality

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	32	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	NumDays	100.00	16.00
tblConstructionPhase	NumDays	5.00	16.00
tblConstructionPhase	NumDays	5.00	2.00
tblLandUse	LandUseSquareFeet	530.00	532.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	25.00
tblTripsAndVMT	HaulingTripNumber	0.00	7.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripLength	10.80	25.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	3.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	6.00

2.0 Emissions Summary

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2022	0.4103	3.6859	5.8734	9.9600e-003	0.1372	0.1787	0.3158	0.0368	0.1644	0.2012	0.0000	975.3451	975.3451	0.2617	0.0151	986.4022
Maximum	**0.4103**	**3.6859**	**5.8734**	**9.9600e-003**	**0.1372**	**0.1787**	**0.3158**	**0.0368**	**0.1644**	**0.2012**	**0.0000**	**975.3451**	**975.3451**	**0.2617**	**0.0151**	**986.4022**

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					
2022	0.4103	3.6859	5.8734	9.9600e-003	0.1372	0.1787	0.3158	0.0368	0.1644	0.2012	0.0000	975.3451	975.3451	0.2617	0.0151	986.4022
Maximum	**0.4103**	**3.6859**	**5.8734**	**9.9600e-003**	**0.1372**	**0.1787**	**0.3158**	**0.0368**	**0.1644**	**0.2012**	**0.0000**	**975.3451**	**975.3451**	**0.2617**	**0.0151**	**986.4022**

	ROG	NOx	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**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-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	0.0000
Total	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.0000**	**1.2000e-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	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-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	0.0000
Total	**1.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.0000**	**1.2000e-004**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	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	Mobilization	Site Preparation	2/1/2022	2/2/2022	5	2	2 days
2	Vegetation trimming, clearing, and grubbing	Grading	2/3/2022	2/3/2022	5	1	1 day
3	Construction of the concrete pad	Building Construction	2/4/2022	2/25/2022	5	16	3 weeks
4	Extension of power to the site	Trenching	2/26/2022	3/25/2022	5	20	4 weeks
5	Installation of electrical infrastructure	Paving	3/26/2022	4/18/2022	5	16	2 weeks
6	Demobilization	Paving	4/19/2022	4/20/2022	5	2	2 days

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.01

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
Mobilization	Graders	0	8.00	187	0.41
Mobilization	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Vegetation trimming, clearing, and grubbing	Graders	0	6.00	187	0.41
Vegetation trimming, clearing, and grubbing	Rubber Tired Dozers	0	6.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Vegetation trimming, clearing, and grubbing	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Construction of the concrete pad	Cranes	0	4.00	231	0.29
Construction of the concrete pad	Excavators	1	8.00	158	0.38
Construction of the concrete pad	Forklifts	0	6.00	89	0.20
Construction of the concrete pad	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Extension of power to the site	Aerial Lifts	1	8.00	63	0.31
Demobilization	Cement and Mortar Mixers	0	6.00	9	0.56
Demobilization	Pavers	0	7.00	130	0.42
Demobilization	Rollers	0	7.00	80	0.38
Demobilization	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Installation of electrical infrastructure	Cement and Mortar Mixers	0	6.00	9	0.56
Installation of electrical infrastructure	Pavers	0	7.00	130	0.42
Installation of electrical infrastructure	Rollers	0	7.00	80	0.38
Installation of electrical infrastructure	Tractors/Loaders/Backhoes	0	7.00	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
Mobilization	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Vegetation trimming, clearing, and grubbing	1	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Construction of the concrete pad	2	6.00	2.00	7.00	25.00	7.30	25.00	LD_Mix	HDT_Mix	HHDT
Extension of power to the site	1	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Installation of electrical infrastructure	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demobilization	0	6.00	0.00	0.00	25.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	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
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	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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 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					0.0000	0.0000	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
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**		**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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Vegetation trimming, clearing, and grubbing - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726		263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**0.0000**	**0.0789**	**0.0789**	**0.0000**	**0.0726**	**0.0726**		**263.5841**	**263.5841**	**0.0853**		**265.7153**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive 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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

3.3 Vegetation trimming, clearing, and grubbing - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.1441	1.4662	1.9582	2.7200e-003		0.0789	0.0789		0.0726	0.0726	0.0000	263.5841	263.5841	0.0853		265.7153
Total	**0.1441**	**1.4662**	**1.9582**	**2.7200e-003**	**0.0000**	**0.0789**	**0.0789**	**0.0000**	**0.0726**	**0.0726**	**0.0000**	**263.5841**	**263.5841**	**0.0853**		**265.7153**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive 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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Construction of the concrete pad - 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	0.3671	3.4526	5.4931	8.2800e-003		0.1760	0.1760		0.1620	0.1620		801.2542	801.2542	0.2591		807.7328
Total	**0.3671**	**3.4526**	**5.4931**	**8.2800e-003**		**0.1760**	**0.1760**		**0.1620**	**0.1620**		**801.2542**	**801.2542**	**0.2591**		**807.7328**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8800e-003	0.0840	0.0152	3.3000e-004	9.5800e-003	8.3000e-004	0.0104	2.6300e-003	8.0000e-004	3.4200e-003		35.3983	35.3983	9.0000e-005	5.5600e-003	37.0586
Vendor	4.4400e-003	0.1167	0.0342	4.2000e-004	0.0136	1.2500e-003	0.0148	3.9000e-003	1.2000e-003	5.1000e-003		44.4147	44.4147	2.2000e-004	6.7400e-003	46.4288
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0432**	**0.2333**	**0.3804**	**1.6800e-003**	**0.1372**	**2.6200e-003**	**0.1398**	**0.0368**	**2.5000e-003**	**0.0393**		**174.0909**	**174.0909**	**2.6000e-003**	**0.0151**	**178.6695**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Construction of the concrete pad - 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	0.3671	3.4526	5.4931	8.2800e-003		0.1760	0.1760		0.1620	0.1620	0.0000	801.2542	801.2542	0.2591		807.7328
Total	**0.3671**	**3.4526**	**5.4931**	**8.2800e-003**		**0.1760**	**0.1760**		**0.1620**	**0.1620**	**0.0000**	**801.2542**	**801.2542**	**0.2591**		**807.7328**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8800e-003	0.0840	0.0152	3.3000e-004	9.5800e-003	8.3000e-004	0.0104	2.6300e-003	8.0000e-004	3.4200e-003		35.3983	35.3983	9.0000e-005	5.5600e-003	37.0586
Vendor	4.4400e-003	0.1167	0.0342	4.2000e-004	0.0136	1.2500e-003	0.0148	3.9000e-003	1.2000e-003	5.1000e-003		44.4147	44.4147	2.2000e-004	6.7400e-003	46.4288
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0432**	**0.2333**	**0.3804**	**1.6800e-003**	**0.1372**	**2.6200e-003**	**0.1398**	**0.0368**	**2.5000e-003**	**0.0393**		**174.0909**	**174.0909**	**2.6000e-003**	**0.0151**	**178.6695**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Extension of power to the site - 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	0.0361	0.5603	1.0940	1.6800e-003		0.0104	0.0104		9.5700e-003	9.5700e-003		162.6199	162.6199	0.0526		163.9347
Total	**0.0361**	**0.5603**	**1.0940**	**1.6800e-003**		**0.0104**	**0.0104**		**9.5700e-003**	**9.5700e-003**		**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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Extension of power to the site - 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	0.0361	0.5603	1.0940	1.6800e-003		0.0104	0.0104		9.5700e-003	9.5700e-003	0.0000	162.6199	162.6199	0.0526		163.9347
Total	**0.0361**	**0.5603**	**1.0940**	**1.6800e-003**		**0.0104**	**0.0104**		**9.5700e-003**	**9.5700e-003**	**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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Installation of electrical infrastructure - 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
Paving	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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Installation of electrical infrastructure - 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
Paving	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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demobilization - 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
Paving	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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Demobilization - 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
Paving	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	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
Worker	0.0369	0.0326	0.3310	9.3000e-004	0.1140	5.4000e-004	0.1146	0.0302	5.0000e-004	0.0307		94.2780	94.2780	2.2900e-003	2.8400e-003	95.1821
Total	**0.0369**	**0.0326**	**0.3310**	**9.3000e-004**	**0.1140**	**5.4000e-004**	**0.1146**	**0.0302**	**5.0000e-004**	**0.0307**		**94.2780**	**94.2780**	**2.2900e-003**	**2.8400e-003**	**95.1821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	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
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.492132	0.047711	0.174855	0.165250	0.044878	0.009373	0.012559	0.016346	0.000424	0.000411	0.029692	0.001839	0.004531

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					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004
Unmitigated	1.9000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.9000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004
Total	**2.0000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**		**1.2000e-004**

YCWA Narrows 2 Generator Step-Up Replacement Project AQ - Feather River AQMD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	1.9000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		1.2000e-004	1.2000e-004	0.0000		1.2000e-004
Total	**2.0000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.2000e-004**	**1.2000e-004**	**0.0000**		**1.2000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 11/3/2021
Case Descr Narrows 2 Generator - Constsruction of Concrete Pad

---- Receptor #1 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Houseboat	Residential	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pickup Truck	No	40		75	2640	0
Excavator	No	40		80.7	2640	0
Crane	No	16		80.6	2640	0
Backhoe	No	40		77.6	2640	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Pickup Truck	40.5	36.6	N/A	N/A	N/A	N/A	N/A
Excavator	46.3	42.3	N/A	N/A	N/A	N/A	N/A
Crane	46.1	38.1	N/A	N/A	N/A	N/A	N/A
Backhoe	43.1	39.1	N/A	N/A	N/A	N/A	N/A
Total	46.3	45.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Reference	Commercial	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pickup Truck	No	40		75	50	0
Excavator	No	40		80.7	50	0
Crane	No	16		80.6	50	0
Backhoe	No	40		77.6	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night

Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Pickup Truck	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Excavator	80.7	76.7	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A
Total	80.7	80.8	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 4/20/2021
Case Descr Narrows 2 Generator - Install Electrical Infrastructure

---- Receptor #1 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Houseboat	Residential	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pickup Truck	No	40		75	2640	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Pickup Truck	40.5	36.6	N/A	N/A	N/A	N/A	N/A
Total	40.5	36.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Reference	Commercial	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Pickup Truck	No	40		75	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Pickup Truck	75	71	N/A	N/A	N/A	N/A	N/A
Total	75	71	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 4/22/2021
Case Descr Narrows 2 Generator - Mobilization

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Houseboat	Residential	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	2640	0
Grader	No	40	85		2640	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Front End Loader	44.7	40.7	N/A	N/A	N/A	N/A	N/A
Grader	50.5	46.6	N/A	N/A	N/A	N/A	N/A
Total	50.5	47.6	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Reference	Commercial	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	50	0
Grader	No	40	85		0	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Grader		0		0		0	
Total	79.1	75.1	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 11/3/2021
Case Descr Narrows 2 Generator - Operation Veg Clearing

---- Receptor #1 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Houseboat	Residential	60	55	45

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Front End Loader	No	40		79.1	2640	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Front End Loader	44.7	40.7	N/A	N/A	N/A	N/A	N/A
Total	44.7	40.7	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Reference	Commercial	60	55	45

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Front End Loader	No	40		79.1	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Front End Loader	75	71	N/A	N/A	N/A	N/A	N/A
Total	80.7	80	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 4/20/2021
Case Descr Narrows 2 Generator - Power to Site

---- Receptor #1 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Houseboat	Residential	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Auger Drill Rig	No	20		84.4	2640	0
Front End Loader	No	40		79.1	2640	0
Pickup Truck	No	40		75	2640	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Auger Drill Rig	49.9	42.9	N/A	N/A	N/A	N/A	N/A
Front End Loader	44.7	40.7	N/A	N/A	N/A	N/A	N/A
Pickup Truck	40.5	36.6	N/A	N/A	N/A	N/A	N/A
Total	49.9	45.5	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

	Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Reference	Commercial	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Auger Drill Rig	No	20		84.4	50	0
Front End Loader	No	40		79.1	50	0
Pickup Truck	No	40		75	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)				
			Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Auger Drill Rig	84.4	77.4	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A

Pickup Truck	75	71	N/A	N/A	N/A	N/A	N/A
Total	84.4	80	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 11/3/2021
Case Descr Narrows 2 Generator - Veg Trimming, Clearing, Grubbing

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Houseboat	Residential	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	2640	0
Dozer	No	40		81.7	2640	0
Grader	No	40	85		2640	0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Front End Loader	44.7	40.7	N/A	N/A	N/A	N/A	N/A
Dozer	47.2	43.2	N/A	N/A	N/A	N/A	N/A
Grader	50.5	46.6	N/A	N/A	N/A	N/A	N/A
Total	50.5	48.9	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Reference	Commercial	60	55	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Front End Loader	No	40		79.1	50	0
Dozer	No	40		81.7	50	0
Grader	No	40	85		50	0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A

Grader		85	81	N/A	N/A	N/A	N/A	N/A
	Total	85	83.4	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.