CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY

The Department of Toxic Substances Control (DTSC) has completed the following document for this project in accordance with the California Environmental Quality Act (CEQA) [Pub. Resources Code, div. 13, § 21000 et seq] and accompanying Guidelines [Cal. Code Regs., tit. 14, § 15000 et seq].

PROJECT TITLE: Former Napa-1 Manufactured Gas Plant Remedial Action Plan		CALSTARS CODING: 201833
PROJECT ADDRESS: Northwest of the intersection of Elm Street and Riverside Drive	CITY: Napa	COUNTY: Napa
PROJECT SPONSOR: Pacific Gas and Electric Company (PG&E)	CONTACT: Bill White (bill.white@pge.com)	PHONE: 925-415-6339

APPROVAL ACTION UNDER CONSIDERATION BY DTSC:

☐ Initial Permit Issuance ☐ Permit Renewal ☐ Permit Modification ☐ Closure Plan
☐ Removal Action Workplan ☒ Remedial Action Plan ☐ Interim Removal ☐ Regulations
☐ Other (specify):

STATUTORY AUTHORITY:

☐ California H&SC, Chap. 6.5 ☒ California H&SC, Chap.6.8 ☐ Other (specify):

DTSC PROGRAM/ ADDRESS: 8800 Cal Center Drive, Sacramento, California 95826	CONTACT: Mr. Gavin McCreary	PHONE: 916-255-3710

PROJECT DESCRIPTION:

The Department of Toxic Substances Control (DTSC) is proposing to approve a Remedial Action Plan (RAP) for the Former Napa-1 Manufactured Gas Plant (MGP) Site (Site) located at 201, 211, 221, 241, 251 and 267 Riverside Drive, Napa, California pursuant to regulatory authority granted under Chapter 6.8, Division 20, sections 25323.1 and 25356.1, California Health and Safety Code (H&SC). The Draft RAP addresses impacts to soil and groundwater from previous operations at the Site. The Site and surrounding areas have been separated into three operable units (OU) as shown on Attachment B - Figure 2 to facilitate remedial action planning, cleanup activities, post remedial action certification, and closure of the project. OU-1 includes the on-site area encompassing the current PG&E property and virtually all of the former Napa-1 MGP footprint. OU-2 is an off-site area that includes a portion of the Elm Street Townhomes property adjacent to the west of the Site. OU-3, also an off-site area, includes the Public right-of-way (ROW) along the Napa River including Riverside Drive, and the adjacent Riverside Park (upper river bank area) to the east of the Site.

The proposed remedial action presented in the RAP includes the following activities:

- **OU-1**: Conduct targeted soil excavation up to a depth of 15 feet from on-site hot spots at OU-1 followed by import and placement of clean backfill material; In-situ chemical oxidation (ISCO)/in-situ soil stabilization (ISS) to treat deep groundwater that is impacted with MGP-related chemicals and/or NAPL to oxidize and immobilize chemicals that are a potential source of impacts to groundwater and the Napa River, and installation of a surface cap (up to 4 feet of clean soil, or asphalt/concrete). OU-1 covers approximately 58,640 square feet.
- **OU-2**: Removal of impacted soil to a depth of up to 4 feet in selected back yards and common areas where impacted soil has been observed followed by import and placement of clean backfill material and paving of the common area. OU-2 covers approximately 8,390 square feet.
- **OU-3**: Cap (clean soil or hard-cap) installation along the upper river bank. OU-3 covers approximately

8,200 square feet.

- The total amount of material that will be exported and imported is estimated to be approximately 42,000 cubic yards.

- Implementation of institutional controls that would include land-use covenants (LUCs) restricting land uses to those that are consistent with the surrounding land use, cap-maintenance requirements, and a restriction on activities that could compromise the integrity of the cap.

- Soil Management Plans will be required for each OU to ensure that any residual subsurface impacted soil or groundwater encountered during future activities (e.g., utility line installation or repair) is handled and managed appropriately, and to document compliance with the LUC.

- Post-remedial soil gas sampling including the installation and sampling of soil gas wells will be conducted approximately six months following the completion of remedial activities.

- Groundwater monitoring including installation of an appropriate network of post-remedial groundwater monitoring wells followed by at least five years of monitoring and data assessment.

BACKGROUND

The Site (OU-1) covers approximately 1.3 acres northwest of the intersection of Elm Street and Riverside Drive (Attachment B- Figure 1) and is comprised of two relatively flat parcels with Assessor's Parcel Numbers (APN's) 005-123-006-000 and 005-123-011-000. The physical address for the Site is 201, 211, 221, 241, 251, and 267 Riverside Drive, Napa, California. The Site is owned by PG&E, currently vacant, and surrounded by cyclone fencing covered with sound proofing blankets. Current Site use is primarily limited to infrequent sampling activities. Ground surface elevations vary from about 14 to 18 feet above mean sea level (amsl) based on the North American Vertical Datum of 1988 (NAVD88). The Site is bounded by multi-family residential buildings to the north and west, Riverside Drive to the east and Elm Street to the south. South of Elm Street, single and multi-family residential buildings are present. Immediately east of Riverside Drive is Riverside Park, an existing narrow linear City-owned park that runs along the west side of the Napa River from the downtown area to south of the Site. The portion of Riverside Park adjacent to the Site is considered the upper river bank, and there is a steep embankment from the upper river bank down to the Napa River.

The former MGP operated from approximately 1889 to 1924. The MGP initially used coal as its feedstock, but in 1902 the plant was replaced with an oil-gas facility that operated until 1924, when the MGP shut-down. PG&E, formerly California Gas and Electric Company, owned the Site from 1903 through 1961, when PG&E sold the property. An apartment complex consisting of 40 units was constructed in 1963. PG&E re-acquired ownership of the Site in 2010, at which time PG&E entered into a voluntary cleanup agreement with DTSC, and the apartment complex tenants were re-located. The apartment complex was demolished in 2011. The current ground cover at the Site is mainly concrete and asphalt, with some limited areas of exposed soil. Since 2011, the Site has been vacant and unoccupied with activities limited to environmental assessments by PG&E and their consultants.

Environmental assessment of the Site began in 1986 and has included multiple investigations to evaluate subsurface soil, soil vapor, and groundwater conditions at the Site and immediate vicinity. Data collected during these investigations provided the necessary information to perform a human health risk assessment (HHRA) and a Screening Level Ecological Risk Assessment, as well as an evaluation of potential remedial measures in the feasibility study and remedial action plan (FS/RAP).

The Site is identified in the City's General Plan, "Envision Napa 2020" (City of Napa, 1998) as within the "Central Planning Area," sub-area "MFR 163". Allowable uses for the Site under the General Plan include: multi-family units, attached and detached single family, single room occupancy facilities, live-work housing, and similar compatible uses such as day care and larger group quarters (e.g., residential facilities and nursing homes). The Site is likely to be developed in the future as multi-family residential housing with a housing density of 10-20 units per acre per designation under the City's General Plan.

SELECTION OF PROJECT REMEDY

To achieve the remedial action goals (RAGs) for the project, consideration was given to remedial actions that could 1) protect human health and the environment by limiting exposures to chemicals of concern (COCs) through inhalation, dermal contact, and ingestion; 2) reduce or mitigate human health-based risks associated with

the COCs in soil to a level that is acceptable for the future land use (i.e., multi-use residential); (3) mitigate chemicals in soil that are a potential source of impact to groundwater and prevent ingestion of already impacted groundwater by limiting the use of groundwater; 4) mitigate chemicals in soil that are a potential source of impacts to groundwater to reduce the potential for future migration of impacted groundwater to the Napa River; and, (5) meet or exceed all applicable or relevant and appropriate requirements. A range of remedial measures were considered and evaluated, including engineering controls, institutional controls, source removal, source reduction, thermal treatment, and containment. The following list of remedial alternatives were evaluated for the project:

- Alternative 1: No action.
- Alternative 2: Targeted Soil Excavation, Cap, Institutional Controls, ISS Groundwater Barrier and Groundwater Monitoring
- Alternative 3: Soil Excavation, Cap, Institutional Controls, ISS Groundwater Barrier and Groundwater Monitoring
- Alternative 4: Targeted Soil Excavation, Cap, Institutional Controls, ISCO/ISS Treatment and Groundwater Monitoring
- Alternative 5: Alternative No. 5 – Soil Excavation, Cap, Institutional Controls, ISCO/ISS Treatment and Groundwater Monitoring

A comparative analysis of the five remedial alternatives resulted in the selection of Alternative 4. The selected remedy (Alternative 4) includes targeted soil excavation, treatment of deep impacted soils using ISCO/ISS, capping, institutional controls, and groundwater monitoring as follows:

- Targeted soil excavation will be conducted at OU-1 in localized hot spots to depths up to 15 feet bgs, and at OU-2 in select backyard and the common area to depths up to 4 feet bgs in areas where impacted soil has been observed. Excavated soil will be hauled off-site and disposed at a permitted disposal facility. The excavated areas will be backfilled with clean material to restore existing grades (or similar). ISCO/ISS will be used to treat areas at OU-1 where deep groundwater is impacted with MGP-related chemicals to oxidize and immobilize chemicals that are a potential source of impacts to groundwater and the Napa River.
- ISCO/ISS will be conducted by mixing soil amendments including cement, water, and sodium persulfate into the subsurface to depths up to 60 feet using large diameter rotary augers, jet grouting, or an excavator with mixing tool attachment, depending on the desired depth of treatment and other site conditions. Over the area where ISCO/ISS treatment is utilized, the upper 4 feet will be backfilled with clean fill material.
- The remainder of OU-1 will be capped with clean soil up to 4 feet thick or asphalt/concrete. The upper river bank (OU-3) will be capped with clean soil to a depth of up to 2 feet, or with an asphalt/concrete hard-cap.
- Following remediation, soil gas probes will be installed and sampled approximately six months after the completion of remedial activities. Additionally, a network of post-remediation groundwater monitoring wells will be installed and monitored for a minimum of five years.
- The selected remedial alternative will include institutional controls including LUCs restricting land uses to those that are consistent with the surrounding land use, restricting installation of groundwater wells, specifying cap-maintenance requirements, and restricting activities that could compromise the integrity of the cap.

Soil Management Plans will also be prepared for each OU to ensure that any subsurface impacted soil or groundwater encountered during future activities (e.g., utility line installation or repair) is handled and managed appropriately. The total amount of material that will be exported and imported is estimated to be approximately 42,000 cubic yards.

PROJECT ACTIVITIES

The RAP proposes the following remedial actions to address the COCs in soil and groundwater at the Site and surrounding area:

- Decommission existing groundwater wells and soil vapor probes, and demolition of former building foundations, and existing pavement.
- Excavation at OU-1 in hot spot areas and OU-2 where accessible impacted soil has been observed with disposal at an off-site permitted facility.
- ISCO/ISS treatment of soil in select areas at OU-1 extending down to 60 feet, combined with off-site disposal of impacted soil that will be displaced from the subsurface during mixing of the ISCO/ISS treatment agents (Portland cement, water, and sodium persulfate) into the subsurface. A 4-feet clean soil cap will be installed to grade within the ISS/ISCO treatment area.
- Importation, placement, and compaction, as needed, of clean backfill materials at OU-1 and OU-2.
- Approximately 42,000 CY of combined soil/fill export and import is estimated from/to the project.
- Capping at OU-1 and OU-2 with clean soil or hardscape (asphalt, concrete).
- Capping at OU-3 with up to 2 feet of clean soil or asphalt/concrete hardscape.
- Installation of soil vapor probes and groundwater monitoring wells for post-remediation monitoring.
- Confirmation soil gas sampling approximately six months following remediation.
- Post remediation groundwater monitoring for at least five years.
- Institutional controls in the form of a LUC to restrict future activities at the Site, prevent installation of groundwater extraction wells, preserve the integrity of the cap, and layout a framework for the handling of soils if they are unearthed during future site activities.

Project Schedule
The proposed remedial actions are scheduled to last a total of 18 months over a three-year period. Construction work on OU-1 will take approximately 12 months, on OU-2 approximately four months, and on OU-3 approximately two months. Project construction is scheduled over a three-year period, where OU-2 is completed in the fall of 2021; OU-1 is completed from the spring of 2023 through the spring of 2024; and OU-3 follows in the spring of 2024.

Attachments to this Initial Study include:
Attachment A
- Reference List

Attachment B
- Figure 1 - Site Location Map
- Figure 2 - Site Plan Showing Proposed Operable Units
- Figure 3 - Site Plan Showing Surrounding Land Uses
- Figure 4 - Conceptual Remediation Plan

Attachment C
- Cultural Resources Report for Site

Attachment D
- Federal and State Ambient Air Quality Standards
- Project Emissions Estimation Output Reports from CalEEMod version 2016.3.2 for Summer, Winter, and Annual Emission Rates
- Summary of Project Air Emission Estimation and Greenhouse Gas Emission Estimation

Attachment E
- List of Approved Disposal and Recycling Facilities

ENVIRONMENTAL IMPACT ANALYSIS:

1. Aesthetics

Project Activities Likely to Create an Impact: None

The Site (OU-1) is currently a vacant lot surrounded by fencing with attached sound blankets. The Site surface consists of loose soil, pavement, and/or concrete pads from former apartment building. The Site is located in a residential area of the City of Napa and is surrounded by City-owned paved streets to the east and south, and multi-family residential properties to the north and west (OU-2) (Attachment B - Figure 3). South of the Site beyond Elm Street are additional residential properties, and east of the Site beyond Riverside Drive is Riverside Park (OU-3) and the Napa River. The proposed Project will not degrade the existing character of the Site or surroundings and no new lighting sources will be added. The areas where remediation is conducted will be restored to match or exceed the existing condition at the completion of construction activities. The Site will be left as a vacant lot with a capped surface consisting of clean soil, pavement, and/or concrete. There are no scenic resources located at the Site, or within the Site vicinity, thus, no scenic resources will be adversely impacted or degraded as a result of the proposed project. Therefore, project activities will not change the existing aesthetics on-site or in the Site vicinity, and no further analysis to this resource category is necessary.

Description of Baseline Environmental Conditions:

Analysis as to whether or not project activities would:

a. Have a substantial adverse effect on a scenic vista.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

c. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

Conclusion:
- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ☒ No Impact

References Used:
1. City of Napa, 1998, General Plan: Envision Napa 2020, December 1.
2. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

2. Agricultural and Forestry Resources

Project Activities Likely to Create an Impact: None

The proposed project is not located in or near any agricultural resources or listed in the Williamson Act as protected land. The Site and vicinity is zoned for multi-family residential. The project site is not zoned for agricultural use or forestry land, and there are no agricultural resources or forestry lands located on-site, or within the Site vicinity. Therefore, no impacts to agricultural resources or forestry land would occur. For these reasons, no further analysis to this resource category is deemed necessary.

Description of Baseline Environmental Conditions:

Analysis as to whether or not project activities would:

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.

Impact Analysis:

Conclusion:
- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ☒ No Impact

b. Conflict with existing zoning or agriculture use, or a Williamson Act contract.

Impact Analysis:

Conclusion:
- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ☒ No Impact

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

Impact Analysis:

Conclusion:
- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ☒ No Impact

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

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. City of Napa, 1998, General Plan: Envision Napa 2020, December 1.
2. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

3. Air Quality

Project Activities Likely to Create an Impact:

- Demolition of existing structures (concrete pads/foundations, monitoring wells, soil vapor wells, pavement and concrete surfaces)
- Presence and operation of excavation and construction equipment.
- Generation of fugitive dust and particulates at the excavation zone, ISS/ISCO treatment area, decontamination areas, general work areas, stockpile areas, truck loading areas, truck staging/parking areas, and truck haul routes.
- Excavation of impacted soil using construction equipment and loading excavated soil and demolition debris onto trucks.
- Mixing of ISCO/ISS binding agents into deeper soils.
- Generation of soil spoils from ISS swell, and loading the swell soil onto dump trucks.
- Operation of an on-site cement mixing plant to mix Portland cement and water for stabilizing soils as part of the ISCO/ISS process.
- Transportation of impacted soil and debris to appropriate off-site permitted disposal facilities.
- Transportation of clean fill material from off-site locations to the work areas.
- Backfilling of all excavated areas with clean fill materials.
- Limited grading and cap installation activities.
- Restoring work areas to pre-remediation conditions.
- Paving the finished surface in select work areas.
- Use of vehicles to bring personnel and supplies to the work areas during construction.

Project construction activities will involve the use of various types of heavy equipment. Pollutants would be emitted from the use of fossil fuels used to power the heavy equipment. Excavators and other earth moving equipment will be required to remove and load the impacted material onto trucks. Trucks will be required to transport the excavated material to off-site landfills and import clean fill from off-site. In addition, use of heavy equipment will be required to backfill and compact the excavations with clean imported fill materials, mix ISCO/ISS materials into deeper soil, and to pave select work areas at the end of the project. Trucks will also be required to bring supplies and vendors for support services to the work areas routinely. Additionally, most workers will be expected to arrive at the work areas by personal vehicle.

Description of Baseline Environmental Conditions:

The Site is located within Napa County, California. Napa County is nestled in a valley between the Maycamas Mountains in the west and the Vaca Mountains in the east. The mountains bordering Napa Valley block much of the prevailing northwesterly winds throughout the year. Sunshine is plentiful in Napa County, and summertime can be very warm in the valley, particularly in the northern end. Winters are usually mild, with cool temperatures overnight and mild-to-moderate

temperatures during the day. Wintertime temperatures tend to be slightly cooler in the northern end of the valley. Winds are generally calm throughout the county. Annual precipitation averages range from about 24 inches in low elevations to more than 40 inches in the mountains. Napa County's climate is also affected by regional Bay Area climate influences.

The City of Napa is located within the San Francisco Bay Area Air Basin, which includes Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa Counties, and a portion of Solano and southern Sonoma Counties. The management of air quality in the San Francisco Bay Area Air Basin is primarily the responsibility of the Bay Area Air Quality Management District (BAAQMD). The project is located within Bay Area Air Quality Management District (BAAQMD). In the Bay Area, a certain amount of air pollution comes from industrial sources, such as refineries and power plants. But a greater percentage of harmful air emissions comes from cars and trucks, construction equipment, and other motor vehicles. In the wintertime, the largest single source of air pollution is residential wood burning. In order to protect public health, the U.S. EPA and the state of California have created air quality standards for pollutants that are commonly present in the air we breathe. A summary of the National and California air quality standards is included in Attachment D.

In the Bay Area, the common pollutants of greatest concern are ozone and fine particulate matter known as PM2.5. Ozone is primarily a problem in the summer smog, and fine particle pollution, which is made up of an assortment of extremely small airborne particles, or mixtures of solid particles and liquid droplets in the winter, is primarily a problem in the wintertime. The state of California has also identified a category of air pollutants called toxic air contaminants. These are generally present in very small amounts in the air but are extremely hazardous to human health. In the Bay Area, the toxic air contaminant of greatest overall concern is exhaust from diesel engines.

Specific to Napa County, ozone rarely exceeds health standards, but PM2.5 occasionally does reach unhealthy concentrations. There are multiple reasons for PM2.5 exceedances in Napa County. First, much of the county is wind-sheltered, which tends to trap PM2.5 within the Napa Valley. Second, much of the area is well north of the moderating temperatures of San Pablo Bay and, as a result, Napa County experiences some of the coldest nights in the Bay Area. This leads to greater fireplace use and, in turn, higher PM2.5 levels. Finally, in the winter easterly winds often move fine-particle-laden air from the Central Valley to the Carquinez Strait and then into western Solano and southern Napa County.

Particulate matter, in diameters of 2.5 and 10 micrometers (fine and inhalable, respectively), is detrimental to health because it can get lodged in the lungs and is not filtered out by the respiratory system. Ozone causes problems to lung function and the respiratory system. The Bay Area as a whole does not attain ambient standards for ozone and particulate matter. The Bay Area does not attain the federal and state ozone standards, the federal and state PM2.5 (fine particulate matter) standards, or the state PM10 (inhalable particulate matter) standards.

The BAAQMD has published CEQA guidelines for analysis and mitigation of impacts from projects within its jurisdiction. The methodology from the BAAQMD 2017 CEQA Air Quality Guidelines (BAAQMD, 2017a) was used to evaluate impacts from the proposed project. The significance thresholds from this document are presented in Table 2-4 of the BAAQMD CEQA Guidance document and are included below as Table 1 of this document. These significance thresholds were used to determine the significance of each impact discussed in sections (a) through (d) below.

Table 1
Thresholds of Significance for
Construction-Related Criteria Air Pollutants and Precursors

Pollutant/Precursor	Daily Average Emissions (lb/day)
ROG	54
NO_X	54
PM_{10}	82*
$PM_{2.5}$	54*

* Applies to construction exhaust emissions only.
Notes: CO = carbon monoxide; lb/day = pounds per day; NO_X = oxides of nitrogen; $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM_{10} = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; SO_2 = sulfur dioxide.
Refer to Appendix D for support documentation.

Analysis as to whether or not project activities would:

Source: Appendix G of 2020 CEQA Statute and Guidelines by Association of Environmental Professionals [AEP]

a. Conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis:

Project activities will not obstruct implementation of applicable air quality plans. BAAQMD has prepared an update to the regional ozone strategy to meet California Clean Air Act (CCAA) requirements, which is incorporated into the Bay Area 2017 Clean Air Plan: Spare the Air, Cool the Climate (BAAQMD, 2017b). Construction associated with the Project will result in emissions of ozone precursors (nitrogen oxides [NOx] and reactive organic gas [ROG]), particulate matter, air toxics, and greenhouse gases (see Section 8 of this checklist). However, the Project will be consistent with the control strategies contained in the Clean Air Plan to minimize and reduce pollutant emissions. Implementation of appropriate and feasible control strategies including reducing project motor vehicle trips, implementing a trip reduction/ride share program, utilizing vehicles for the project that use cleaner fuels, where feasible, and are equip with engines that have improved fuel efficiency, utilizing haul trucks with engines that exceed the air resource board (ARB) 2010 NOx emission standard for heavy duty engines to the extent practicable, use of construction equipment with Tier 3 and 4 engines where practicable, reducing the emissions of criteria pollutants and toxic air contaminants combined with the temporary nature of Project construction, reduces the impact to less than significant, in that the Project will not obstruct implementation of the Clean Air Plan.

The Project has been designed to reduce air emissions (NOx, ROG, and particulate matter among other pollutants) during construction as much as possible. Best management practices (BMPs) that have been incorporated as part of the project include:

- Soil excavation activities will be phased to reduce the total area of exposed and disturbed soils at any one time;
- The size of open excavations will be kept to a minimum at any one time for the purpose of dust control;
- All exposed surfaces (for example, staging areas, soil stockpiles, graded areas and unpaved access roads) will be watered periodically;
- Excavated soils will be directly loaded onto haul trucks when possible; the duration of the presence of soil stockpiles will be minimized. If necessary, any stockpiling of impacted soil or exposed excavation left overnight will be properly covered with plastic to minimize dust emissions.
- Excavation and loading/unloading activities will be managed so that adequate dust control measures such as water or foam spray can be easily implemented.
- All haul trucks transporting soil, sand, or other loose material off-site will be covered;
- All visible mud or dirt tracked out onto adjacent public roads will be removed;
- Real-time airborne dust monitoring will be conducted;
- An appropriate water source will be secured so that an adequate water supply can be provided for multiple activities. The water source may include a water truck, temporary water tank, or other sources approved by the City of Napa.
- Airborne dust levels will be monitored during excavation activities along the perimeter of the project work areas. If monitoring data indicate that dust levels are above specific action levels established to ensure compliance with the BAAQMD regulations, then engineering control measures such as reducing the area of exposed soil, slowing down soil loading/unloading operation, reducing the number of soil disturbing activities occurring at any one time, applying foam suppressants and/or additional wetting of soil prior to excavating/loading/unloading, will be implemented as necessary.

In addition, estimated pollutant emissions from off-road construction equipment, haul truck trips, project-related mobile sources, and fugitive dust from earthmoving will be less than the established BAAQMD CEQA significance thresholds for ROG, NOx, PM10, and PM2.5, as discussed below.

Construction activities associated with the Project would result in the following types of air emissions:

- Fugitive dust from ground-disturbing activities (PM_{10} and $PM_{2.5}$).
- Ozone precursors (ROG and NOx) and particulates (PM_{10}, and $PM_{2.5}$) from vehicle and construction equipment exhaust.

Air quality standards have been established for ROG, NOx, and particulates by the BAAQMD. The California Emissions Estimator Model® (CalEEMod) version 2016.3.2 was used to estimate pollutant emissions resulting from the proposed construction activities to evaluate if the project would exceed the BAAQMD thresholds of significance, thus violating an air quality standard. The CalEEMod air model was developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts. The model is a comprehensive tool for quantifying air quality impacts from

proposed land use projects located throughout California. Project-specific data were input into the model where known; otherwise, model default values were used. A summary of the input data used in the model run analysis is presented in Attachment D. The air emission analysis included an estimate of emissions from heavy construction equipment, haul trucks, delivery/supply/vendor trucks, workers vehicles, excavation/grading/backfill activities, ISCO/ISS treatment, and capping/paving/restoration activities.

A total of approximately 42,000 cubic yards of material will be transported to and from the Site as part of the remediation. This includes the export of all wastes, import of backfill and capping materials, and import of ISCO/ISS binding agents. Additionally, project emissions will be generated from worker vehicle trips and vendor/supply truck trips to the project areas daily. For emissions calculation purpose, it was assumed that 3 vendor/supply trucks will access the work areas daily throughout the project, and worker vehicles will range from 13 to 25 vehicles daily depending on the project phase. Exhaust emissions from off-road (on-site) construction equipment included in the air emission analyses were associated with the use of the following equipment: saw-cutter, excavator, backhoe, loader, dozer, drill rig, fork lift, water truck, street sweeper, paving equipment, grader, roller, and similar as listed in Attachment D summary and the CalEEMod output emission reports.

As summarized in Table 2 below, estimated daily emissions of pollutants from project activities using CalEEMod version 2016.3.2 air modeling program are less than the established BAAQMD thresholds of significance for NOx, ROG, PM10 and PM2.5. Therefore, the project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Table 2
Estimated Maximum Project Emissions from
Heavy Construction Equipment Exhaust, Construction Activities, and
Mobile Sources Exhaust

Pollutant	Summarized from CalEEMod ver.2016.3.2 Emission Results- Overall Construction (1)			BAAQMD CEQA Thresholds 4 (lbs/day)
	Maximum Daily Emissions 2 Summer ERs (lbs/day)	Maximum Daily Emissions 2 Winter ERs (lbs/day)	Maximum Annual Emissions Annual ERs 3 (tons/year)	
ROG	3.3569	3.3649	0.2681	54
NOx	39.1854	39.8044	2.8480	54
CO	32.0096	31.9770	2.7104	---
CO2** Total	15,185.3511	15,132.47	894.8243	---
CH4**	2.0706	2.0740	0.1566	---
CO2e GHG**	15,237.1146	15,184.3203	898.7393	---
PM10 Total	15.5943	15.5944	0.6472	82
PM2.5 Total	8.7690	8.7691	0.2607	54

Notes:

1. Project construction schedule and duration estimated for three construction years/seasons, where OU-2 is completed in fall 2021; OU-1 is completed spring 2023 through spring 2024; and OU-3 follows in the spring of 2024. Total project estimated at 374 days. All pollutant emissions shown on this table are based on CalEEMod ver.2016.3.2 estimated emission results using summer, winter, and annual emission rates.

2. Maximum Daily Emissions is the highest estimated daily emission of the three construction phases/years using winter and spring emission rates. Refer to Attachment D for the CalEEMod output reports.

3. Maximum Annual Emissions is the highest estimated annual emissions of the three construction phases/years using annual emission rates. Refer to Attachment D for the CalEEMod output reports.

4. BAAQMD CEQA Thresholds based on Table 2-4 of the District CEQA Air Quality Handbook dated May 2017

--- = not applicable; BAAQMD threshold has not been established for pollutant
CO2e GHG = greenhouse gases expressed as carbon dioxide equivalent
ERs = emission rates per CalEEMod default values
lbs/day = pounds per day

Source: Appendix G of 2020 CEQA Statute and Guidelines by Association of Environmental Professionals [AEP]

**indicates Maximum Annual Emissions in units of metric tons/year (MT/yr) for this pollutant.

Additionally, for mechanical removal (excavation) of the impacted material, import-export haul trucks, grading, and fill placement, more stringent NOx-control measures will be integrated into the Project to ensure that average daily NOx emissions remain below the BAAQMD threshold of significance. These additional NOx-control measures that will be incorporated into the project include:

- Idling time for all equipment will be minimized, with a special emphasis on reducing idling time from diesel-powered construction equipment. Idling times will be minimized either by shutting off equipment when not in use or limiting the maximum idling time for all equipment to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR).
- All construction equipment, diesel trucks, and generators will be equipped with Best Available Control Technology for emission reductions of NOx, to the extent possible.
- All contractor construction equipment will be maintained and properly tuned in accordance with manufacturer specifications.
- Motors, pumps, tools and other power equipment will be electrical where feasible.

With the above listed NOx control measures and BMPs identified above, the project's potential air quality impact from construction exhaust emissions will be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Impact Analysis:
The project's contribution to a cumulative air quality impact would be considerable if the incremental increase in emissions from the project exceeds significance thresholds. As shown above in Table 2 presented in item 3(a), the proposed Project's pollutant emissions would be below the BAAQMD significance thresholds. Thus, the project's contribution to criteria pollutants is not considerable, and the impact would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis:

Construction Equipment:
Nearby sensitive receptors to the project include residences located within the immediate vicinity of the Site (adjacent to the north of OU-1 and at OU-2) as shown in Attachment B - Figures 2 and 3. Diesel particulate matter (DPM) from construction equipment exhaust and soil remediation activities that would disturb contaminated soil could potentially release toxic air contaminants (TACs) into the community that could lead to a health risk impact to sensitive receptors. Potential impacts to air quality from TACs associated with DPM are expected to be less than significant for the following reasons:

- Project construction activities are temporary, occurring over a short duration of approximately 18 months, and health risk impacts from DPM are based on 30 to 70-year exposure durations; and,
- Measures incorporated into the Project as described above in item 3(a) to reduce NOx emissions will be implemented during the project.

With these considerations in mind, it is reasonable to expect the increase in potential health risk impact of DPM emissions would be less than significant.

Remediation:
Soil remediation activities are part of the proposed project and could potentially expose nearby sensitive receptors to TACs. The remediation would disturb contaminated soil, potentially releasing TACs that could lead to a health risk impact. During the remediation design phase of the project, a quantitative health risk assessment will be prepared as part of the BAAQMD permitting process. In order to conduct the remediation, the applicant will need to consult with, and potentially obtain a permit from the BAAQMD. During the design phase of the project, specific information about the activities, amount of soil disturbed, level of TAC emissions from the soil disturbance, and location of the activities would be better defined allowing the applicant and/or BAAQMD to perform a quantitative health risk assessment. If impacts of proposed project activities are above BAAQMD permitting threshold levels, then specific measures to reduce TACs would be designed and approved by the BAAQMD. The applicant would coordinate with the BAAQMD on the design and its effectiveness at reducing the health risks to levels allowed for a permit to be granted.

A permit would need to be obtained from the BAAQMD before project activities could commence. With required BAAQMD permitting, and mitigation measures that the BAAQMD would require as part of the permitting process, this impact would be less than significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Impact Analysis:
Odors may be emitted during the excavation and handling of impacted soil. BMPs incorporated into the project to minimize excavation emissions (item 3(a) above) will also minimize the potential for odors. In addition to these BMPs, other spray products such as foam suppressants that can be applied to soil stockpiles, exposed soil surfaces, and/or the ISCO/ISS soil swell may be used to minimize dust and odors if additional engineer controls are warranted during the project. Therefore, objectionable odors from the Project will not affect a substantial number of people and will have a less than significant impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. Bay Area Air Quality Management District website accessed on March 6, 2018 for information on air quality and sources of air pollution in district at: http://www.baaqmd.gov/about-air-quality
2. "In Your Community" section of the BAAQMD website for Napa County accessed on March 6, 2018 for information on climate and general Air Quality specific to Napa County at: http://www.baaqmd.gov/in-your-community/napa-county
3. Bay Area Air Quality Management District (BAAQMD), 2017a. CEQA Air Quality Guidelines. May.
4. Bay Area Air Quality Management District (BAAQMD), 2017b. Share the Air, Cool the Climate, Final 2017 Clean Air Plan. April 19.
5. California Department of Conservation. 2000. A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos. August.
6. California Emission Estimator Model (CalEEMod) version 2016.3.2 (downloadable application) and User Guide accessed March 1, 2018 at: http://www.caleemod.com/
7. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

4. Biological Resources

Project Activities Likely to Create an Impact:

- Scraping, excavation, and stockpiling of contaminated material using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader).
- Loading the contaminated media into haul trucks.
- Off-site transport and disposal of excavated material.
- Importing clean backfill soils or materials and unloading this material from haul trucks.
- Backfill of all excavated areas with clean fill material using appropriate construction equipment (may include front end loader, roller, and/or grader).
- ISCO/ISS treatment.
- Demolition of site features (wells, pavement, concrete foundations)
- Restoring work areas to pre-remediation conditions.

Description of Baseline Environmental Conditions:

The Site (OU-1) is located in an area zoned for multi-family residential. The Site is vacant and consists of concrete pads from demolished apartment buildings, pavement, and soil. OU-2 is an occupied property that contains established multiple residential townhomes/condominiums, parking areas, trees, pavement, and backyard areas. OU-3 includes the Public right-of-way (ROW) along the Napa River including Riverside Drive, and the adjacent Riverside Park (upper river bank area) to the east of the Site. The upper river bank is narrow, heavily vegetated, and there is a steep slope from the upper river bank down to the river. Refer to Attachment B - Figure 3 for site vicinity layout. With the exception of the upper river bank area that comprises OU-3, the project work areas do not contain suitable conditions for biological resources including suitable habitat, and/or endangered/threatened/protected species.

To evaluate the biological resources at OU-3 and obtain the necessary data to prepare a Screening Level Ecological Risk Assessment (SLERA), a cursory habitat survey of the upper river bank (OU-3) of the Napa River was conducted in November 2015 by Maxon Consulting (Maxon). The results of the survey were summarized in the SLERA dated November 2016 (Maxon, 2016). The survey described the upper river bank to most closely resemble Valley foothill riparian habitat found in the Central Valley and the lower foothills of the Cascade, Sierra Nevada, and Coast ranges. The upper river bank habitat was described as a complex structure with a dense canopy and impenetrable understory of wild shrubs including sumac, wild grape, and willow, festoon trees, and brush. Approximately 20 mature trees were observed in the survey area, including eucalyptus, pine, and cottonwood. The observed ground cover consisted mainly of leaf litter and other vegetative detritus with less than 10 percent exposed surface soil.

A focused botanical survey was conducted as part of the 2015 cursory habitat survey primarily to identify Mason's lilaeopsis (Lilaeopsis masonii), commonly known as mudflat quillplant. The survey concluded that the upper river bank is unsuitable habitat for this aquatic species, which was only found at the base of the riverbank (lower river bank is outside the limits of OU-3 and proposed project).

Napa County listed federal and state endangered and threatened wildlife species within the upper river bank area were investigated as part of the 2015 habitat survey. Federally protected species listed for Napa County in the U.S. Fish and Wildlife Service's Environmental Conservation Online System (ECOS) database (http://ecos.fws.gov/ecp/) and State protected species listed for Napa County in the California Wildlife Habitat Relationship (CWHR) database (https://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx) maintained by the Department of Fish and Wildlife (DFW) were evaluated for their presence at OU-3. No federal and state listed protected species were encountered during this investigation. The only wildlife encountered in the upper river bank area and vicinity during the 2015 survey included several bird species consisting of one Western scrub jay (Aphelocoma californica) sited on the west side of Riverside Drive, and several unidentified sparrows sited within the upper river bank area. There were no visible nests or burrows observed in the upper river bank area, although it is noted that that the dense tree cover obstructed easy viewing of these habitats. A summary of the wildlife species survey results is presented in Tables 3-1 and 3-2 of the SLERA (Maxon, 2016), and are included below in this CEQA IS.

Table 3-1. Upland bank habitat summary based on 4 Nov 2015, 12pm observations.

Habitat Type	Acres (% Site)	Observed Species	Relative Occurrence	Rare, Threatened, or Endangered
Valley foothill riparian	0.1 (100%)	Unidentified sparrow	Common	No
Valley foothill riparian	0.1 (100%)	Scrub jay	Common	No

Table 3-2. USFWS threatened and endangered wildlife species in Napa County evaluated for presence at the upland bank.

Listed Species	Population	Listing (CA/Fed)	Habitat	Range in Northern CA	May Occur at Upland Bank
Amphibians					
California tiger salamander (*Ambystoma californiense*)	Central CA	ST/FT	Ephemeral pools	Petaluma to Santa Rosa	no
California red-legged frog (*Rana aurora draytonii*)	Entire	FT	Marsh, Streams	Entire	no
Birds					
California least tern (*Sterna antillarum browni*)	Entire	SE/FE	Shoreline	Coastal/SF Bay Delta	no
California clapper rail (*Rallus longirostris obsoletus*)	Entire	SE/FE	Marsh	Coastal/SF Bay Delta	no
Western snowy plover (*Charadrius alexandrinus nivosus*)	Pacific coastal	FT	Shoreline	Coastal/SF Bay Delta	no
Insects					
San Bruno elfin butterfly (*Callophrys mossii bayensis*)	Entire	FE	Diet specific	San Francisco Peninsula	no
Callippe silverspot butterfly (*Speyeria callippe callippe*)	Entire	FE	Grasslands	Entire	no
Delta green ground beetle (*Elaphrus viridis*)	Entire	FT	Vernal pools	Entire	no
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	Entire	FT	Riparian forests[1]	Entire	no
Mammals					
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	US (CA)	SE/FE	Marsh	Entire	no

[1]dependent on its host plant, elderberry (Sambucus species); FE=federal endangered; FT=federal threatened; ST=state threatened; SE=state endangered; CA=California

Analysis as to whether or not project activities would:

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.

Impact Analysis:

OU-1 and OU-2 do not exhibit habitat areas. These properties are/were comprised of multi-family residential developments. OU-1 is currently vacant, but formerly contained apartment buildings that were demolished in 2011. The concrete pads/foundations remain at the surface along with pavement and localized soil areas. Therefore, it is unlikely the project will have a substantial adverse effect to any species or cause habitat modification that would indirectly affect species at OU-1. OU-2 is presently occupied with multi-family townhome dwellings, a gravel common area for parking, and each townhome has small backyard area. There are trees and planter landscaped areas located throughout OU-2. It is unlikely that the landscaped planters or backyard areas of OU-2 provide adequate habitat for protected species listed in the federal and state databases for Napa County. Therefore, it is unlikely the project will have a substantial adverse effect to any species or cause habitat modification that would indirectly affect species at OU-2.

According to the CNDDB and USFWS databases there are no critical habitats at the project OUs. A 2015 habitat survey of the OU-3 upper river bank area of the Napa River conducted as part of the SLERA (Maxon, 2015), did not encounter any species identified as candidate, sensitive, or special status for Napa County in federal and state databases. The only species encountered at OU-3 during the 2015 survey were several bird species consisting of one Western scrub jay (Aphelocoma californica) sited on the west side of Riverside Drive, and several unidentified sparrows sited within the upper river bank area. However, there were no visible nests or burrows observed during the 2015 survey, although it is noted in the SLERA that that the dense tree cover obstructed easy viewing. The SLERA (Maxon, 2016) also identified three federally listed aquatic/riparian bird species that have critical habitat in Napa County. The SLERA concludes that none of these bird species are expected to occur at the OU-3 upland bank area as follows.

- The California least tern (Stern antillarum browni) typically nests in colonies on relatively open beaches free of vegetation from tidal action (USFS, 2006).
- The California clapper rail (Rallus longirostris obsoletus) now occurs only within the tidal and brackish marshes around San Francisco Bay where it is restricted to less than 10 percent of its former geographical range (USFS, 2013).
- The Western snowy plover (Charadrius alexandrinus nivosus) found along the Pacific Coast of California nests on barren to sparsely vegetated sand beaches, dry salt flats in lagoons, dredge spoils deposited on beach or dune habitat, levees and flats at salt-evaporation ponds, and river bars (Wilson-Jacobs and Meslow, 1984). None of these habitats are found at the upland bank.

Other California and Federal listed species in the respective databases for Napa County were noted as unlikely to occur/be present at OU-3 because the species habitat was not observed at OU-3 during the 2015 habitat survey; refer to table 3-2 above from the SLERA (Maxon, 2016).

According to the E-bird Explore data tool (https://ebird.org/GuideMe?cmd=changeLocation), there are 300 bird species that have been sighted in Napa County in the last ten years with rare to widespread occurrence throughout the year. The USFWS database search did identify several migratory birds on the Birds of Conservation Concern (BCC) list that may occur at the project site. Identified migratory birds on the BCC list includes those bird species that occur throughout the range of the continental U.S. and Alaska, and a result could be present at the project site at any time during the year. The probability of presence summary indicates several of these migratory bird species breed anywhere across the entire range of presence including the Site. The probability of presence summary is developed for each week of the year, and calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. Migratory birds listed on the probability of presence summary include the following:

- Allen's Hummingbird Selasphorus sasin
- Black Rail Laterallus jamaicensis
- Black Swift Cypseloides niger
- Black Turnstone Arenaria melanocephala
- Black-chinned Sparrow Spizella atrogularis
- Burrowing Owl Athene cunicularia
- California Thrasher Toxostoma redivivum
- Clark's Grebe Aechmophorus clarkia
- Lawrence's Goldfinch Carduelis lawrencei
- Lewis's Woodpecker Melanerpes lewis
- Long-billed Curlew Numenius americanus
- Marbled Godwit Limosa fedoa
- Nuttall's Woodpecker Picoides nuttallii
- Oak Titmouse Baeolophus inornatus
- Rufous Hummingbird selasphorus rufus
- Short-billed Dowitcher Limnodromus griseus
- Tricolored Blackbird Agelaius tricolor
- Whimbrel Numenius phaeopus
- Willet Tringa semipalmata
- Wrentit Chamaea fasciata
- Yellow-billed Magpie Pica nuttalli

A search for the above listed migratory birds on the eBird mapping tool (https://ebird.org/map/) indicates several of these birds have been observed either at a personal location or birding hotspot within the City of Napa limits. However, the only bird species observed at the project site include one Western scrub jay and several unidentified sparrows as documented in the SLERA (Maxon, 2016).

It has therefore been concluded, based on current conditions, the 2015 habitat survey, and the search results for the project from the USFWS databases, that the project will not have a substantial adverse effect, either directly or through habitat modifications, as suitable habitat or critical habitat is not present at the OUs. The project OUs do not contain suitable habitat for the identified listed protected species, therefore it is unlikely these species occur at the OUs, and as a result the proposed project will not alter habitat and/or result in modification of habitat for candidate, sensitive, or special status species. Additionally, a review of the U.S. Fish & Wildlife Service Environmental Online Conservation System (ECOS) critical habitat report online mapper search by Site address, and iPAC planning tool, accessed on March 8, 2018, indicates there are no wildlife refuges, or critical habitats at the project OUs. However, if field work occurs during nesting season, a bird nesting survey will be conducted prior to the start of work in OU-3 project to verify migratory birds on the BCC list that have been identified above are not present in the work area at the time of the project.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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.

Impact Analysis:
According to the City of Napa General Plan, Chapter 7 Natural Resources, Riparian habitat consists of trees, shrubs, herbaceous plants and grasses that grow along watercourses that are both year-round and seasonal. Many species depend upon the riparian vegetation along the Napa River and its tributaries for water, food, cover and nesting sites. The vegetation cover shades the waterways and keeps the water temperature within the range necessary for fish breeding and feeding patterns. At one time, a dense canopy of riparian habitat lined the banks of the Napa River, but today most of the remaining vegetation exists only below the tops of the river banks. Expanses of rip-rap protecting the banks in the

lower third of the river within the city do not support any substantial vegetation, and in other areas non-native trees have replaced native vegetation.

The City of Napa General Plan Natural Resource Policy NR-1.1 requires the City protect riparian habitat along the Napa River and its tributaries from incompatible urban uses and activities. The City of Napa General Plan Natural Resource Policy NR-1.4 requires the City review all future waterway improvement projects (e.g., flood control, dredging, private development), as well as all projects that are within 100 feet of the waterway, to ensure that they protect and minimize effects on the riparian and aquatic habitats. Policy NR-1.4 also requires the City to encourage native plantings along the river and creek banks to stabilize the banks, reduce sedimentation, reduce stormwater runoff volumes, and enhance aquatic habitats.

The OU-3 area includes a narrow strip of land (approximately 0.1 acres) along the Napa River that is 400 feet long and varies in width from 1 to 20 feet (averaging about 10 feet wide) that does not provide critical habitat for federal or state protected species (Maxon, 2016). It is bounded to the east by a steep embankment of 50 to 80 degrees of mixed vegetation with occasional concrete block that slopes downward to the Napa River, and to the west by Riverside Drive, an asphalt road (Attachment B- Figure 3; Maxon, 2016). It is well-shaded from festoon trees (10-25 m tall) and brush and lacks a significant herbaceous layer (<1%). Understory shrubs include sumac, wild grape, and willow. It has approximately 20 mature trees, including eucalyptus, pine, and cottonwood. The ground cover is comprised mainly of wild shrubs, leaf litter, and other vegetative detritus with less than 10 percent exposed surface soil.

The proposed construction activities at OU-3 include capping of a very small area (approximately 0.1 acres). Capping will involve limited excavation followed by the placement of clean soil to a depth up to 2 feet, or a hard-cap (pavement). Ground cover and shrubs within the OU-3 area will be disturbed by the project, however trees in the OU-3 area would be protected in place. Tree and root zone protection measures will be incorporated into the project to protect all trees within OU-3 and the project will be conducted in such a way that it complies with City of Napa Natural Resources Policies 1.1 and 1.4.

Because sensitive communities and/or habitat associated with listed protected species do not occur at OU-3, the size of OU-3 is very limited (approximately 0.1 acres), the surrounding area is currently developed as a residential community, and all trees within OU-3 will be protected in place to minimize impacts to the habitat, the proposed project would not have a significant impact on riparian habitat or other sensitive natural communities.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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.

Impact Analysis:
According to the US Fish and Wildlife Service National Wetlands Inventory wetland mapper web application, the riverine wetland classified as R1UBV includes the Napa River and adjacent lower river bank area. The Napa River is considered a jurisdictional water of the United States. The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 401 and 404 of the Clean Water Act (CWA) and Sections 1600–1616 of the California Fish and Game Code. Under federal law, wetlands are a subset of “waters of the United States” and receive protection under Section 404 of the CWA. Projects that would result in the placement of dredged or fill material into waters of the United States require a Section 404 permit from the Corps of Engineers. Section 401 of the Clean Water Act requires an applicant for a Corp of Engineer 404 permit obtain state certification that the activity associated with the permit will comply with applicable state effluent limitations and water quality standards. In California, water quality certification, or a waiver, under Section 401 must be obtained from the Regional Water Quality Control Board for both Individual and Nationwide Permits. The project Site is located within the San Francisco Bay Regional Water Quality Control Board (SFRWQCB). Under Section 401 of the Clean Water Act, the SFRWQCB has review authority of Section 404 permits. The SFRWQCB has a policy of no net loss of wetlands and typically requires mitigation for all impacts to wetlands before it will issue a water quality certification. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state, and prospective dischargers are required to submit a report of waste discharge to the SFRWQCB.

Further, modification of recreational trails on the tops of levees or on any surfaces sloping down towards the bed and bank of the Napa River require a Section 404 Permit from the Corps of Engineers and 401 water quality certification from

the SFRWQCB. Corps of Engineer policies for wetland protections focus first on avoidance. If avoidance is not feasible, compensatory mitigation is required. Typically, compensatory mitigation can consist of onsite or offsite wetland enhancement or creation, or in-lieu compensation in the form of payment into existing programs, mitigation banks, or other mechanisms deemed suitable by the permitting agencies. Corps of Engineer wetland replacement ratios are typically 1:1 or greater for area replaced to area lost. Additionally, project activities that may impact wetlands or streams would need to comply with the City of Napa General Plan Policy NR-1.5 for restoration and enhancement wetland, riparian, and fish habitats.

Project activities at OU-1, OU-2, and OU-3 will be conducted outside of the wetland area. The proposed work at OU-3 will be conducted on the upper river bank area, away from the slope of the riverbank and outside of the wetland area. The work will include minimal grading/excavation and installation of up to a 2-foot thick cap consisting of soil or hard-scape (asphalt) to cover the existing ground surface in areas where MGP related compounds have been observed in the subsurface. At the end of work, the project area will be restored to existing or similar grade.

Because work is being conducted on the upper river bank away from the bank sloping down to the river, there will be no significant impacts to the wetland. Additionally, no dredging activities will be conducted, and no effluents will be discharged to the Napa River which would necessitate a section 404 permit with the Corp of Engineers and/or Section 401 certification from the SFRWQCB. Therefore, the project will have a less than significant impact on federally protected wetlands as defined by Sections 401 and 404 of the Clean Water Act.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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.

Impact Analysis:
As noted above, the Site is located in an area of developed residential properties. OU-1, OU-2, and OU-3 do not contain open water that would support native resident or migratory fish. Therefore, the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Impact Analysis:
The project will not conflict with any of the local policies or ordinances protecting biological resources. The City of Napa Municipal Code designates specific parts of the City where a tree permit is required for tree removal/impacts, tree replacement measures for removed trees, and tree protection measures for trees to be retained. All trees located on City property require a permit to injure, destroy, or remove, or to place stone, cement, plastic, or any other substance which impedes the free access of water or air to the roots, within 20 inches of the trunk. Prior to construction, trees are required to be protected from damage to trunks, branches, roots, or damage caused by soil compaction or contamination. Further, all landscape materials are protected on City property pursuant to City code 12.44.040, and City code12.45.090 protects all native trees located on private property. Native trees as defined as follows in the City code:

Table 3
City of Napa Municipal Code Section 12.45.020 - List of Protected Native Tree Species

Common Name	Botanical name	Diameter
1. Valley Oak	Quercus lobata	12 inches or greater

Table 3 City of Napa Municipal Code Section 12.45.020 - List of Protected Native Tree Species		
Common Name	**Botanical name**	**Diameter**
2. Coast Live Oak	Quercus agrifolia	12 inches or greater
3. Black Oak	Quercus kelloggii	12 inches or greater
4. Blue Oak	Quercus douglasii	6 inches or greater
5. Coast Redwood	Sequoia sempervirens	36 inches or greater
6. California Bay	Umbellularia californica	12 inches or greater
7. Black Walnut	Juglans hindsi	12 inches or greater

Notes:

Protected native tree means a tree which meets both of the following requirements:

1. Is one of the species of tree listed above with a diameter as shown.
2. Is located on private property over one acre in size zoned for residential or agricultural purposes, or is located on property zoned for commercial or industrial purposes.

A city permit is required to prune any branch or limb of a protected native tree greater than four inches in diameter, remove more than 10 percent of any live foliage in any one-year period, cut any root over two inches in diameter within the drip line area, change, by more than two feet grade elevations within the drip line area, place or allow to flow into or over the drip line area any oil, fuel, concrete mix or other substance that could injure the tree, and tree removal.

OU-1 and OU-2 are located on private property. In the event it is determined a tree needs to be removed to fully execute the proposed project at OU-1 and/or OU-2, a tree survey will be conducted to identify if native trees, as defined by the City, are present, triggering the need for tree removal permit. If native trees are identified, then these trees would be protected in place or a tree removal permit would be obtained and all conditions of the permit would be implemented prior to removal of any trees. At OU-3, tree buffer zones located a minimum distance of 20-inches from the tree trunk will be established to ensure protection of all trees in the work area. A permit will be secured with the City for any work at OU-3 within 20-inches of the tree trunk. In general, all local City ordinances will be followed with regard to tree removal, tree protection, and tree replacement. Therefore, the project will have a less than significant impact as it will not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Impact Analysis:
The project is not located within a habitat conservation plan area, local community conservation plan area, or local habitat plan area. The proposed project is covered by the City of Napa Municipal Code and the City of Napa General Plan. Proposed project activities will not conflict with any part of the Municipal Code or General Plan. Additionally, the project does not involve development or redevelopment of the Site (all work areas will be restored to similar or existing grade at completion of the project). Therefore, the proposed project does not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or approved local/regional/state habitat plan.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. US Fish and Wildlife Service National Wetlands Inventory Wetland Mapper web application accessed on March 8, 2018 at: https://www.fws.gov/wetlands/data/mapper.html
2. U.S. Fish & Wildlife Service Environmental Online Conservation System (ECOS) critical habitat report online mapper search by Site address, and iPAC planning tool to identify species list, critical habitat, and wetlands within defined Site area at: https://ecos.fws.gov/ipac/ and http://ecos.fws.gov/ecp/report/table/critical-habitat.html accessed on March 8, 2018.
3. Maxon Consulting, Inc. (Maxon), 2016, Screening Level Ecological Risk Assessment, PG&E Former Napa-1 Manufactured Gas Plant Site, Upland Bank Area, November 9.
4. Napa County California Planning Division, Conservation Division accessed on March 8, 2018 at: https://www.countyofnapa.org/1891/Conservation-Division
5. Napa County General Plan Conservation Element and Agricultural Preservation and Land Use Element accessed on March 8, 2018 at: https://www.countyofnapa.org/1760/General-Plan
6. City of Napa General Plan Chapter 7 Natural Resources accessed on March 8, 2018 at: https://www.cityofnapa.org/259/General-Plan
7. City of Napa Municipal Code accessed at: http://qcode.us/codes/napa/view.php?topic=city_of_napa_municipal_code&frames=on
8. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

5. Cultural Resources

Project Activities Likely to Create an Impact:

- Excavation and surface disturbing activities
- Drilling and installation of post-remediation groundwater wells and soil gas wells

Description of Baseline Environmental Conditions:

A cultural resources review and survey was completed for the project site in June and July 2016. This report is included in Attachment C. The survey included a database cultural records search for the project site and a 0.25-mile radius area surrounding the project site, consultation with the Native American Heritage Council (NAHC), a buried site sensitivity assessment, and a field reconnaissance of the project site. The results are summarized as follows:

- The database records search revealed five cultural resource sites within one-quarter mile of the project site. There were no resources listed for the project site. The five resources identified within the site vicinity are historic in age and included: (1) the Napa Valley Southern Pacific Railroad and, (2) the Napa Valley Railroad, both located 800 feet east of the Site beyond the Napa River; (3) and (4) Two residential structures built in the 1930s, located 300 feet west of the project site. However, the listings indicate both residential structures are not eligible to the National Register through consensus by a federal agency and the State Historic Preservation Officer; and, (5) The Sawyer Tannery building established in 1870-71. This resource is located approximately 800 feet southwest of the project site and is eligible to the National Register through consensus by a federal agency and the State Historic Preservation Officer.

- The NAHC search of sacred lands file did not identify any Native American traditional cultural places that may be impacted by proposed project. However, a list of six Native American contacts with possible knowledge of cultural resources within the project site and vicinity was provided from the NAHC. Outreach letters sent to these six contacts resulted in two responses; a site meeting was held with a representative of the Yocha Deke Wintun tribe, and a response letter from the Mishewal-Wappo Tribe of Alexander Valley requested that a monitor be present during construction. The other tribes contacted had no concerns regarding the project. The Mishewal-Wappo Tribe will be contacted prior to the start of construction so they can provide a monitor as desired.

- The results of the buried site sensitivity assessment indicate the possibility of encountering previously unidentified buried resources. The project area lies on a nearly level Holocene floodplain adjacent to the Napa River, near a confluence with another minor drainage, therefore, the model indicates that the potential for buried sites is high to highest in the project area.

- The field reconnaissance survey did not encounter cultural resources or materials at the project site. OU-1 was previously occupied with apartment buildings, which have been demolished. Observations included sparse vegetation, sparse soil ground cover, paved parking areas, and concrete foundations associated with the former

buildings. OU-2 is an actively used/occupied property comprised of townhomes, a gravel/paved common area, landscaping, and private backyards areas. No cultural materials were observed at this property due to the landscaping and its continued use. OU-3 includes the upper river bank area of the Napa River, located east of Riverside Drive. This area of the project site was densely vegetated on the top of the river's cut bank but decreased in vegetation closer to the road. The road and the erosion from the river appear to be the only disturbances to this parcel.

As recommended in the cultural resources study, based on the potential for subsurface buried deposits, an archaeological monitor will be onsite as needed to observe soil excavation activities. An archaeological awareness tailboard shall be provided to the construction crew prior to the start of soil excavation. An archaeological monitor shall monitor soil excavation activities due to the risk for encountering buried cultural resources. The level of monitoring effort required may be reduced, modified or suspended at the discretion of the monitor based on field conditions and soils identified during the project.

In the event that any suspected cultural and/or archaeological resource is unearthed during soil excavation activities, the archaeological monitor will stop work, and contact a PG&E Cultural Resources Specialist immediately. The location of any such finds will be kept confidential and measures will be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. A protocol will be implemented that provides measures for consideration and treatment of the find pursuant to regulation 36 CFR 800.13 (Post-review discoveries) and in coordination with pertinent agency personnel. Additional measures to meet these requirements after the PG&E Cultural Resources Specialist has been notified include assessment of the nature and extent of the resource, including its possible eligibility for listing in the National Register, and subsequent recordation and notification of relevant parties based upon the results of the assessment.

Analysis as to whether or not project activities would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.

Impact Analysis:
No historical resources have been identified at the project Site. Refer to the above Description of Baseline Environmental Conditions. Therefore, project activities will not cause an adverse change in the significance of a historical resource.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5.

Impact Analysis:
There are no known archaeological resources at the project OUs. Refer to the above Description of Baseline Environmental Conditions. Therefore, project activities should not cause a substantial adverse change in the significance of an archaeological resource at the project OUs. However, as recommended in the cultural resources study, based on the potential for subsurface buried deposits to be encountered during the project, an archaeological monitor will be onsite as needed to observe soil excavation activities, inform the construction crew, and conduct tailboard meetings. Further, in the event a possible archaeological resource is unearthed during soil excavation activities, work shall be stopped, and a PG&E Cultural Resources Specialist will be contacted immediately. DTSC staff will also be notified, informed, and collaborate in the decision-making process on this situation.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

There are no known human remains located on the project OUs or within 0.25- mile radius of the Site. Refer to the above Description of Baseline Environmental Conditions. In the event of accidental discovery or recognition of any human remains, work will immediately be suspended, and the County Coroner notified to determine its origin. DTSC staff will also be notified. If the County Coroner determines that the human remains are Native American, he will contact the NAHC within 24 hours. Additionally, procedures prescribed under CEQA Guidelines, CCR section 15064.5(e) and H&SC section 7050.5 will be implemented to ensure compliance with the appropriate California laws and regulations in protecting cultural resources.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. Far Western Anthropological Research Group, Inc., 2016, Cultural Resources Study of PG&E Napa-1 Manufactured Gas Plant Facility Remediation Project, Napa, Napa County, California, by Courtney Higgins, M.A. November 2016 Final.

6. Energy

Project Activities Likely to Create an Impact:

- Use of diesel fuel for construction equipment and haul trucks
- Use of gasoline for project vehicles
- Use of electricity to charge field monitors and continuously operate perimeter air samplers
- Use of electricity to power construction trailers

Description of Baseline Environmental Conditions:

The Site (OU-1) is located in an area zoned for multi-family residential. The Site was historically occupied with a multi-family residential building (i.e., apartment building), which has been vacated and demolished. The Site is currently unoccupied and consists of concrete pads from demolished apartment buildings, pavement, and soil. OU-2 is an occupied property that contains established multiple residential townhomes/condominiums, parking areas, trees, pavement, and backyard areas. OU-3 includes the Public right-of-way (ROW) along the Napa River including Riverside Drive, and the adjacent Riverside Park (upper river bank area) to the east of the Site. OU-2 is an occupied multi-family dwelling that utilizes multiple natural resources such as natural gas and electricity to power the townhomes. Natural resources including diesel fuel, gasoline, and electricity will be required to execute the project. The selection of the proposed plan included a sustainability evaluation as described in the RAP. The alternative with the least amount of environmental impact received the greatest sustainability rating in the feasibility evaluation. Alternative 4 was ultimately selected as the proposed remedy because it meets the RAOs, has the best rating for the comparative analysis of the seven standard CERCLA criteria, while reducing the volume of soil requiring removal, reducing haul truck trips, and reducing project duration, which in turn all reduce the amount of energy consumed by the proposed project. During the project construction, best management practices will be implemented to reduce the use of natural resources. These BMPs will include minimizing heavy equipment idling time, turning off engines not in use, turning off lights in the construction trailers when not occupied, using solar rechargeable battery power for the vibration monitors, and running the perimeter air samplers as efficiently as possible (regular cleaning and calibration to minimize the sampler motor speed and required draw of electric voltage). Following the project completion, the use of natural resources at the Site will be unchanged from current usage as OU-1 will remain a vacant lot, OU-2 will continue to be occupied by multi-family dwellings, and OU-3 will remain unchanged as the City ROW area along Riverside drive and upper bank area of the Napa River.

Analysis as to whether or not project activities would:

a. Result in potentially significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

The project will utilize diesel fuel, gasoline, and electricity energy resources. The proposed project has been selected as the remedial alternative because it meets the project remedial goals while helping to minimize the environmental impact. Best management practices, including minimizing heavy equipment idling time, turning off lights in the construction trailers when not occupied, using solar rechargeable battery power for the vibration monitors, and running the perimeter air samplers as efficiently as possible (regular cleaning and calibration to minimize the sampler motor

speed and required draw of electric voltage) will be in-place to ensure energy consumption is limited to essential operations, and is efficiently utilized.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Local agencies including the City and County of Napa have the following renewable energy plans:

- City of Napa Sustainability Plan, adopted July 2012 – Section Energy: goal is to reduce City's energy use to 15% less than 2005 levels by 2020 by replacing HVCA systems with energy efficient models, retrofit lightning in city facilities, lightning, retrofit city streetlights with LED and similar. The report indicates that although energy saving actions have been successful, enhanced water system operations are estimated to increase energy consumption by 530,000 kilo wat-hours per year starting in 2012, which offsets the energy savings from the 2006 solar power system install.
- City of Napa has joined MCE Clean Energy membership –MCE is a public, not-for-profit electricity provider that gives all current PG&E customers the choice of having 50% to 100% of their electricity supplies be derived from renewable resources such as solar, wind, bioenergy, geothermal, and hydroelectric. Council members in Napa, American Canyon, Calistoga, St. Helena, and Yountville voted to join MCE to give all electric customers in Napa County the opportunity to purchase more renewable, competitively-priced electricity as an alternative to PG&E's energy supply.
- Property Assessed Clean Energy - The City of Napa continues to provide more options to property owners for financing eligible renewable and efficiency improvement projects. Eligible improvements vary by provider but can include energy efficiency, water conservation, and renewable energy improvements.
- Napa County Green Business Program: This program certifies businesses that operate in an environmentally-responsible manner. By offering technical assistance, the County helps local businesses save money by helping them to become a green business by showing them where/how they can make changes at their business to conserve energy and water, minimize waste, prevent pollution, and shrink their carbon footprint. Following an assessment by the County, recommendations are made to get the business operating in a green manner. Once the upgrades are incorporated, the business will be certified as green, which in turn allows the business to saves millions of dollars in utility costs, and gain recognition and a marketing edge through events and registry on the statewide Green Business directory.
- Napa County Energy Efficiency Program – provides assistance to homeowners to make energy efficient upgrades. This program's motto is "we all have the power to reduce our energy use at home- from turning off the lights when not in use to upgrading to more efficient home energy systems." Napa County is collaborating with the Bay Area Regional Energy Network (BayREN) to offer rebates and assistance to homeowners and multi-family property owners for energy-efficient home improvements.

These local policies and plans for energy savings will not be impacted by the project. They are part of a long-term reduction in energy consumption throughout the City and County, with an end goal of 2020. The project is of short duration in comparison, and will utilize minimal electric resources compared to electricity consumption form business and residences throughout the county. Further, the project will be operated in a sustainable manner, and energy consumption will be reduced to the extent practical. Sustainability will be built into all aspects of the project and energy resources will only be consumed as necessary to operate equipment.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.
2. Napa County Green Business Program accessed at: https://www.countyofnapa.org/1591/Green-Business
3. Napa County Energy Efficiency accessed at: https://www.countyofnapa.org/1587/Energy-Conservation
4. City of Napa Sustainability Plan accessed at: https://www.cityofnapa.org/DocumentCenter/View/925/Sustainability-Plan-Initiatives-PDF?bidId=
5. Summary of available City of Napa Energy Savings Plans accessed at: https://www.cityofnapa.org/486/Sustainability

7. Geology and Soils

Project Activities Likely to Create an Impact:

- Activities that disturb the surface of the soil (e.g. removal of existing pavement, excavation, grading) may increase erosion.

Description of Baseline Environmental Conditions:
Fill material and Quaternary alluvium deposited by the Napa River and its tributaries underlie the Site. The fill material at the Site consists of a mixture of clay, sand and gravel along with various debris (e.g., concrete, glass, brick, wood) and residue (e.g., black powdery material, oily material) in some areas, apparently from historical operations. Fill thickness throughout the Site is variable, and generally ranges from less than two feet to approximately five feet. Within former below-ground MGP structures, fill was observed at depths as great as 17 feet below ground surface (bgs) (e.g., within the footprint of the former Brick Belowground Gas Holder). Below the fill material lies native fine-grained soil consisting of lean clay and silt, generally starting between approximately two and five feet bgs, and extending to approximately 25 to 35 feet bgs. The native fine-grained unit is underlain by a transitional zone of sandy clay to clayey sand that varies from 1 to 10 feet thick, generally occurring in the depth range of 25 to 35 feet bgs. The first coarse-grained unit underlies the transitional sandy clay to clayey sand unit and consists of poorly graded sands with varying amounts of fine to coarse gravel. The top of this coarse-grained unit was found at between 27 and 35 feet bgs, with the base at approximately 60 feet bgs. Below the coarse-grained unit lies a second fine-grained soil unit extending to the maximum depth explored (66 feet bgs).

The depth to groundwater measured in the project groundwater monitoring wells historically ranges from approximately 8 to 14 feet bgs. The Napa River, which is located just east of the Site and immediately to the east of Riverside Drive, is tidally influenced and apparently hydraulically connected to the coarse-grained sand and gravel unit. The potentiometric surface of this unit and groundwater flow direction vary with the tides propagated by the Napa River. Groundwater flow is generally toward the river at mid and low tides, but away from the river at high tides.

Analysis as to whether or not project activities would:

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.

Impact Analysis:

Item 6a-i) Surface fault rupture typically is observed, and expected, on or within close proximity to a causative fault. According to the State of California Department of Conservation Regulatory Maps Portal and the Alquist-Priolo Earthquake Fault Zoning Map, fault zones are delineated within the Napa Quadrangle west-southwest of the City of Napa and Highway 29. Therefore, there are no delineated Alquist-Priolo fault zones located at or near the project site or vicinity. The West Napa fault zone and Green Valley-Concord fault zone are the closest active faults to the project area zoned under the Alquist-Priolo Earthquake Fault Zoning Act. The City of Napa General Plan identifies four active faults in the region outside of Napa County including: (1) San Andreas, (2) Hayward, (3) Calaveras, and (4) Rodgers Creek faults, and

three active faults within Napa County including: (1) Cordelia, (2) Green Valley, and (3) West Napa faults. According to the City of Napa General Plan, there are no known active faults running directly through the City of Napa, and as a result ground rupture at the project Site is presumably not a hazard. The Downtown Specific Plan prepared for the City of Napa in 2012 lists the proximity of active faults to the downtown City of Napa area. According to Table 4.E-1 of the Downtown Specific Plan, the West Napa fault and Green Valley faults are located closest to the downtown area and project site at a distance of approximately 4 miles west and approximately 6 miles east, of the City of Napa, respectively. As discussed, neither of these faults transects the project Site and no other active faults have been mapped within or relatively close to the project site (or within the City of Napa limits). Therefore, it is unlikely ground rupture from a known earthquake zone would impact the project Site.

Item 6a-ii) The primary seismic concern within the City of Napa is ground shaking associated with regional and local (within county) faults. According to the City of Napa General Plan Chapter 8 Health and Safety, Seismic Hazards, earthquake-generated ground shaking can cause both structural and nonstructural hazards, such as falling ceilings and light fixtures, toppling exterior parapets, shattered glass, and the dislodging of furniture and equipment. As with most communities in the San Francisco Bay Area that are located near active earthquake faults, much of Napa is susceptible to violent ground shaking as experienced most recently during the South Napa earthquake of 2014. Further, according to the General Plan a large area south of Napa is subject to very strong to very violent ground shaking associated with activity along the Hayward Fault and West Napa Fault. There are no structures or persons located at OU-1 and OU-3 areas. Structures at OU-2 are mature active/occupied dwellings. The risk of exposure to people and/or structures from adverse effects resulting from strong ground shaking at OU-2 due to seismic activity will not be greater than the present risk because project activities will protect the existing structures during work, while excavating soil from the common areas and backyards near-by these structures, while restoring all areas to meet or exceed existing condition. The property will be left in the same state as it is currently. Therefore, the project will not directly expose structures or people to strong ground shaking that results in potential substantial adverse effects.

Item 6a-iii) The City of Napa General Plan Chapter 8 Health and Safety, Seismic Hazards, indicates the poorly consolidated younger alluvium that occupies areas south of the city and along the Napa River are considered to have high to very high potential for liquefaction. The younger soils found on the valley floor in the western part of the city are also subject to moderate to high potential for liquefaction. Further, the City of Napa General Plan states areas which have the greatest potential for liquefaction are those areas where the water table is less than 50 feet below the surface and soils are predominantly clean, composed of relatively uniform sands, and are of loose-to-medium density. The Site is located just west of the Napa River in the southern end of the City, and investigations have encountered shallow groundwater at depths of 8 to 14 feet, and native fine-grained soil consisting of lean clay and silt, generally starting between approximately two and five feet bgs, and extending to approximately 25 to 35 feet bgs. Excavation associated with the proposed project is limited to depths up to 15 feet bgs. Liquefaction results from the sudden temporary loss of shear strength in saturated, loose to medium dense, granular sediments subjected to ground shaking. Although the project site exhibits tidally influenced shallow groundwater, the soil types within the limits of work are fine-grained, which are not conductive to liquefaction. Therefore, the liquefaction potential at the project site is low.

Item 6a-iv) Landslides consist of rock, soil and/or debris that move downslope by sliding, flowing or falling. Movement ranges from very slow (earthflow) to very fast (debris flow). Landslides vary in size from large blocks of material and slumps to relatively small amounts of surface debris. Susceptibility to soil erosion and landslides varies based on geologic materials and slope steepness. The Site is in an area of the City noted to slope less than 15% according to the General Plan Figure 8-3, which represents the lowest potential for landslides. Additionally, the project does not involve construction of any structures. Therefore, the potential for substantial adverse effects, including the risk of loss, injury, or death at the project site related to landslides is unlikely.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:
Soils in the area are prone to erosion by wind and stormwater. Driving over, scraping, excavating, stockpiling unearthed soils, or otherwise disturbing the existing surface during windy weather conditions or periods of rain could result in soil erosion. However, soil erosion will be controlled by implementation of preventive measures and best management practices including placement of gravel bags, straw wattles, or similar, at the work area limits; covering all non-active soil

stockpiles; and frequent wetting of exposed soil surface by water truck and/or hoses connected to local fire hydrants to contain fugitive dust. Implementation of these measures will reduce soil erosion impacts to a less than significant level.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ 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.

Impact Analysis:
The project site and surrounding area as a whole are relatively flat. Additionally, site topography and soil types are not conductive to landslides or liquefaction. The sidewalls of all proposed excavations deeper than five feet will be laid back by sloping or supported by shoring or alternative methods recommended and approved by the soils engineer. All excavations will be backfilled with clean imported material, compacted, and restored to its original grade. Therefore, the proposed project activities are not expected to result in off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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.

Impact Analysis:
The proposed project does not involve construction of structures that would be affected by expansive soils. Soil to be excavated would primarily consist of fill material. Soil to be excavated below the fill material consists of fine-grained clay and silt. The excavation cavities would be backfilled with clean, imported fill material tested and approved by the soil engineer. The excavations would be backfilled in accordance with local/state requirements. Therefore, project activities would not create substantial risks to life or property related to expansive soils, and no mitigation is required.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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.

Impact Analysis:
No septic tanks or other waste disposal systems will be used on this project. Therefore, implementation of the proposed project would not result in impacts to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems, and no mitigation is required.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impact Analysis:
There are no known paleontological resources or unique geologic features located on the project OUs or within a 0.25-mile radius of the Site. Refer to the above Description of Baseline Environmental Conditions. However, if any

paleontological resource is encountered during the course of ground disturbing activities, such activities will be temporarily suspended, and a qualified paleontologist will be contacted to assess the discovery. The qualified paleontologist will identify the specimen to the lowest taxonomic level and if determined to be significant, the specimen will be delivered to a curator at a qualified institutional repository. DTSC staff will also be notified, informed, and collaborate in the decision-making process on this situation.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. California Division of Mines and Geology Special Publication 42 (interim revision 2007), Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps.
2. State of California Department of Conservation, California Geological Survey, Regulatory Maps Portal at: http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps; Napa Quadrangle, Zones of Required Investigation Released January 2018 (PDF map showing earthquake fault zones and active fault traces for Napa Quad).
3. City of Napa General Plan, chapter 8 Health and Safety, Adopted 12/1/98, Incorporates Amendments to 9/09, accessed at: https://www.cityofnapa.org/DocumentCenter/View/452
4. Downtown Napa Specific Plan, January 2012, accessed at https://www.cityofnapa.org/DocumentCenter/View/2343
5. USGS M6 South Napa, California Earthquake – August 24, 2014 accessed at: https://earthquake.usgs.gov/earthquakes/events/2014napa/
6. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

8. Greenhouse Gas Emissions

Project Activities Likely to Create an Impact:

- Presence and operation of construction equipment.
- Generation of fugitive dust and particulates with potential chemical contaminants from excavation zones, decontamination areas, general work areas, stockpile areas, truck loading areas, truck staging/parking areas, and truck routes.
- Excavation of impacted soils using construction equipment (i.e., excavator, backhoe, and/or front-end loader).
- Transportation of impacted soil to appropriate off-site permitted disposal facilities.
- Transportation of clean fill material and ISCO/ISS binding agents from off-site locations onto the project OUs.
- Loading haul trucks with soil export and unloading haul trucks with clean backfill import.
- Backfill of excavated areas with clean fill materials using construction equipment (i.e., front-end loader, grader).
- Operation of on-site cement mixing plant (for in situ stabilization).
- Use of heavy construction equipment (drill rig and/or excavator with attachment) to mix ISCO/ISS materials into deeper soils.
- Capping activities and restoring all work areas to pre-remediation conditions using paving equipment and heavy construction equipment (roller, compactor, loader).
- Use of vehicles and small trucks to bring personnel, equipment, and supplies to the OUs during construction.

Project construction activities would involve the use of various types of heavy equipment and vehicles that will emit carbon dioxide (CO2) resulting from fossil fuel combustion. Excavators and other earth moving equipment will be required to remove and load the impacted material onto trucks. Trucks will be required to transport the excavated material to off-site landfills and import clean fill, ISCO/ISS binding agents, and cap materials from off-site. Heavy construction equipment and a batch plant will be required to mix, store, and place ISCO/ISS binding agents in deeper soils. In addition, use of heavy equipment will be required to backfill-compact the excavations with clean imported fill materials, cap surface soils, and to pave selected areas. Finally, most workers will be expected to arrive at the project work areas by personal vehicle. The major category of greenhouse gas (GHG) emissions resulting from human activities is carbon dioxide (CO2) from fossil fuel combustion.

Description of Baseline Environmental Conditions:

GHGs are pollutants with impacts causing global concern unlike criteria air pollutants or toxic air contaminants that are pollutants of regional and/or local concern. GHGs contribute to climate change by allowing ultraviolet radiation to enter the atmosphere and warm the Earth's surface, but they also prevent some infrared radiation from the Earth from escaping back into space. The largest anthropogenic source of GHGs is the combustion of fossil fuels, which results primarily in emissions of CO_2. Mitigating or reducing GHG emissions is critical to slowing climate change. In 2013, the most recent year for which data are available, GHG emissions in the State of California were about 459,300,000 metric tons of CO2e[1] (CARB 2015). The transportation sector is the largest contributor, producing 37 percent of the state's total emissions in 2004. Industrial sources are the second largest contributor (CARB 2015).

Several other primary gases are classified as GHGs including methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere (known as Global Warming Potential or GWP). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its GWP. The following table shows the GWPs for different GHGs for a 100-year time horizon.

Global Warming Potential (GWP) for Greenhouse Gases

GHG Pollutant	GWP
Carbon Dioxide (CO_2)	1
Methane (CH_4)	34
Nitrous Oxide (N_2O)	298
Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs)	138 to 8,060
Sulfur Hexafluoride (SF_6)	23,500

Source: Table 3-1 of Bay Area Air Quality Management District (BAAQMD), 2017b. Share the Air, Cool the Climate, Final 2017 Clean Air Plan. April 19.

California has taken proactive steps, briefly described below, to address the issues associated with GHG emissions and climate change.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets to reduce global warming effects such as climate change. It declared that increased temperatures could reduce the Sierra's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. The reduction targets are as follows:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32, The Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted the California Global Warming Solutions Act of 2006 (AB 32), focusing on reducing GHG emissions in California to 1990 levels by 2020. As required by AB 32, the California Air Resources Board (CARB) approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 million metric tons (MMT) CO_2e. CARB also projected the state's 2020 GHG emissions under business as usual (BAU) conditions—that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMT CO_2e. Therefore, under this original projection, the state must reduce its 2020 BAU emissions by 28.4 percent in order to meet the 1990 target. CARB updated their 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's revised 2020 BAU emissions estimate is 507 MMT CO_2e. Therefore, the emission reductions necessary to achieve the 2020 emissions target of 427 MMT CO_2e would be 80 MMT CO_2e, or a reduction of GHG emissions by 15.8 percent.

[1] The term CO2e is used to represent all greenhouse gas emissions, expressed as the impact of each different greenhouse gas in terms of the amount of CO2 that would create the same amount of warming.

State of California GHG Emissions - 1990 and 2009

Category	Total 1990 Emissions ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2009 Emissions ($MMTCO_2e$)	Percent of Total 2009 Emissions
Transportation	150.7	35%	172.9	38%
Electric Power	110.6	26%	103.6	23%
Commercial	14.4	3%	14.3	3%
Residential	29.7	7%	28.6	6%
Industrial	103	24%	81.4	18%
Recycling and Waste[a]	–	–	7.3	2%
High GWP/Non-Specified[b]	1.3	<1%	16.3	4%
Agriculture	23.4	5%	32.1	7%
Forestry	0.2	<1%	0.2	<1%
Forestry Sinks	-6.7		-3.8	
Net Total	**426.6**	**100%**	**453**	**100%**

[a] *Included in other categories for the 1990 emissions inventory.*

[b] *High GWP gases are not specifically called out in the 1990 emissions inventory.*

Sources: CARB, Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, (2007); CARB, "California Greenhouse Gas 2000-2009 Inventory by Scoping Plan Category – Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. Accessed March 2013.

Senate Bill 97

SB 97, enacted in 2007, amended the California Environmental Quality Act (CEQA) to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed the California Office of Planning and Research (OPR) to develop revisions to the State CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the Resources Agency to certify and adopt these revised State CEQA Guidelines by January 2010. The revisions were completed March 2010 and codified into the California Code of Regulations and became effective within 120 days pursuant to CEQA. The amendments provide regulatory guidance for the analysis and mitigation of the potential effects of GHG emissions. The CEQA Guidelines require:

- Inclusion of GHG analyses in CEQA documents;
- Determination of significance of GHG emissions; and,
- If significant GHG emissions would occur, adoption of mitigation to address significant emissions.

The BAAQMD has recommended CEQA thresholds of significance for assessing construction- and operational-related impacts of emissions of pollutants and ozone precursors. However, BAAQMD currently only recommends GHG thresholds for operational-related impacts, not for construction related impacts such as those to be generated from this Project. Regardless, GHG emission reductions from the Project would be achieved through implementation of some of the previously presented BMPs (see section 3 item[a]) including:

- Use of local source(s) of backfill material that would minimize travel distance.
- Limiting equipment idle time.
- Carpooling and overnight stays at local hotels to reduce commuting distance.
- Use of local labor and subcontractors whenever possible.

Analysis as to whether or not project activities would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Impact Analysis:

During construction, the Project will contribute GHG emissions through direct CO_2 emissions from vehicles and equipment. Heavy construction equipment including but not limited to loaders, bulldozers, saw cutting equipment, backhoe, drill rigs, excavator, and other earth moving equipment will be required to remove the existing wells, pavement,

and concrete pads from former buildings, excavate impacted soil, stockpile and/or load impacted soil onto haul trucks, off-load fill import, capping materials, Portland cement powder, and sodium persulfate imported to the site, blend the ISCO/ISS binding agents, install and mix ISCO/ISS agents into the subsurface, and site restoration including paving in select areas. Haul trucks will transport impacted soil to off-site permitted landfills and also be used for the importation of clean fill and ISS binding agents (Portland cement powder, sodium persulfate) from a local supplier. Construction equipment will also be required to grade the work area after excavation and/or ISCO/ISS treatment is complete, to pave the surface, and/or place a clean soil cap. Lastly, most workers will arrive at the project work areas by personal/passenger vehicle, and delivery of materials/supplies will be made by light trucks.

A total of approximately 42,000 cubic yards (approximately 2,600 truckloads) of material will be transported to and from the OUs as part of the remediation. Additionally, truck haul trips will be needed for vendor/supplies estimated at 3 truckloads per day throughout the project duration. Worker vehicle trips were included in the air emission analysis with a range of 13 to 25 vehicle trips daily to the OUs depending on the project phase as estimated by CalEEMod per default values.

The following BMPs will be incorporated into this project to the extent feasible and practicable to reduce project GHG emissions:

- Limiting equipment idle time.
- Recycling or reuse of demolition waste whenever feasible.
- Use of local source(s) for materials such as backfill material to minimize travel distance.
- Carpooling and overnight stays at local hotels to reduce commuting distance and daily trips to the OUs.
- Use of local labor and subcontractors whenever possible.

Pollutant emission estimates for the Project including the components of GHG were estimated using CalEEMod air emission model version 2016.3.2 as discussed in section 3.0 of this CEQA IS, and presented in Attachment D. Maximum daily pollutant emissions for the Project's construction phase were summarized above in Table 2 (section 3- item a of this CEQA IS) and show that project emissions are estimated below the established BAAQMD thresholds for ROG, NOx, PM10, and PM2.5. The estimated emissions presented in Table 2 (above; section 3-item [a]) do not account for the reductions in pollutant emissions including GHGs associated with project BMPs and NOx-control measures that will be required during the project.

Project GHG emissions were estimated by CalEEMod for the GHG pollutants by multiplying the individual GHG pollutants by its global warming potential (GWP) to obtain the pollutant-specific carbon dioxide equivalent. These values are then summed and reported in the CalEEMod output report as CO2 equivalent (CO2e); refer to Attachment D CalEEMod output reports. The reported estimated daily maximum, annual (construction phase/year) maximum, and total project GHG emissions expressed as total CO2e are estimated as follows:

- Daily maximum GHG emissions of 15,237.1146 lbs/day based on summer emission rates.
- Daily maximum GHG emissions of 15,184.3203 lbs/day based on winter emission rates.
- Annual Maximum GHG emissions of 898.7393 metric tons/year.
- Total Project GHG emissions of 1,630 metric tons.

As described in the footnote to Table 2 (section 3 item [a] above), the daily maximum and annual maximum GHG emissions as CO2e is the maximum estimated CO2e emissions of the three construction phases/years. The total project GHG emissions is the sum of the annual GHG emissions as CO2e for the three construction phases/years reported by CalEEMod in the annual output report.

The estimated GHG emissions represent a very small fraction of the total GHG emissions in the Bay Area. For comparison, in 2015 the total Bay Area inventory for GHG emissions totaled approximately 85 million metric tons of CO2e of which 35,420,000 metric tons of CO2e was due to vehicle and equipment exhaust (on-road and off-road transportation emissions). As described above, the BAAQMD has not established thresholds of significance for construction-related GHG emissions. However, implementation of the listed BMPs and NOx control measures will further reduce project GHG emissions below those values estimated and presented herein, thus minimizing GHG impacts from the project to the extent feasible and practicable and result in a less than significant impact on the environment.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Impact Analysis:
The BAAQMD has not established a threshold of significance for GHGs for construction projects. The BAAQMD CEQA Guidance does require the lead agency to quantify and disclose GHG emissions that would occur during construction and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting AB 32 GHG reduction goals. Further, the BAAQMD CEQA Guidance encourages the Lead Agency to incorporate best management practices to reduce GHG emissions during construction, as feasible and applicable.

The City of Napa adopted a City Sustainability Plan in 2012 to help with future compliance of anticipated state and federal legislation such as the State's GHG emission reduction goals of AB 32, which include achieving year 1990 GHG emission levels by 2020, in addition to other City-wide goals aimed at improving the quality of life, protecting the environment, and in many cases saving money. The City of Napa has not established specific GHG emission thresholds, but they have identified strategies to meet the 2020 emission goal. These strategies outlined in the 2012 City Sustainability Plan are presented for the community and the city and include practices and lifestyle changes to reduce GHGs to meet the 2020 goal. Strategies include changing out the city fleet vehicles to use a cleaner fuel such as natural gas instead of diesel, encouraging walk/bus/carpool to work for city employees, development of residential areas near businesses/food-shopping resources, retrofitting street lights to use LED, use of solar power for city buildings/services, zero-idling policy, and similar.

The project will result in a temporary increase to the City, County, and state GHG emissions over the temporary project duration of 18 months. GHG emissions associated with the project are estimated at a daily maximum of 15,237lbs/day CO2e or 1,630 metric tons CO2e for the entire project as presented above in item 7(a). For comparison, the County of Napa GHG emission inventory in 2014 was approximately 484,283 metric tons CO2e according to the June 2017 Final Draft Napa County Climate Action Plan. Actual project emissions will be less than estimated due to implementation of NOx control measures and BMPs described in this CEQA IS that will be in-place during the project. Also, all project activities will be performed consistent with BAAQMD rules and policies.

Therefore, project GHG emissions will comprise a small percent of the City of Napa's annual contribution to the County and state–wide GHG inventory over the project time-frame, and therefore do not conflict with any applicable plan, policy, or regulation adopted for the purposes of reducing GHG emissions to meet the state-wide goal in 2020. In addition, the proposed project activities will provide benefits to the community by removing or reducing contamination in soil and groundwater and protecting the Napa river resource. Therefore, the project will result in a less than significant impact with regard to policies established to reduce GHGs.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. United States Environmental Protection Agency, Overview of Greenhouse Gases at: http://epa.gov/climatechange/ghgemissions/gases/fgases.html
2. Bay Area Air Quality Management District (BAAQMD), 2017a. CEQA Air Quality Guidelines. May.
3. Bay Area Air Quality Management District (BAAQMD), 2017b. Share the Air, Cool the Climate, Final 2017 Clean Air Plan. April 19.
4. California Air Resources Board (CARB). 2015. California Greenhouse Gas Emissions Inventory – 2015 Edition. Available at http://www.arb.ca.gov/cc/inventory/data/data.htm, accessed on June 10, 2016.
5. California Energy Commission (CEC). 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990-2004. December.
6. City of Napa Sustainability Plan 2012 accessed at: http://www.cityofnapa.org/DocumentCenter/View/1620

7. Final Draft Napa County Climate Action Plan, June 2017, accessed at: https://www.countyofnapa.org/DocumentCenter/View/308
8. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

9. Hazards and Hazardous Materials

Project Activities Likely to Create an Impact:

- During the remediation activities, there is a potential to generate airborne dust contaminated with Site COCs.
- Groundwater and soil vapor monitoring well abandonment activities.
- Hazardous materials (e.g., Portland cement and sodium persulfate) would be transported to and used at the project site during remediation activities.
- Groundwater and soil vapor well installation following completion of the remediation.

Description of Baseline Environmental Conditions:

The 1.3-acre Site (OU-1) and adjacent/near-by off-site areas comprised of OU-2, and OU-3 (Attachment B – Figure 2) contain soil impacted with benzene, PAHs, lead, arsenic, hexavalent chromium, total cyanide, polychlorinated biphenyl (PCB) as Arcolor-1254, and total petroleum hydrocarbons (TPH) from operations at the former MGP. The proposed implementation of the RAP's remedial activities will include excavation and off-site disposal of impacted soil at permitted disposal facilities, and in-ground treatment using ISCO/ISS to solidify/stabilize COCs with binding agents including Portland cement and sodium persulfate. Soil swell generated from ISCO/ISS will be loaded into dump trucks and disposed off-site at a permitted facility. Select areas will be capped with clean soil import and/or hard-scape (pavement) to prevent exposure to impacted surface soils. The proposed remedy also includes institutional controls that prohibit groundwater use, protect the capped surface areas, and require routine groundwater monitoring.

A Human Health Risk Assessment (HHRA) was prepared by Haley & Aldrich, Inc. to evaluate potential risks to current and future populations that could be exposed to chemicals at the Site and adjacent areas from operation of the former MGP. The results of the HHRA were used to identify areas where mitigation measures, or other forms of risk management, may be appropriate to achieve the overall goal of long-term protection of human health and the environment. The HHRA concluded that although the present Site and adjacent off-site area conditions are protective for the current populations, some form of long-term mitigation measures are warranted to protect future users based on possible future land uses including multi-use residential. Risk-based or ambient-based soil action levels were derived in the HHRA to help identify areas of the Site and surrounding area where remediation is warranted. The identified COCs and their soil action levels are summarized below in Table 4. The project proposes to excavate, treat using ISCO/ISS, and/or cap soils where these levels are exceeded as shown in Attachment B- Figure 4.

Table 4
Identified COCs and Soil Action Levels

Area/Media	COCs
Off-Site Inaccessible/ Subsurface Soil on the Elm Street Townhomes Property	CPAHs (B[a]P equivalent)
	Lead
On-Site Combined Surface and Subsurface Soil (0 to 10 feet bgs)	Aroclor-1254
	Arsenic
	Benzene
	CPAHs (B[a]P equivalent)
	Cyanide, Total
	Hexavalent Chromium
	Naphthalene
	Pyrene
	TPHd
	TPHmo
Off-Site City ROW Area Combined Surface and Subsurface Soil (0 to 10 feet bgs)	Arsenic
Off-Site River Bank Improvement Project Area Combined Surface and Subsurface Soil (0 to 10 feet bgs)	Arsenic
	Benzo(a)pyrene

The results of the screening-level groundwater evaluation completed as part of the HHRA indicate that current groundwater conditions are not consistent with the SFRWQCB Basin Plan objectives. Thus, some form of remedial action was recommended to limit the use of groundwater. Therefore, the proposed remedy includes execution of a land-use covenants (LUCs) following completion of the project to prohibit the drilling of domestic water supply wells in the impacted aquifer and use of groundwater along with a post-remediation groundwater monitoring plan to evaluate post remediation groundwater conditions.

The results of the screening-level evaluation of groundwater nearest Napa River against water quality criteria for the protection of aquatic (freshwater) receptors, also completed as part of the HHRA, indicate that individual detected concentrations of three inorganics (cobalt, selenium, and zinc) exceed their respective aquatic water quality criteria. However, none of these COPCs are considered to pose a significant threat to aquatic receptors in the Napa River. Detected concentrations that exceed freshwater aquatic habitat goals are limited to cobalt in nine samples, selenium in two samples, and zinc in one sample out of 22 total samples evaluated. These COPCs are therefore not widely prevalent along the Napa River at concentrations that could pose a significant threat to aquatic receptors. Furthermore, the detected concentrations that exceed freshwater aquatic habitat goals only slightly exceed the selected criteria, by factors of two to four. If groundwater were to seep into the Napa River, the resulting concentration of these COPCs in the river would not pose a significant threat to aquatic receptors.

In addition, a Screening Level Ecological Risk Assessment (SLERA) was prepared by Maxon Consulting, Inc. (Maxon) in 2016 to determine whether chemicals of concern detected at the adjacent upper bank of the Napa River pose unacceptable risk to valued ecological receptors. The SLERA concluded that although no listed threatened or endangered species were identified along the upper river bank, conservative screening levels were exceeded for generic wildlife receptor groups in surface soil indicating that some form of long-term remedial actions are warranted in this area.

Analysis as to whether or not project activities would:

a. Create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.

Impact Analysis:

The proposed implementation of the RAP's remedial activities will involve excavation and off-site disposal of impacted soil at permitted disposal facilities. During the remedial activities, dust containing COCs will be generated and may be dispersed under windy conditions. Implementation of the environmental controls discussed in the RAP and provided below will reduce the impacts to a less than significant level. The haul route from the project site would be approved by the City of Napa and the DTSC prior to construction. Trucks hauling soil with COCs will travel on local City of Napa streets to California Route 29 and/or California Route 121 to access one of the permitted disposal facilities listed in Appendix D of the RAP (Attachment E of this document). All truck beds will be covered with tarps, or bins sealed shut before leaving the project work areas. BMPs will be in place during site activities and work will be limited and temporary in nature.

All work involved in the excavation, loading, and transportation of contaminated soils off-site and transportation and mixing of Portland cement and sodium persulfate onsite would be performed in accordance with current federal and state laws, statutes, rules, and regulations. Additionally, implementation of the environmental controls included in the RAP would be required during remediation activities to minimize impacts to public safety and the environment. The environmental controls that will implemented during the project construction include, but are not limited to the following:

- Soil excavation activities will be phased to reduce the total area of exposed and disturbed soils at any one time;
- The size of open excavations will be kept to a minimum at any one time for the purpose of dust control;
- All exposed surfaces (for example, staging areas, soil stockpiles, graded areas and unpaved access roads) will be watered periodically;
- Excavated soils will be directly loaded onto haul trucks when possible; the duration of the presence of on-site soil stockpiles will be minimized. If necessary, any stockpiling of impacted soil or exposed excavation left overnight will be properly covered with plastic to minimize dust emissions.
- Excavation and loading/unloading activities will be managed so that adequate dust control measures such as water or foam spray can be easily implemented.
- All haul trucks transporting soil, sand, or other loose material off-site will be covered;
- All visible mud or dirt tracked out onto adjacent public roads will be removed;
- Real-time airborne dust monitoring will be conducted;
- An appropriate water source will be secured so that an adequate water supply can be provided for multiple activities. The water source may include a water truck, on-site temporary water tank, or other sources approved by the City of Napa.

- Airborne dust levels will be monitored during excavation activities along the perimeter of the work areas. If monitoring data indicate that dust levels are above site-specific action levels established to ensure compliance with the BAAQMD regulations, then engineering control measures as additional wetting of soils prior to excavation and during soil handling activities, use of foam suppressants, reducing the area of soil disturbance and/or number of soil disturbing activities at any one time, and covering exposed soil surface when not in use, will be implemented as necessary.

Furthermore, a Health and Safety Plan (HASP) would be prepared for the project site in accordance with federal and state safety standards and guidelines. The provisions of the HASP would be strictly adhered to and reviewed by all personnel before working at the project site to ensure protection of public safety and the environment. The HASP shall be prepared by the construction contractor and implemented in accordance with Title 8 California Code of Regulations (CCR), Section 5192 and 29 CFR 1910.120. The HASP would include the following elements:

- A general description of the project site, including a location map;
- Work objectives;
- A hazard evaluation that includes the characteristics of the potential hazards to be found at the project site;
- Name of key personnel and alternatives responsible for health and safety, including the appointment of a health and safety coordinator;
- Personnel training requirements as specified by Title 8 CCR, Section 5192, 29 CFR 1910.120, and medical surveillance requirements;
- Personal protective equipment to be used by site personnel;
- The frequency and types of air monitoring, environmental sampling techniques, and instrumentation to be used for health and safety purposes;
- Control measures including the designation of work zones (i.e., exclusion zone, contamination reduction zone, and support zone);
- Decontamination procedures for personnel and equipment;
- Noise control procedures and action levels;
- Dust control procedures and action levels;
- Procedures to perform safe work;
- Contingency plans for emergencies including contact names and telephone numbers;
- Location of nearest medical facility for emergency medical care, as well as a map showing the route from the project site to the medical facility; and
- HASP review by all remediation personnel.

The proposed project is a remediation project intended to improve the environmental conditions of the project site and vicinity and reduce hazards to the public and the environment from hazardous wastes present in the subsurface. Implementation of the environmental controls discussed in the RAP (section 5.4) and summarized above in addition to the requirements of the HASP that will be prepared and implemented during the project, hazards associated with the project resulting from routine transport, use, or disposal of hazardous materials will be reduced to a less than significant level.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Impact Analysis:
The RAP includes BMPs designed to ensure that the potential for accidents and releases of pollutants are minimized to the greatest extent possible. The BMPs will include the following items:

- An Emergency Spill Contingency Plan (ESCP), a uniform reporting procedure, will be prepared by the contractor to ensure that all drivers and dispatchers know their responsibilities in the unlikely event that an accident occurs during loading or while transporting impacted material. The drivers, dispatchers, managers, and emergency response personnel will be required to know the procedures for emergency spill response.
- On-site spills will be addressed in a Health and Safety Plan (HASP). The Health and Safety Plan (HASP) will be prepared in accordance with current health and safety standards as specified by the Federal and California OSHA

and submitted to the DTSC for approval prior to initiation of fieldwork. The provisions of the HASP are mandatory and will be reviewed and signed by all personnel before working on the project.

All contractors will be responsible for operating in accordance with the most current Federal and California Occupational and Safety Health Administration (OSHA) regulations, including Hazardous Waste Operations and Emergency Response, General and Construction Safety Orders, and the Federal and Construction Industry Standards as described in California Code Regulations, Title 8, Sections 1539, 1541, and 5192 and 29 Code of Federal Regulations 1910.120, and 1926.

Therefore, with these BMPs, including the ESCP and environmental controls in-place, hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be reduced to a less than significant level.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:
There are no schools located within one-quarter mile of the project site. There is one school identified just outside one quarter mile of the Site (actual distance ~ 0.3 miles) as shown in the image below. This school includes Shearer Elementary School, which is a Kindergarten through grade 5 school, with a pre-school on property. Possible hazardous emissions from the project could include hazardous pollutants from excavated soil in the form of dust. By implementing the dust control BMPs described in the RAP (listed below) for the project site, potential impacts associated with hazardous emissions to schools would be reduced to a less than significant level.

To prevent the release of hazardous materials (dust that may contain COCs released from excavated soil) to the environment, various dust control measures described below will be implemented to control these potential releases.

- The size of open excavations will be kept to a minimum at any one time for the purpose of dust control;

- Excavation and loading activities will be managed so that adequate dust control measures such as water or foam spray can be easily implemented.
- An appropriate water source will be secured so that an adequate water supply can be provided for multiple activities. The water source may include a water truck, on-site temporary water tank or other sources approved by the City of Napa.
- Stockpiling will be minimized by routine loading and transportation of impacted soils. If necessary, any stockpile of impacted soil or exposed excavation left overnight, will be properly covered with plastic to minimize dust emissions.
- Airborne dust levels will be monitored during excavation activities along the perimeter of the project work areas. If monitoring data indicate that dust levels are beyond acceptable thresholds, then engineering control measures (such as additional wetting of soils prior to excavation and/or load out and during unloading, use of foam suppressants, reducing the area of soil disturbance and/or number of soil disturbing activities at any one time, and covering all exposed soil surface not in use) will be implemented as necessary.
- Soil excavation activities will be phased to reduce the total area of exposed and disturbed soils at any one time.
- Earth-handling activities will be halted during periods of high winds (15 mph or greater) and all dust generating sources will be immediately watered, covered, and secured with plastic sheeting until conditions improve.
- Equipment idle time will be minimized to 5 minutes or less.
- On-site movement of vehicles and equipment will be limited to "crawl" speeds (i.e. 5 miles per hour).
- On-site vehicles and equipment will be restricted to designated haul paths to the extent possible.
- All exposed surfaces (e.g., staging areas, soil stockpiles, graded areas and unpaved access roads) will be moistened periodically as needed.
- All haul trucks transporting soil, sand, or other loose materials off-site will be cleaned (brushed or washed) and covered before leaving the project work areas.
- All visible mud or dirt tracked out onto adjacent public roads will be removed.

As previously discussed above, a HASP and ESCP will be prepared during the remedial design to address the handling of on-site and off-site spills, and ensure all drivers and dispatchers know their responsibilities in the unlikely event that an accident occurs during loading or while transporting impacted soil material to the off-site facility. The drivers, dispatchers, managers, and emergency response personnel will be required to know the procedures for emergency spill response. The ESCP will be prepared to meet or exceed all federal, state, and county regulations currently in effect. The provisions of the ESCP will be strictly followed to ensure continued protection of the public safety and the environment.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ 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 public or the environment.

Impact Analysis:
The Site is listed on the CALEPA DTSC Envirostor database, which is one of five databases provided to the public by the CALEPA to meet the “Cortese List” requirements. This listing in EnviroStor is the subject property for which the RAP and this CEQA IS has been prepared. Soil remedial activities and post-remediation groundwater monitoring proposed for this project are designed to reduce or eliminate hazards to the public and the environment as described in this database listing. The subject site is not listed in the other Cortese list databases for leaking underground storage tanks, solid waste disposal sites, or CDO and CAO active water board sites.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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.

Impact Analysis:

The nearest public use airport is the Napa County airport which is located approximately 6 miles south of the Site. The site is not located within the airport land use plan. Therefore, the project would not impact safety associated with the airport, or result in excessive noise for people working in the project area.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

f. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

Impact Analysis:

The RAP activities will not impair any emergency response plan or emergency evacuation plan adopted by the City of Napa. Some temporary lane closures may be implemented in the vicinity of the Site during remediation, but these would be conducted in accordance with a City approved Encroachment permit and traffic control plan and would therefore not impair any emergency response plan or evacuation plan adopted by the City of Napa. The project will adhere to a site-specific HASP, which will include details related to evacuation procedures and meeting place in the event of an emergency. Also, the project will adhere to a site-specific ESCP that will provide procedures in the event a releases/spill associated with the project occurs on-site or off-site during material loading and transport to an off-site disposal facility.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Impact Analysis:

CAL-fire has designated the City of Napa as “Non-very high fire hazard” in Figure WF-1 Fire Severity Zones of the 2014 Napa County Wildland Fire Background report. A similar figure dated 2007 adopted by CAL-Fire on November 7, 2007 also shows the City of Napa (and the Site) to be located outside designated fire hazard severity zone. The envisioned construction activities associated with the project would not expose people or structures to increased risks associated with wildland fires.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. California Environmental Protection Agency’s Cortese List Data Resources at: http://www.calepa.ca.gov/SiteCleanup/CorteseList/ - accessed March 16, 2018.
2. Google Earth Mapping Application, Places Category, Schools Layer for project site (intersection of Elm Street and Riverside Drive).
3. Google Maps Application, search for schools within City of Napa limits.
4. Napa Valley Unified School District, Schools Map, accessed at: http://www.nvusd.org/findingaschool#schoolmap and via link to google maps at: https://www.google.com/maps/d/embed?mid=10Vwcb0W059-rhX-Yk2xOfpo9-BQ&ll=38.28793092348753%2C-122.28694319963074&z=16

5. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.
6. 2014 Napa County Wildland Fire Background report accessed at: https://www.countyofnapa.org/DocumentCenter/View/3288/Wildland-Fire-Background-Information-August-2014-PDF
7. CAL-Fire Fire Hazard Severity Zone Map adopted in November 2007, accessed at: http://frap.fire.ca.gov/webdata/maps/napa/fhszs_map.28.pdf

10. Hydrology and Water Quality

Project Activities Likely to Create an Impact:

- Surface disturbing activities may mobilize soil with COCs.
- Soils may move off-site during storm events as storm water runoff.
- Groundwater monitoring well and soil vapor well abandonment.
- Groundwater and soil vapor well installation following completion of the remediation

Description of Baseline Environmental Conditions:

The Site (OU-1) is relatively flat with a slight southeasterly slope toward Elm Street and Riverside Drive. The Napa River is located approximately 60 to 110 feet to the east of OU-1, on the east side of Riverside Drive and OU-3 (Attachment B - Figure 2). The Site is situated within the 100-year floodplain of the Napa River (State of California Natural Resources Agency, Department of Water Resources [DWR], 2016; City of Napa General Plan Environ 2020). The Site is listed to be in flood zone A-E, which represents a 1-percent annual chance flood hazard.

According to the California Regional Water Quality Control Board, San Francisco Bay Region's (SF-RWQCB) Water Quality Control Plan (Basin Plan), the Site falls within the "Napa-Sonoma Valley: Napa-Sonoma Lowlands" groundwater basin. The beneficial uses identified for this groundwater basin are: municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply (SF-RWQCB, 2015). Although the beneficial uses of groundwater in the vicinity of the Site that were identified in the Basin Plan include municipal and domestic water supply, groundwater at and near the Site is not currently used for such purposes.

The depth to groundwater measured in project groundwater monitoring wells ranges from approximately 8 to 14 feet bgs. The Napa River is tidally influenced and apparently hydraulically connected to the coarse-grained sand and gravel unit located at 25 to 35 feet bgs based on groundwater monitoring well data. The potentiometric surface of this unit and groundwater flow direction vary with the tides propagated by the Napa River. Groundwater flow is generally toward the river at mid and low tides, but away from the river at high tides.

The Napa County Flood Control and Water Conservation District (Napa Flood Control District) has plans to construct flood control improvements along Riverside Drive that may include a floodwall and pedestrian trail along the west side of the Napa River where OU-3 is located. This planned project is part of the ongoing Napa River-Napa Creek Flood Protection Project (US Army Corp of Engineers, 1998). The City of Napa Public Works Department is evaluating alternatives for a public trail along Riverside Drive adjacent to the Site, with the goals of connecting the area with downtown Napa. The City and Flood Control District envision constructing the public trail concurrently with the flood control improvements. The schedule for these Riverside Drive improvements is still being determined.

Analysis as to whether or not project activities would:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Impact Analysis:

The proposed project will not violate any water quality standards, waste discharge requirements, or substantially degrade surface or groundwater quality. BMPs will be implemented during construction to ensure that waste does not leave the work areas. These BMPs will include gravel bag berms, silt fence, fiber rolls, or similar installed along the downgradient edges of work, along the base of stockpiles, and along the top of excavation slopes. Further, trucks beds and/or soil bins will be covered prior to leaving the work areas, and all vehicles and equipment will be cleaned of loose soil prior to exiting the work areas. Standard stormwater control measures and associated BMPs to control releases of non-point source water pollutants from materials and waste storage areas, vehicle fueling areas, vehicle parking areas, and related will be implemented in accordance with City and State regulations, as appropriate, and as outlined in the remedial design plans and associated stormwater control plan including either a stormwater pollution prevention plan (SWPPP) or site-specific erosion and sediment control plan (S-ESCP), as appropriate, based on the final area of soil disturbance inclusive of all

remediation areas and support areas. The applicable stormwater plan will be prepared for the project during the remedial design phase.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:
The proposed remediation project will not deplete groundwater supplies or interfere with groundwater recharge. No groundwater extraction wells will be installed as part of the project. Water used for construction purposes will be limited due to the size of the OUs and the temporary nature of the project. Water used for construction purposes will be supplied from municipal sources. The project will not impact groundwater recharge because there will be no net increase in the amount of runoff that will be diverted to stormwater or sewer systems.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would:
i) result in substantial erosion or siltation on or off-site;
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.

Impact Analysis:

The project will not alter the existing drainage pattern of the OUs and will not result in substantial erosion or siltation. Additionally, the project will not increase the rate or amount of surface runoff and will not provide substantial additional sources of polluted runoff, or impede or redirect flood flows. The excavated areas, ISCO/ISS treatment areas, and capped areas will be restored similar to their original grades and drainage patterns at the end of the project. During remediation, BMPs will be implemented to limit erosion and prevent the release of impacted water as outlined in the RAP. These BMPs will include the following:

- The weather forecast will be monitored closely. During the days heavy rain is forecast, remediation activities will be suspended.
- The boundary of the remediation area will be properly bermed, as necessary, so that no run-on enters the work area and no runoff leaves the work area.
- Proper procedures will be used to assure that wet soil does not stick to tires of trucks used for soil transportation. The procedure may include placing plastic sheeting at the loading area and rumble strips at the entry/exit gate.
- Plastic sheeting will be used extensively to make sure that the area of excavation and ISS is protected from rain during off hours and sudden heavy rain.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

Impact Analysis:
The project is located within the 100-year flood plain of the Napa River in flood zone A-E, which represents a 1-percent annual chance flood hazard. The Site is not located near or downstream of a dam or on the land-side of a levee. The project is a remediation project which will reduce and/or stabilize contaminants present at the Site, and will ultimately reduce the potential for the release of pollutants in the long-term due to project inundation.
Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) from large tidal water bodies such as oceans, and inside water retention facilities such as reservoirs and water tanks. Such waves can cause large waves, and/or retention structures to fail and flood downstream properties. The project is not located within a dam or levee inundation area, or near an ocean, and therefore, there is no risk associated with possible seiches.

Tsunami are generated wave trains generally caused by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rock falls, and exploding volcanic islands. The project is not located within a Tsunami Inundation Area, and therefore there is no risk associated with possible tsunamis.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:
The project will not obstruct implementation of a water quality control plan or sustainable groundwater management plan. Stormwater BMPs will be in place for the project duration under an approved erosion control plan approved by the City of Napa as part of the grading permit, and activities at OU1 will additionally meet the requirements of the General Construction Permit managed by the State Water Resources Control Board (SWRCB), and be conducted under a Stormwater Pollution Prevention Plan (SWPPP). BMPs will be implemented during construction to ensure waste does not leave the work areas, thereby not obstructing a water quality control plan. Proposed activities including subsurface soil treatment by ISS/ISCO will improve groundwater quality in the long-term, thereby not impacting sustainable groundwater management plan.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.
2. California Regional Water Quality Control Board, San Francisco Bay Region (SF-RWQCB), 2017, San Francisco Bay Basin (Region 2) Region Water Quality Control Plan (Basin Plan), May 4.
3. US Army Corp of Engineers, Sacramento District; Napa County Flood Control and Water Conservation District, 1998, Napa River/Napa Creek Flood Protection Project, Final Supplemental General Design Memorandum, October.
4. US Army Corp of Engineers, Sacramento District; Napa County Flood Control and Water Conservation District, 1999, Napa River/Napa Creek Flood Protection Project, Final Supplemental Environmental Impact Statement/Environmental Impact Report, March.
5. State of California Natural Resources Agency, Department of Water Resources [DWR], 2016.
6. City of Napa General Plan, Environ 2020, Chapter 8 Health and Safety, accessed at: https://www.cityofnapa.org/DocumentCenter/View/452
7. City of Napa General Plan, Environ 2020, Appendix H Flood Information, accessed at https://www.cityofnapa.org/DocumentCenter/View/444
8. Napa County Public Map Viewer accessed at: http://gis.napa.ca.gov/Html5Viewer/Index.html?viewer=Public_HTML

9. Maxon Consulting, Inc. (Maxon), 2016, *Screening Level Ecological Risk Assessment, PG&E Former Napa-1 Manufactured Gas Plant Site, Upland Bank Area*, November 9.

11. Land Use and Planning

Project Activities Likely to Create an Impact:
None.

The proposed project does not involve activities that would require a change in zoning or designated land uses. The Site vicinity is identified in the City's General Plan, "Envision Napa 2020" (City of Napa, 1998) as within the "Central Planning Area," sub-area "MFR 163". Allowable uses for the Site under the General Plan include: multi-family units, attached and detached single family, single room occupancy facilities, live-work housing, and similar compatible uses such as day care and larger group quarters (e.g., residential facilities and nursing homes) multi-family residential. Remediation work is proposed to clean-up subsurface impacts. Following remediation, the OUs will be restored to a condition similar to their existing condition. For this reason, no further analysis of impact to this resource category is deemed necessary.

Description of Baseline Environmental Conditions:

Analysis as to whether or not project activities would:

a. Physically divide an established community.

Impact Analysis

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ 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.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.
2. City of Napa General Plan, Environ 2020, Chapter 8 Health and Safety, accessed at: https://www.cityofnapa.org/259/General-Plan

12. Mineral Resources

Project Activities Likely to Create an Impact:
None. No mineral resources are known to exist at the OUs. Therefore, no impacts to mineral resources would occur. For this reason, no further analysis of impact to this resource category is deemed necessary.

Description of Baseline Environmental Conditions:

Analysis as to whether or not project activities would:

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.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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.

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

13. Noise

Project Activities Likely to Create an Impact:

- Demolition of existing pavement and concrete foundations using saw-cutting and heavy construction equipment, and demolition of groundwater and soil gas wells using a drill rig.
- Demolition of in-ground former structures that impede excavation and ISCO/ISS equipment during excavation and ISS treatment activities.
- Soil excavation and loading into dump trucks.
- ISS treatment of impacted soils in-ground by mixing binding agents consisting of Portland cement and sodium persulfate into the subsurface using a drill rig and/or excavator with mixing tool attachment. The binding agents will be blended in a batch plant prior to adding to the ground.
- Loading of impacted soil unearthed as swell from ISCO/ISS and debris onto dump trucks, unloading imported Portland cement and sodium persulfate materials.
- Import/unloading of clean backfill soil and capping materials.
- Transportation of impacted soil and debris to appropriate off-site permitted disposal facilities.
- Transportation of import materials (Portland cement, sodium persulfate, backfill soil, paving materials) from off-site locations and placement/compaction at the OUs.
- Transportation of other supplies to the OUs.
- Placement of pavement using heavy construction equipment to restore select site areas to similar or existing grades.
- Installation of post-remediation groundwater monitoring wells and soil vapor wells using a drill rig.

Description of Baseline Environmental Conditions:

The Site (OU-1) is surrounded on three sides (north, south and west) by an established residential neighborhood with a mix of single-family detached and small-scale apartment/townhome buildings. To the east, across Riverside Drive, lies a river bank area and the Napa River. The river bank is part of the City of Napa's Riverside Park, which runs along the west side of the Napa River in a narrow band from the downtown area (approximately 0.5 miles to the north) to a block south of Elm Street. Because the upper river bank is very narrow across from the Site (1 to 20 feet in width) and heavily vegetated, the section of Riverside Park at this location appears to get very little use, other than occasional pedestrians walking mainly along the adjacent asphalt-paved Riverside Drive. Within approximately 600 feet of the Site lie various commercial businesses. Attachment B - Figure 3 shows land-uses in the vicinity of the Site. The majority of the remediation activities will occur within OU-1, which is currently vacant and surrounded by cyclone fencing that is covered with sound proofing blankets. These sound proofing blankets act as noise mufflers that reduce noise from equipment and vehicles operating at OU-1 beyond the site perimeter at near-by residential properties. Remediation on OU-2 and OU-3 will generate significantly less noise than on OU-1 because the amount of impacted soil to be removed from these OUs is significantly less than on OU-1, the equipment utilized will be fewer and smaller, and the duration of the proposed remedial activities on OU-2 and OU-3 is significantly less than on OU-1.

The project will result in short-term (temporary) noise impacts associated with noise generated by construction activities during the week Monday through Friday between the hours of 7am and 5pm when activities will occur. Noise related to construction activities in the City of Napa is regulated per Section 8.08.025 of the City Municipal Code. The applicable portion of this code states that any person engaged in construction activity shall limit said construction activity as follows:

A. Construction activities throughout the entire duration of the Project shall be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. There will be no start-up of machines nor equipment prior to 8:00 a.m., Monday through Friday; no delivery of materials nor equipment prior to 7:30 a.m. nor past 5:00 p.m. Monday through Friday; no cleaning of machines nor equipment past 6:00 p.m. Monday through Friday; no servicing of equipment past 6:45 p.m. Monday through Friday; and construction on weekends or legal holidays shall be limited to the hours of 8:00 a.m. to 4:00 p.m. unless a permit has been secured from the City Manager, or designee, pursuant to section 8.08.050 of this code.
B. All muffler systems on construction equipment shall be properly maintained.
C. All construction equipment shall not be placed adjacent to developed areas unless said equipment is provided with acoustical shielding.
D. All construction and grading equipment shall be shut down when not actively in use.
E. Construction activity by or on behalf of a public agency, which is necessary to avoid a disruption of a public project or to protect the public health, safety, and welfare, shall be exempt from the time limitations of this section.
F. As a separate, distinct, and cumulative remedy established for a violation of this section, the Police and/or the Code Enforcement Officer may issue a stop work order for violation of this section. Such order shall become effective immediately upon posting of the notice. After service of the stop work order, no person shall perform any act with respect to the subject property in violation of any of the terms of the stop work order, except such actions the city determines are reasonably necessary to render the subject property safe and/or secure until the violation has been corrected. (O93-026)

The City of Napa Municipal Code also states, “Between the hours of 9:00 p.m. and 7:00 a.m., no commercial activity shall be conducted upon any privately owned real property within the city, which activity creates noise which can be heard at the property line of any parcel of real property within the city which bears an RP for residential/professional office district, or more restrictive zoning designation, as provided in Title 17 of this code unless a permit shall first have been secured from the City Manager pursuant to Section 2.08.050 of this code.”

The City of Napa General Plan, Envision 2020, Chapter 8 Health and Safety- Noise section (page 8-32) identifies community noise goals and establishes policies to reduce noise for work within the City. The applicable goals and policies are summarized as follows:

- Policy HS-9.9: When feasible and appropriate, the City shall limit construction activities to that portion of the day when the number of persons occupying a potential noise impact area is lowest.

- Policy HS-9.11: The City shall regulate construction in a manner that allows for efficient construction mobilization and activities, while also protecting noise sensitive land uses.

- Policy HS-9.12. The City shall evaluate and modify as necessary the City's designated truck routes to minimize noise impacts for sensitive land uses

Analysis as to whether or not project activities would result in:

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.

Impact Analysis:

Implementation of the remediation project may result in temporary increases in noise levels associated with the operation of heavy equipment. These include earthmoving equipment (i.e. excavator, backhoe, and front-end loader) and transportation of soils during the remediation project. The majority of construction work (longest duration) will occur at OU-1. As noted, the perimeter fencing of OU-1 is covered with sound proofing blankets, which reduces noise from equipment.

Typical construction noise levels at a distance of 50 feet from the source (construction equipment) are summarized below in Table 5.10-5 by construction phase. As shown, average noise levels due to construction activities would range from about 72 to 88 dBA Leq at a distance of 50 feet from the operating equipment at residential properties.

Table 5.10-5 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Source: U.S. EPA, Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

Table 5.10-6 (below) shows the maximum noise level ranges for different construction equipment that may be used during the project. As shown, maximum instantaneous noise levels typically range from about 80 to 90 dBA Lmax at a distance of 50 feet from the operating equipment.

Table 5.10-6 Construction Equipment 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)1,2	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous

Equipment Category	L_{max} Level (dBA)1,2	Impact/Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:
1 Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.
2 Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.
3 Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Source: Mitigation of Nighttime Construction Noise, Vibrations and Other Nuisances, National Cooperative Highway Research Program, 1999.

All construction equipment used for the remediation project will be equipped with mufflers or sound attenuating devices. Work will be confined to weekdays from 7:00 am to 5:00 pm with no equipment starting prior to 8:00 am, in accordance with the City of Napa Municipal Code.

Assuming that all construction activities for the proposed Project are conducted in accordance with Section 8.08.025 of the City of Napa Municipal Code, noise generated by construction activities would not be in excess of the established standards and exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies will be less than a significant impact. It is also noted that the site-specific HASP will meet OSHA regulations and require hearing protection be provided and used by all exposed workers and access to the site will be controlled.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Generation of excessive groundborne vibration or groundborne noise levels.

Impact Analysis:
Heavy construction equipment can produce vibration levels up to 25 feet away, ranging from 0.003 PPV (peak particle acceleration) for a small bulldozer to 0.210 PPV for a vibratory roller. Remediation activities will use low-impact construction technologies and avoid the use of vibrating compaction equipment where possible to limit construction related vibrations. Ground vibrations will be minimized through the careful selection of backfill materials and mechanical equipment needed to achieve the required compaction requirements with minimal compaction effort. Additionally, site activities and work will be limited and temporary in nature.

Therefore, the project will result in a less than significant exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels resulting from the use of construction equipment.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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.

Impact Analysis:
The project is not located within two miles of a private airstrip or an airport and is not within the vicinity of a private airstrip or an airport land use plan.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. City of Napa General Plan, Envision 2020, Chapter 8 – Noise (page 8-32), accessed at: https://www.cityofnapa.org/DocumentCenter/View/452
2. City of Napa Municipal Code, Title 8 Health and Safety, Chapter 8.08 Noise Control regulations (Section 8.08.025) Noise — Construction activity accessed at: http://qcode.us/codes/napa/view.php?topic=city_of_napa_municipal_code-8-8_08-8_08_025
3. Jones and Stokes, 2004, Transportation- and Construction-Induced Vibration Guidance Manual: J&S 02-039, Prepared for the California Department of Transportation, Noise, Vibration, and Hazardous Waste Management Office, Sacramento, California.
4. Tontechnik – Rechner website; http://sengpielaudio.com/calculator-distance.htm
5. Draft Environmental Impact Report for Trinities Mixed-Use Project in City of Napa, January 2018, Chapter 5. – Environmental Setting, Impacts, and Mitigation Measures 5.10 – Noise, accessed at: https://www.cityofnapa.org/DocumentCenter/Home/View/2290
6. Program Environmental Impact Report for Downtown Napa Specific Plan, January 2012, accessed at: https://www.cityofnapa.org/258/Downtown-Specific-Plan
7. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

14. Population and Housing

Project Activities Likely to Create an Impact:
None. The proposed project does not involve activities that would require a change in population or housing at the proposed project. The project does not include construction of new infrastructure that would indirectly affect populations at the Site or vicinity. Therefore, no further analysis of impact to this resource category is deemed necessary. For this reason, no further analysis of impact to this resource category is deemed necessary.

Description of Baseline Environmental Conditions:

Analysis as to whether or not project activities would:

a. Induce substantial unplanned population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

15. Public Services

Project Activities Likely to Create an Impact:

- Construction activities.

Description of Baseline Environmental Conditions:

Public Services located in the vicinity of the Site include:

- The Napa City Fire Department established in 1906 continues to serve the close to 80,000 residents of the City of Napa, California. Five fire stations are located throughout the City limits.
- The Napa Police Department established in 1875 provides law enforcement services for the City of Napa.
- The project area is served by the Napa Valley Unified School District. The closest school to the Site is located 0.3 miles west of the Site and include the Shearer Elementary School located at 1590 Elm Street.
- Kiwanis park is located closest to the project site at the southwest intersection of Elm Street and Coombs Street (1201 Elm Street).
- The only public facility within the project area is a section of Riverside Park that falls within the bounds of OU-3 (Attachment B - Figure 3). This area of Riverside Park (and Ou-3) is comprised of the upper river bank of the Napa River that is heavily vegetated, very narrow (1 to 20 feet in width) and, as a result is rarely occupied/used by the public, other than occasional pedestrians walking mainly along the adjacent asphalt-paved Riverside Drive.

Analysis as to whether or not project activities would:

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

Impact Analysis:

The proposed remedial action is temporary (duration of 18 months) and will not result in the construction or physical alteration of governmental facilities, nor will it impact any public services. The project is fairly small, temporary, and would not negatively impact emergency personnel should an emergency arise. The project will not require the construction of additional public services, or impact response times of in-place emergency services.

Implementation of the proposed project involves temporary use of construction equipment and workers trained to handle hazardous waste. The work area will be fenced to restrict access, and strict health and safety measures will be

implemented. A private security firm may be contracted to provide Site and equipment security during non-working hours. Therefore, no additional fire or police protection other than that currently offered by the City of Napa will be required.

Appropriate procedures will be in place to protect underground utility lines to prevent disruption of public utility service. Refer to Section 17: Utilities and Service Systems.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.
2. City of Napa Police Department accessed at: https://www.cityofnapa.org/323/Police-Department/
3. City of Napa Fire Department accessed at: https://www.cityofnapa.org/352/Fire-Department
4. Napa Unified School district accessed at: http://www.nvusd.org/findingaschool

16. Recreation

Project Activities Likely to Create an Impact: None.

Description of Baseline Environmental Conditions:
The project involves temporary construction activities such as soil excavation, backfilling, ISCO/ISS treatment of subsurface soils, surface capping, and site restoration to return all work areas to their current or similar conditions. Recreation facilities will not be constructed or altered as part of the project. Out of town workers may use existing recreational facilities during the short-term 18-month duration of construction activities. However, project staff staying locally should not exceed 20 persons on average at any one time. Therefore, no substantial physical deterioration of recreation facilities would occur or be accelerated as a result of the project.

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

Impact Analysis:
The temporary remediation project activities will not result in an increase in the existing employee workforce in the City of Napa. Remediation workers will be temporarily housed in nearby motels or hotels. Consequently, there would not be an increase in the use of or deterioration to any neighborhoods, regional parks, or other recreational facilities.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:
No recreational facilities will be constructed or expanded. Remediation employees or workers will be temporarily staying in nearby motels and/or hotels on an intermittent basis until the project is completed.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

5. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.

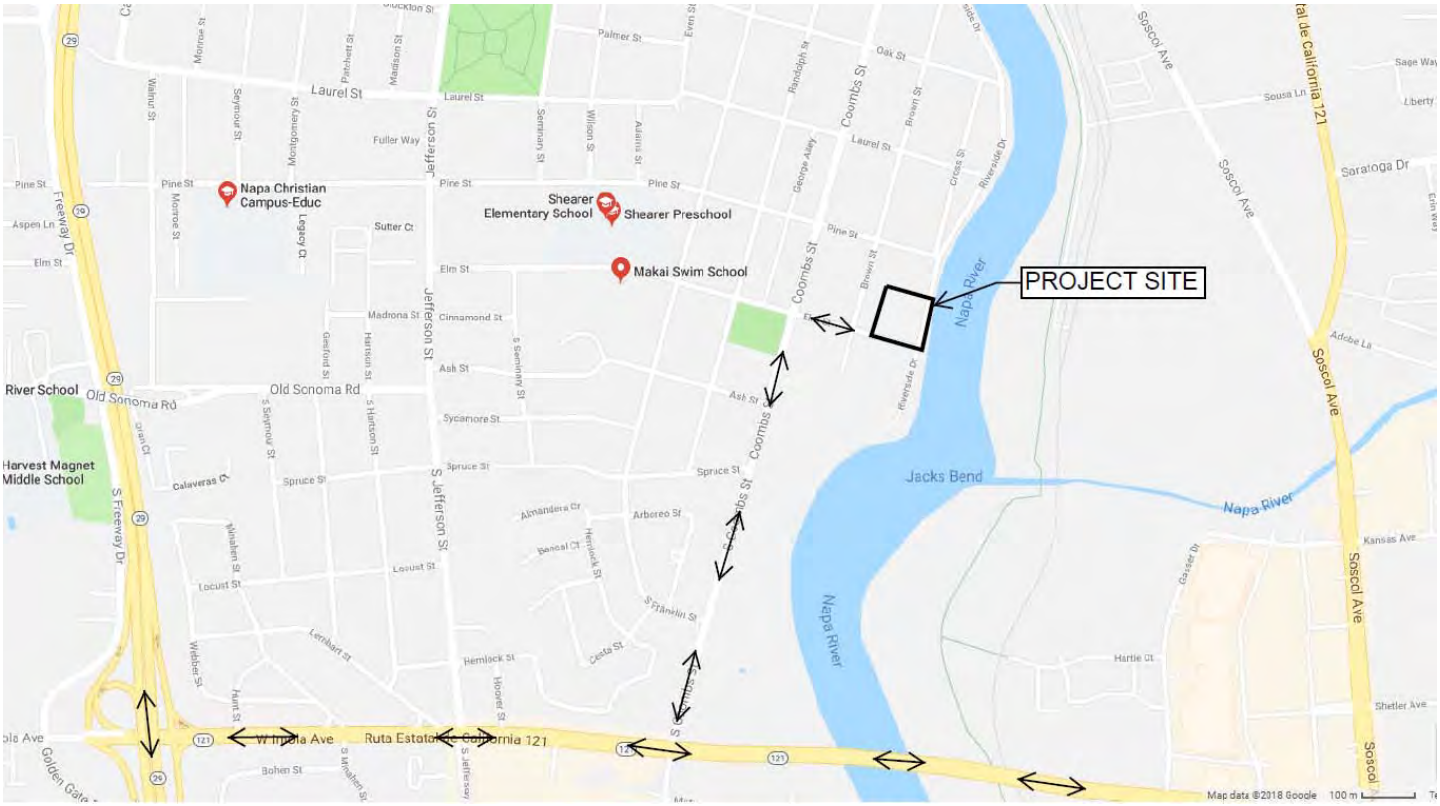
17. Transportation

Project Activities Likely to Create an Impact:

- Transportation of impacted soil and debris/demolition waste to appropriate off-site permitted disposal facilities in haul trucks.
- Transportation of clean fill soil from a local quarry to the work areas in haul trucks.
- Transportation of finished surface and capping materials (i.e. clean soil, paving materials) from off-site locations to the work areas in haul trucks.
- Transportation of project workers to the work areas in personal vehicles.
- Transportation of supplies and equipment to the work areas in haul trucks and smaller "box" style trucks.
- Transportation of ISCO/ISS materials (Portland cement, sodium persulfate) to the work areas in haul trucks and/or smaller "box" style trucks.

Description of Baseline Environmental Conditions:

The proposed haul truck route would be taking a right hand turn out of the project site onto west-bound Elm Street to southbound Coombs Street to W. Imola Avenue, then west or east on W. Imola Avenue to either CA-29 or CA-121 based on the selected disposal facility (see Attachment E of this IS for list of potential facilities). Similarly, haul trucks accessing the work areas to pick-up impacted soil, or bring imported materials/goods/supplies to the work areas, would also travel on these local City Streets (W. Imola, Coombs Street, Elm Street) to access the work areas. This haul truck route minimizes travel past residential areas of the City and is the fastest route out of the City. The final truck route will require City approval prior to initiation of the project and as such may deviate slightly from what is proposed above based on the results of the City's plan check review process. A local map showing the suggested project haul route follows.



Streets throughout the City of Napa have been designated with Levels of Service (LOS) A through F, where LOS A indicates free flow conditions with very low delay, and LOS F indicates high level of delay in excess of 80 seconds and is unacceptable by most drivers. LOS E is the limit of acceptable delay on the order of 55 to 80 seconds. The LOS on the suggested city streets proposed for use during the project is as follows:

- Elm Street – not specified
- Coombs Street- LOS C
- West Imola Avenue – LOS C

Pursuant to the City of Napa municipal code Title 10, chapter 10.48, section 30 (10.48.030) commercial traffic is prohibited on the following streets. The project does not propose use of any of these streets:

- Lee Avenue from "F" Street to north end of Lee Avenue;
- Lernhart Street from Minahen Street to Imola Avenue;
- Minahen Street from Imola Avenue to Lernhart Street;
- South Hartson Street from Old Sonoma Road to Lernhart Street;
- South Montgomery Street from Old Sonoma Road to Lernhart Street;
- South Seymour Street from Old Sonoma Road to Locust Street;
- Westview Drive from Redwood Road to Scenic Drive;
- Baxter Avenue from Trancas Street to Harkness Street.
- Sierra Avenue from Jefferson Street to State Route 29.

The City of Napa municipal code Title 10, chapter 10.48, section 10 (10.48.010) streets or portions of streets in the city are declared truck traffic routes for the movement of vehicles exceeding a maximum gross weight of three tons. These truck traffic routes as listed in the city code include the following:

- Browns Valley Road from Laurel Street to Partrick Road (Browns Valley Wye);
- Browns Valley Road from Patrick Road to Redwood Road;
- Dry Creek Road from Redwood Road to the northerly city limits;
- First Street from State Route 29 to Laurel Street;
- Lincoln Avenue from State Route 29 to Silverado Trail;
- Partrick Road from Browns Valley Wye to Browns Valley Road;
- Redwood Road from State Route 29 to Browns Valley Road;
- Soscol Avenue from Silverado Trail to Trancas Street;
- Third Street from Silverado Trail to Soscol Avenue;
- Trancas Street from State Route 29 to the Napa River;
- California Boulevard from Trancas Street to First Street;
- Hagen Road from Silverado Trail to the city limits;
- Coombsville Road from Silverado Trail to the city limits;
- Sonoma Road from Freeway Drive to the westerly city limits;
- South Freeway Drive;
- Freeway Drive;
- Golden Gate Drive from Imola Avenue to the city limits;
- Kaiser Road;
- Enterprise Way;
- Napa Valley Corporate Way;
- Napa Valley Corporate Drive from Kaiser Road to the southerly city limits;
- Trefethen Way;
- Latour Court.

The City-approved truck traffic routes are not located in the vicinity of the project OUs, as shown on the above image showing the suggested project haul route. Therefore, as stated in the RAP City approval of the project truck route will be secured prior to the start of the project.

Analysis as to whether or not project activities would:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

Impact Analysis:

The City of Napa traffic LOS policy requires new development projects not worsen the existing LOS on any roadway. Further projects shall not impede use of bicycle and pedestrian facilities, and shall meet all requirements of CALTrans for temporary traffic control in accordance with City policy and the General Plan.

Project trucks will make trips to appropriate off-site disposal facilities and will exit the project work areas via surface streets (Elm Street, Coombs Street, W. Imola) to access state routes CA-29 or CA-121 depending on the designated disposal site. It is estimated that a total of 2,600 truck trips will be required to move a total of 42,000 CY in and out of the project work areas for the export of all wastes and import of all materials over the project duration of three construction phases spanning 18 months. In general, the project will be conducted in such a manner that daily export of impacted soil will be limited to an average of 30 truck trips while daily import of clean backfill and paving materials will be limited to an average of 50 truck trips between the hours of 7:30 a.m. and 5 p.m., Monday through Friday. On days when soil export is combined with soil import, no more than 40 total trucks will access the project work areas. A manifest will be prepared for each truckload and a generator's copy will be retained by the field engineer for logging and tracking purposes.

Delivery and supplies needed to support the project will come from sources as close to the project work areas as possible; estimated distance of 30 miles roundtrip when possible at an average rate of 3 deliveries per day. At the start and end of each work day, construction worker vehicles will access/leave the Site and travel on local surface streets. Worker vehicle counts will vary based on the project phase, and are estimated at an average of 20 worker vehicles per day to/from the Site. It is anticipated that out-of-town construction personnel will stay in hotels in close proximity to the Site (estimated 10 miles roundtrip).

On average, it is estimated that approximately one to two haul trucks per hour will access/exit the project work area over the 18-month duration of the project. An annual 2017 traffic count document indicates 6,411 vehicles count on Coombs street between Division and Spruce streets, and 6,095 vehicle counts on W. Imola Street between Highway 29 and Foster road. It is estimated that these additional trucks would increase the vehicle counts by less than one percent of the current levels. Additionally, the project is temporary and after the 19-month construction period, the number of trips would drop back to zero. As such, the project will not significantly impact the LOS on these streets including the transit system, roadway, bicycle, and pedestrian facilities and therefore there will be no impacts to the local transportation ordinance or LOS policy in the General Plan.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Would the project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b).

Impact Analysis:
As discussed above, construction activities will take place for 18 months within an approximate 3-year period, after which time the vehicle trips associated with the project would return to zero. During the 18 months of construction, the project related traffic would increase the vehicle counts on the primary roads (Coombs and W. Imola) by less than one percent which is unlikely to result in exceedance of LOS standard. Further, project related miles traveled will be reduced by housing out of town workers as close to the project site as possible, and the project will utilize local vendors/suppliers, recycling facilities, and quarries to the extent feasible. It is possible, however, for temporary traffic congestion to occur as a result of project activities typically during peak hours. If needed, alternate project transportation schedules will be implemented during peak hours to reduce temporary traffic congestion associated with the project. Similarly, deliveries of supplies can be managed to occur outside peak hours when congestion is the greatest. Additionally, there will be ongoing coordination and consultation with City traffic engineers to prevent potential congestion.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Impact Analysis:
There are no dangerous traffic conditions at or near the Site. The remediation project will not alter the outside traffic approach to or from the work areas. The existing egress and ingress to/from CA-29 conforms to the standards established within the Caltrans Highway Design Manual. Therefore, there will be no impact resulting from a substantial increase in hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. Result in inadequate emergency access.

Impact Analysis:
Work on OU-1 and OU-2 is contained on private property and would not restrict the existing emergency access to the remediation areas or other properties in the vicinity. Construction work on OU-3 may require temporary closure of Riverside Drive adjacent to the work area, but emergency access would remain available from the north or south side of OU-3. Therefore, the project will not result in inadequate emergency access.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.
2. City of Napa General Plan, Envision 2020, dated 1998, Chapter 3 Transportation, accessed at https://www.cityofnapa.org/DocumentCenter/View/447
3. Annual Traffic County Summary, 2017, accessed at: https://www.cityofnapa.org/DocumentCenter/View/962
4. City of Napa Traffic Count Map as of June 2015, accessed at: https://www.cityofnapa.org/DocumentCenter/View/165

18. Tribal Cultural Resources

Project Activities Likely to Create an Impact:

- Excavation and surface disturbing activities
- Drilling and installation of post-remediation groundwater wells and soil gas wells

Description of Baseline Environmental Conditions:
A cultural resources review and survey was completed for the project site in June and July 2016. This report is included in Attachment C. The survey included a database cultural records search for the project site and a 0.25-mile radius area surrounding the project site, consultation with the Native American Heritage Council (NAHC), a buried site sensitivity assessment, and a field reconnaissance of the project site. The results are summarized as follows:

- The database records search revealed five cultural resource sites within one-quarter mile of the project site. There were no resources listed for the project site. The five resources identified within the site vicinity are historic in age and included: (1) the Napa Valley Southern Pacific Railroad and, (2) the Napa Valley Railroad, both located 800 feet east of the Site beyond the Napa River; (3) and (4) Two residential structures built in the 1930s, located 300 feet west of the project site. However, the listings indicate both residential structures are not eligible to the National Register through consensus by a federal agency and the State Historic Preservation Officer; and, (5) The Sawyer Tannery building established in 1870-71. This resource is located approximately 800 feet southwest of the project site and is eligible to the National Register through consensus by a federal agency and the State Historic Preservation Officer.

- The NAHC search of sacred lands file did not identify any Native American traditional cultural places that may be impacted by proposed project. However, a list of six Native American contacts with possible knowledge of cultural resources within the project site and vicinity was provided from the NAHC. Outreach letters sent to these six contacts resulted in two responses; a site meeting was held with a representative of the Yocha Deke Wintun tribe, and a response letter from the Mishewal-Wappo Tribe of Alexander Valley requested that a monitor be

present during construction. The other tribes contacted had no concerns regarding the project. The Mishewal-Wappo Tribe will be contacted prior to the start of construction so they can coordinate monitoring.

- The results of the buried site sensitivity assessment indicate the possibility of encountering previously unidentified buried resources. The project area lies on a nearly level Holocene floodplain adjacent to the Napa River, near a confluence with another minor drainage, therefore, the model indicates that the potential for buried sites is high to highest in the project area.

- The field reconnaissance survey did not encounter cultural resources or materials at the project site. OU-1 was previously occupied with apartment buildings, which have been demolished. Observations included sparse vegetation, sparse soil ground cover, paved parking areas, and concrete foundations associated with the former buildings. OU-2 is an actively used/occupied property comprised of townhomes, a gravel/paved common area, landscaping, and private backyards areas. No cultural materials were observed at this property due to the landscaping and its continued use. OU-3 includes the upper river bank area of the Napa River, located east of Riverside Drive. This area of the project site was densely vegetated on the top of the river's cut bank but decreased in vegetation closer to the road. The road and the erosion from the river appear to be the only disturbances to this parcel.

As recommended in the cultural resources study, based on the potential for subsurface buried deposits, an archaeological monitor will be onsite as needed to observe soil excavation activities. An archaeological awareness tailboard shall be provided to the construction crew prior to the start of ground disturbance. An archaeological monitor shall monitor soil excavation activities due to the risk for encountering buried cultural resources. The level of monitoring effort required may be reduced, modified or suspended at the discretion of the monitor based on field conditions and soils identified during the project.

In the event that any suspected cultural and/or archaeological resource is unearthed during project activities, the archeological monitor shall stop the work, and a PG&E Cultural Resources Specialist will be contacted immediately. The location of any such finds will be kept confidential and measures will be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. A protocol will be implemented that provides measures for consideration and treatment of the find pursuant to regulation 36 CFR 800.13 (Post-review discoveries) and in coordination with pertinent agency personnel. Additional measures to meet these requirements after the PG&E Cultural Resources Specialist has been notified include assessment of the nature and extent of the resource, including its possible eligibility for listing in the National Register, and subsequent recordation and notification of relevant parties based upon the results of the assessment.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §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:

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 § 5020.1(k), or

Impact Analysis:
There are no known tribal cultural resources at the OUs as documented in the cultural resources survey report included in Attachment C. The OUs are not listed or eligible for listing on the California Register of Historical Resources, or in a local register of historical resources. The OUs are not a resource as determined by a lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1. Therefore, project activities will not cause an adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. A resource determined by a 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 §5024.1. In applying the criteria set forth in

subdivision (c) of Public Resources Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Impact Analysis:
The NAHC search of sacred lands file did not identify any Native American traditional cultural places that may be impacted by proposed project. However, a list of six Native American contacts with possible knowledge of cultural resources within the project site and vicinity was provided from the NAHC. Outreach letters sent to these six contacts resulted in two responses; a site meeting was held with a representative of the Yocha Deke Wintun tribe, and a response letter from the Mishewal-Wappo Tribe of Alexander Valley requested that a monitor be present during construction. The other tribes contacted had no concerns regarding the project. The Mishewal-Wappo Tribe will be contacted prior to the start of construction so they can coordinate monitoring.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References Used:

Far Western Anthropological Research Group, Inc., 2016, Cultural Resources Study of PG&E Napa-1 Manufactured Gas Plant Facility Remediation Project, Napa, Napa County, California, by Courtney Higgins, M.A. November 2016 Final.

19. Utilities and Service Systems

Project Activities Likely to Create an Impact:
- Use of municipal water for dust control.
- Temporary electrical power for equipment and air samplers
- Excavation
- ISCO/ISS treatment of subsurface soils

Description of Baseline Environmental Conditions:
The Site (OU-1) is currently vacant and unoccupied. Known underground utilities at the Site and surrounding area based on field surveys, past investigations, and observed utility member markings include: electric, gas, sewer, and water. Water for the project will be provided by the City of Napa metered municipal water supply system. If any contaminated waste water is generated during the project, it will be captured and contained for proper disposal. No wastewater will be discharged to the existing storm drain or sewer lines in the Site vicinity. Temporary electrical power will be supplied by PG&E or alternatively, a generator may be used.

Prior to commencing excavation, Underground Service Alert (USA) will be contacted at least 48 hours in advance to identify the location of underground utility lines that enter the project work areas. All proposed excavation areas will be clearly marked with white paint or surveyors flagging as required. Utility members responding to the USA ticket will clearly mark the positions of their utility lines on the ground surface throughout the designated excavation area. All utility owners of record within the Site vicinity will be contacted prior to remediation.

Analysis as to whether or not project activities would:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Impact Analysis:
The project will not require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact

☒ No Impact

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

Impact Analysis:
An average water usage based on similar remediation sites where excavation was used as the remedial action resulted in the consumption of an average of approximately 3,000 to 8,000 gallons of water per day for dust suppression, equipment decontamination, moisture conditioning of backfill, and grout mixing. Water to support the project will be obtained from the City of Napa water distribution system. The City of Napa's source drinking water comes from: 1) State Water Project (SWP) water delivered through the North Bay Aqueduct (NBA) (treated by the Edward I. Barwick Jamieson Canyon Water Treatment Plant), 2) Lake Hennessey (treated by the Hennessey Water Treatment Plant), and, 3) Lake Milliken (treated by the Milliken Water Treatment Plant). The City of Napa does not pump groundwater for municipal supply. The City currently relies on local surface water and imported SWP supplies exclusively and has no projects in place involving groundwater or conjunctive use. According to the urban water management plan 2015 update, the City's water consumption is on track with meeting its 2020 goal of 132 gpcd (gallons per capita per day).

The City of Napa does have an additional source of water available from the Napa Sanitation District in the form of recycled water generated from wastewater effluent that has been further treated and disinfected to provide a non-potable (non-drinking water) water supply. In the Napa Valley, recycled water is used to irrigate golf courses, vineyards, landscaping, pastureland, parks, playing fields and a cemetery. Using recycled water for irrigation in place of potable or groundwater helps conserve water resources. However, recycled water pipelines are not currently present in the vicinity of the Site. Plans are underway to increase the availability of recycled water throughout the region.

Therefore, because City water supply is not in shortage, and the project is temporary, it is expected to have a less than significant impact on existing water supplies.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Result in 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 provider's existing commitments.

Impact Analysis:
The project will not produce additional wastewater that would result in the need for increased capacity from existing wastewater treatment facilities. Small amounts of wastewater that may be generated from equipment and personnel decontamination, left over cement slurry water from concrete mixing, and/or static water encountered in a subsurface structure will be containerized and transported off-site to an approved disposal facility. Wastewater from sanitary sources (i.e. portable toilets) will be routinely collected by a local company (i.e. portable toilet supplier) and disposed off-site. This activity will not impede the provider's existing commitments.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ 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?

Impact Analysis:
Waste associated with the project will be taken to a licensed off-site disposal facility(ies) with sufficient permitted capacity to accept the waste. The facility(ies) have not been selected because it will depend upon the excavated COC impacted soils' waste profiling results. A list of potential disposal facilities is presented in Appendix D of the RAP, and Attachment E of this IS.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

e. Comply with federal, state, and local statutes and regulations related to solid waste.

Impact Analysis:
The remediation project will comply with all local, state, and federal requirements for integrated waste management (e.g., recycling) and solid waste disposal. All waste associated with the project will be taken to a licensed off-site facility(ies). Refer to Sections 17(a), (b), (e), and (f).

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References Used:

1. Terra Pacific Group, 2021, Final Draft Feasibility Study and Remedial Action Plan, Former PG&E Napa-1 Manufactured Gas Plant, 201-267 Riverside Drive, Napa, California: January 5.
2. City of Napa Urban Water Management Plan 2015 Update, Adopted September 5, 2017, accessed at: https://www.cityofnapa.org/DocumentCenter/View/1376
3. City of Napa 2016 Drinking Water Quality Report accessed at: http://ca-napa.civicplus.com/DocumentCenter/View/1354
   Napa Sanitation District, Recycled Water Program, accessed at: http://www.napasan.com/Pages/ContentMenu.aspx?id=109

20. WILDFIRE

Project Activities Likely to Create an Impact:

- Storing of hazardous materials such as diesel fuel on-site in designated fueling areas for operation of heavy equipment
- Use of sparking equipment such as saws, blow torch, and/or welding materials.

Description of Baseline Environmental Conditions:

The project consists of remediation construction work including soil excavation and ISS using heavy earth-moving equipment, stockpiling of excavated soil, loading into haul trucks and transport off-site to an approved disposal facility, delivery/unloading/placement of clean engineered fill soil in the excavated areas, and in-ground treatment of deeper impacted soils using ISS/ISCO. All surface features in the areas to be remediated such as trees, concrete pads, former building foundations will be removed. Following remediation, the Site will be restored to similar or existing condition. Any utilities removed will be replaced, and drainage patterns for sheet flow will be restored and/or improved with a grading plan.

CAL-fire has designated the City of Napa as “Non-very high fire hazard” in Figure WF-1 Fire Severity Zones of the 2014 Napa County Wildland Fire Background report. A similar figure dated 2007 adopted by CAL-Fire on November 7, 2007 also shows the City of Napa (and the Site) to be located outside designated fire hazard severity zone.

Analysis as to whether or not project activities would:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan.

Impact Analysis: The project will not have an impact on the local emergency response plan or emergency evacuation plan as the Site is not located within or near state responsibility areas or lands classified as very high

fire hazard severity zone. CAL-Fire has designated the City of Napa as “Non-very high fire hazard” area, and the City of Napa is located outside the CAL-Fire 2007 designated fire hazard severity zone.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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.

Impact Analysis:
The project will not exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire as the Site is not located within or near state responsibility areas or lands classified as very high fire hazard severity zone. CAL-Fire has designated the City of Napa as “Non-very high fire hazard” area, and the City of Napa is located outside the CAL-Fire 2007 designated fire hazard severity zone.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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.

Impact Analysis:
The project will not 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 as the Site is not located within or near state responsibility areas or lands classified as very high fire hazard severity zone. CAL-Fire has designated the City of Napa as “Non-very high fire hazard” area, and the City of Napa is located outside the CAL-Fire 2007 designated fire hazard severity zone.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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.

Impact Analysis:
The project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire stability, or drainage changes. The project Site is a relatively flat vacant lot with little topographic relief. Following construction, the site will be restored to existing condition and drainage patterns for sheet flow will be restored and/or improved. During construction, runoff control BMPs will be in place to prevent off-site erosion of soil and water as previously discussed. Post-construction conditions will similar or improved from existing condition, and therefore not expose people or structures to risks associated with post-fire slope instability, drainage changes, flooding or landslides.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact

☒ No Impact

References Used:

1. 2014 Napa County Wildland Fire Background report accessed at: https://www.countyofnapa.org/DocumentCenter/View/3288/Wildland-Fire-Background-Information-August-2014-PDF
2. CAL-Fire Fire Hazard Severity Zone Map adopted in November 2007, accessed at: http://frap.fire.ca.gov/webdata/maps/napa/fhszs_map.28.pdf

Mandatory Findings of Significance

Based on evidence provided in this Initial Study, DTSC makes the following findings:

a. The project ☐ ~~has~~ ☒ does not have the potential to 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. The project ☐ ~~has~~ ☒ does not have impacts that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual 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. The project ☐ ~~has~~ ☒ does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

Determination of Appropriate Environmental Document:

Based on evidence provided in this Initial Study, DTSC makes the following determination:

☒ The proposed project COULD NOT HAVE a significant effect on the environment. A **Negative Declaration** will be prepared.

☐ The proposed project COULD HAVE a significant effect on the environment. However, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **Mitigated Negative Declaration** will be prepared.

☐ The proposed project MAY HAVE a significant effect on the environment. An **Environmental Impact Report** is required.

☐ The proposed project MAY HAVE a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **Environmental Impact Report** is required, but it must analyze only the effects that remain to be addressed.

☐ The proposed project COULD HAVE a significant effect on the environment. However, all potentially significant effects (a) have been analyzed adequately in an earlier Environmental Impact Report or Negative Declaration pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier Environmental Impact Report or Negative Declaration, including revisions or mitigation measures that are imposed upon the proposed project. Therefore, nothing further is required.

Certification:

I hereby certify that the statements furnished above and in the attached exhibits, present the data and information required for this initial study evaluation to the best of my ability and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.

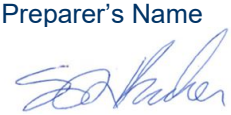
Preparer's Signature

June 18, 2021
Date

Gavin McCreary
Preparer's Name

Project Manager
Preparer's Title

916-255-3710
Phone #



Branch or Unit Chief Signature

June 23, 2021
Date

Steven Becker, P.G.
Branch or Unit Chief Name

Branch Chief
Branch or Unit Chief Title

916-255-3717
Phone #

ATTACHMENT A

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Attachment A
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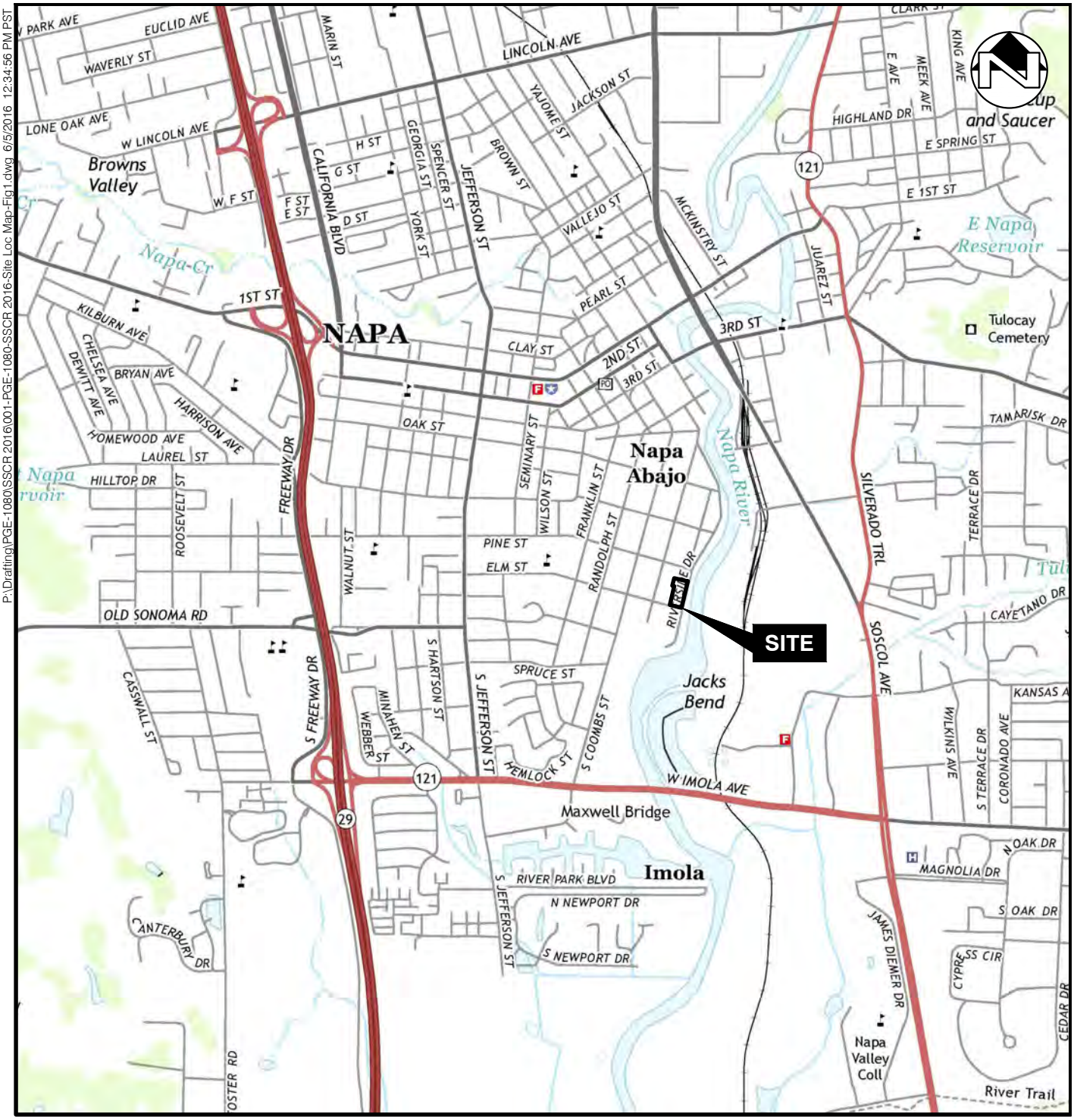
ATTACHMENT B

FIGURES



0 2,000 4,000 FEET

APPROXIMATE SCALE

FIGURE 1

SITE LOCATION MAP

FORMER NAPA-1 MGP SITE
NAPA, CALIFORNIA

REFERENCE:
7.5 MINUTE U.S.G.S. MAP OF
NAPA COUNTY, CALIFORNIA DATED: 2015

TERRA PACIFIC GROUP
Environmental Engineering, Consulting, and Construction

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APN 005-123-011-000

SITE
FORMER NAPA-1 MGP

OU-2

OU-1

OU-3

APN 005-123-006-000

RIVERSIDE DRIVE

NAPA RIVER

ELM STREET

EXPLANATION

- OU-1 - ON-SITE AREA
- OU-2 - ELM STREET TOWNHOMES
- OU-3 - PUBLIC ROW/UPPER RIVER BANK
- FORMER MGP STRUCTURE
- FORMER MGP 4-INCH BELOW GROUND OIL PIPELINE
- FORMER MGP 6-INCH PIPE BELOW GROUND PIPELINE
- PARCEL LINE
- APPROXIMATE HISTORICAL MGP PROPERTY BOUNDARY
- CURRENT PROPERTY BOUNDARY

0 40 80 FEET
APPROXIMATE SCALE

NOTES:
INFORMATION ABOUT MGP FEATURES WAS OBTAINED FROM AMEC'S 2015 SITE CHARACTERIZATION REPORT. PARCEL LINES OBTAINED FROM NAPA COUNTY GIS WEBSITE, MODIFIED BASED ON APN MAP AND FOULK CIVIL ENGINEERING SURVEY DATED 10/30/2014. AERIAL BASE FROM ESRI.

FIGURE 2

SITE PLAN SHOWING

PROPOSED OPERABLE UNITS

FORMER NAPA-1 MGP SITE
NAPA, CALIFORNIA

TERRA PACIFIC GROUP
Environmental Engineering, Consulting, and Construction

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EXPLANATION

- PARCEL LINE
- CURRENT PROPERTY BOUNDARY
- APPROXIMATE HISTORICAL MGP PROPERTY BOUNDARY

0 60 120 FEET

APPROXIMATE SCALE

FIGURE 3

SITE PLAN SHOWING SURROUNDING LAND USES

FORMER NAPA-1 MGP SITE
NAPA, CALIFORNIA

NOTES:
INFORMATION ABOUT MGP FEATURES WAS OBTAINED FROM AMEC'S 2015 SITE CHARACTERIZATION REPORT. PARCEL LINES OBTAINED FROM NAPA COUNTY GIS WEBSITE, AND MODIFIED BASED ON APN MAP AND FOULK CIVIL ENGINEERING SURVEY DATED 10/30/2014. AERIAL BASE FROM ESRI.

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SB-13
GW-2
GW-5
B-25
B-21
B-29
MW-3
PD-1
MW-1
B-26
GW-6
GW-13
B-22
B-30
B-27
PD-2
GW-7
MW-6
B-28
B-23

SITE
FORMER NAPA-1 MGP

RIVERSIDE DRIVE

NAPA RIVER

ELM STREET

EXPLANATION

- CAPPED AREA
- CAP (UP TO 4 FEET CLEAN SOIL, OR ASPHALT/CONCRETE)
- SOIL EXCAVATION UP TO 4 FEET BGS
- HOTSPOT EXCAVATION UP TO 10 FEET BGS
- EXCAVATION/TREATMENT TO 50 - 60 FEET BGS
- FORMER MGP STRUCTURE
- FORMER MGP 4-INCH BELOW GROUND OIL PIPELINE
- FORMER MGP 6-INCH PIPE BELOW GROUND PIPELINE
- PARCEL LINE
- CURRENT PROPERTY BOUNDARY
- VISUAL OBSERVATION OF LNAPL IN DEEP AQUIFER
- LNAPL NOT OBSERVED IN DEEP AQUIFER

0 40 80 FEET
APPROXIMATE SCALE

NOTES:
INFORMATION ABOUT MGP FEATURES WAS OBTAINED FROM AMEC'S 2015 SITE CHARACTERIZATION REPORT. PARCEL LINES OBTAINED FROM NAPA COUNTY GIS WEBSITE, MODIFIED BASED ON APN MAP AND FOULK CIVIL ENGINEERING SURVEY DATED 10/30/2014. AERIAL BASE FROM ESRI.

FIGURE 4

CONCEPTUAL REMEDIAL PLAN FOR ALTERNATIVE NUMBER 4

FORMER NAPA-1 MGP SITE
NAPA, CALIFORNIA

TERRA PACIFIC GROUP
Environmental Engineering, Consulting, and Construction

ATTACHMENT C

CULTURAL RESOURCES STUDY

Cultural Resources Study of PG&E Napa-1 Manufactured Gas Plant Facility Remediation Project, Napa, Napa County, California

By:
Courtney Higgins, M.A.

November 2016 FINAL

Submitted to:
Christophe Descantes, Ph.D.
Senior Cultural Resources Specialist
Pacific Gas & Electric Company

FAR WESTERN ANTHROPOLOGICAL RESEARCH GROUP, INC.
2727 Del Rio Place, Suite A, Davis, California, 95618
http://www.farwestern.com 530-756-3941

Cultural Resources Study of PG&E Napa-1 Manufactured Gas Plant Facility Remediation Project, Napa, Napa County, California

By:
Courtney Higgins, M.A.
Far Western Anthropological Research Group, Inc.

With Contributions by:
Naomi Scher, M.A.
Far Western Anthropological Research Group, Inc.

and
Matt Walker, M.A.
Architectural Historian
Cardno, Inc.

November 2016 FINAL

Submitted to:
Christophe Descantes, Ph.D.
Senior Cultural Resources Specialist
Pacific Gas & Electric Company

SUMMARY OF FINDINGS

Pacific Gas & Electric Company (PG&E) contracted Far Western Anthropological Research Group, Inc., (Far Western) to conduct a survey of 1.59 acres of the former Napa-1 Manufactured Gas Plant (MGP) Facility in Napa, California. The parcel no longer houses the facility or the buildings that were subsequently built when the plant was removed. PG&E and California Department of Toxic Substance Control (DTSC) entered into a Voluntary Cleanup Agreement (VCA) at the Former Napa-1 MGP facility. The former facility property is located at Elm Street and Riverside Drive.

In anticipation of permitting through the United States Army Corps of Engineers, the archaeological work was conducted in compliance with both Section 106 of the National Historic Preservation Act (36 CFR Part 800) and the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). Tasks completed by Far Western include Native American notification, an archival records search, a buried site assessment, and an intensive pedestrian survey with the aim of identifying cultural resources within or adjacent to the Area of Potential Effects (APE). For the purposes of this report, the APE refers to the footprint of the former facility property, which is an approximately 1.59-acre area.

A records search conducted by staff at the Northwest Information Center of the California Historical Resources Information System identified five sites within one-quarter mile of the proposed APE and no resources within the APE. Twenty-five studies have been conducted within one-quarter mile of the APE and one of them intersects the APE.

The Native American Heritage Commission's (Commission) search of sacred lands file did not identify any Native American traditional cultural places that may be impacted by proposed project. They provided a list of six Native American contacts that may have knowledge about the cultural resources in the area. A letter requesting input on the proposed project was mailed to each of these contacts and follow up phone calls were made to each group. On November 14, 2016, James Sarmento, the cultural resources manager of the Yocha Dehe Wintun Nation, had an on-site field meeting with representatives from the DTSC, PG&E, and Terra Pacific Group to discuss the project. The DTSC is the point of contact and will continue the consultation with the interested Native American Tribes. The Mishewal-Wappo Tribe of Alexander Valley did not attend the meeting, but requested that a monitor be present during construction. The other tribes contacted had no concerns regarding the project.

Far Western conducted an intensive pedestrian survey in two parts, the first occurred on June 9, 2016, with a supplemental survey on July 12, 2016. No new cultural resources were encountered during this survey. The ground cover within the footprint of the former facility property is primarily concrete foundations and paved parking lots, which are remnants of the now-removed residential apartments. Those areas not covered with concrete or pavement has poor ground visibility because they are overgrown with weeds and grasses due to the abandonment of the lot. A few modern bricks were observed. Two additional parcels are adjacent, but outside of the former MGP facility footprint. One parcel encompasses the outdoor spaces (backyards) of five townhomes and the complex's common area. No cultural materials were observed in this parcel due to the landscaping and continued use of the properties. The second parcel outside of the MGP footprint is east of Riverside Drive along the bank of the Napa River. It was densely vegetated on the top of the river's cut bank, but decreased in vegetation closer to the road. The road and the erosion from the river appear to be the only disturbances to this parcel. No cultural materials were observed.

A historical architectural review was conducted as part of this project and included writing a historic context of the property. This research found that the historic-era MGP buildings were removed by the 1940s and the lot was sold in 1961. The residential buildings, built after the lot was sold, were removed in 2011. No on-site historical architectural analysis was conducted because no standing structures are present on the

property. However, there is the potential to encounter buried historic-era resources associated with the MGP facility during the proposed project.

The results of the buried site sensitivity assessment indicate the possibility of encountering previously unidentified buried resources. The project area lies on a nearly level Holocene floodplain adjacent to the Napa River, near a confluence with another minor drainage, therefore, the model indicates that the potential for buried sites is high to highest in the project area. Due to the intensive use of the project area since at least the 1880s we anticipate a high amount of previous subsurface disturbance. However, the actual extent of such disturbances or the effect of previous disturbances on the potential for buried prehistoric archaeological deposits is unknown.

At the time of this report, the plan for the project had not been approved yet. Terra Pacific Group proposes excavating the hotspots and other soils of concern and then capping selected areas with asphalt, concrete, or clean soil. An archaeological monitor is recommended to be present during the construction project, due to the high potential for buried cultural resources, the historic-era use of the property, and the unknown depth of previous disturbances in the property. The level of monitoring effort required may be reduced, modified, or suspended at the discretion of the monitor based on field conditions and soils identified. Prior to commencement of ground disturbing activities, an archaeological awareness tailboard will be provided to the construction crew. A PG&E Cultural Resources Specialist will need to be contacted at least two weeks prior to the start of the project in order to coordinate the archaeological tailboard and monitoring.

If an archaeological monitor is not present, any work occurring at the facility involving subsurface ground activities should follow the Best Management Practice 25 (Environmental Services Procedure P-002) for inadvertent discoveries. In the event of inadvertent discoveries of cultural resources during the course of project-related construction or excavation activities when a monitor is not present, a protocol will be implemented that provides measures of consideration and treatment of the find pursuant to regulation 36 CFR 800.13 (Post-review discoveries). This protocol includes stopping all work in the vicinity of the discovery and immediately notifying a PG&E Cultural Resources Specialist, coordination with other agency specialists as needed, assessment of the nature and extent of the resource (including its possible eligibility for listing in the National Register of Historic Places or the California Register of Historical Resources), and subsequent recordation and notification based upon the results of the assessment. Additionally, if human remains are encountered, all provisions provided in California Health and Safety Code 7050.5 and California Public Resources Code 5097.98 will be followed. Work shall stop within 100 feet of the discovery and PG&E's Cultural Resources Specialist must be contacted immediately, and will consult with the County Coroner. If human remains are of Native American origin, the County Coroner will notify the Commission within 24 hours of this determination and a Most Likely Descendent will be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid and/or recover the remains have been implemented.

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INTRODUCTION

Pacific Gas and Electric (PG&E) will be conducting work associated with the Napa Manufactured Gas Plant (MGP) California Department of Toxic Substances Control (DTSC) remediation project. PG&E and California DTSC entered into a Voluntary Cleanup Agreement (VCA) at the Former Napa-1 MGP facility (Figure 1). The facility is located at the northwest corner of Elm Street and Riverside Drive in Napa, California. The Area of Potential Effects (APE) refers to the footprint of the former facility property, which is an approximately 1.59-acre area. The plans for the remediation work have not been finalized; however, excavations are not planned to be deeper than 50 feet.

PG&E contracted Far Western Anthropological Research Group, Inc., (Far Western) to conduct a cultural resources study of the APE. In anticipation of permitting through the United States Army Corps of Engineers, the archaeological work was conducted in compliance with both Section 106 of the National Historic Preservation Act (36 CFR Part 800) and the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). These regulations mandate that federal and California public agencies consider the effects of projects on historic properties (i.e., resources eligible for the National Register of Historic Places [National Register] and/or the California Register of Historical Resources [California Register]). Far Western's identification efforts include an archival records search, Native American outreach, a buried sensitivity analysis, and a pedestrian survey.

NATIVE AMERICAN CONSULTATION

A Sacred Land File request was sent to the Native American Heritage Commission (Commission) on April 29, 2016 (Appendix A). The search did not result in the identification of any resources. Letters were sent to the six individuals and groups provided by the Commission. A second letter was sent to the six recipients on July 8, 2016, to provide them with additional information regarding the expansion of the APE based on updated project designs. Follow-up phone calls were made to each group. The Mishewal-Wappo Tribe of Alexander Valley requested that a monitor be present during construction. The Yocha Dehe Wintun tribe requested a site visit. On November 14, 2016, James Sarmento, the cultural resources manager of the Yocha Dehe Wintun Nation, had an on-site field meeting with representatives from the DTSC, PG&E, and Terra Pacific Group to discuss the project. The Mishewal-Wappo Tribe of Alexander Valley did not attend the meeting. The other tribes had no concerns regarding the project. The DTSC and the two concerned tribes (Mishewal-Wappo and Hocha Dehe Wintun) will continue consultation during the course of the project.

PROJECT DESCRIPTION

The Napa MGP facility operated between the years of 1889 and 1924, using both coal gasification and Lowe Oil gasification processes to manufacture the gas. The production of gas at this facility ended in the mid-1920s and lay dormant until the 1960s when the property was sold and developed for residential apartment use. The apartments were occupied until 2010, when PG&E re-purchased the land for the purposes of the VCA. Environmental investigations were conducted on the property several times: PG&E in the 1980s, Kleinfelder in 1992, Parsons in 2010, and Amec Foster Wheeler (Amec) in 2012 and 2014 (Amec 2012a, 2012b, 2012c, 2014; Kleinfelder 1992; Parsons 2011). Amec compiled the results of these data and Terra Pacific Group is using this document to generate a design plan for the project (Amec 2015). At the time of this report, the plan for the project had not been approved yet. Terra Pacific Group proposes the following remediation options (see also Appendix C):

- Excavate shallow soil up to four feet on Elm Street apartments and common area
- Excavate hotspot up to 10 feet on site

- Excavation and treatment of soil up to 35 feet within former facility footprint
- Excavation and treatment of soil up to 50 feet within former facility footprint
- Cap (clean soil and cap with asphalt, concrete, or clean soil) along the upper river bank and on site of the former facility

BACKGROUND

This section briefly reviews the environmental, prehistoric, ethnographic, and historical contexts for the general area. It also summarizes the results of archaeological investigations near the study area. Portions of the background information presented below are adapted from Wohlgemuth's (2010) *Capell Creek Bridge along State Route 121 (SR 121) Project, in Eastern Napa County.*

ENVIRONMENTAL CONTEXT

The APE is situated along the Napa River in the city of Napa within Napa Valley. The valley is trending northwest to southeast and is bordered by the Mayacamas Mountains to the west and the Vaca Range on the east. The APE climate is typically Mediterranean, with cool, wet winters and warm, dry summers. The region is relatively frost-free, with the majority of rainfall occurring from December through March.

The uplands in this part of the North Coast Ranges are underlain by ancient, uplifted sedimentary rocks of the Franciscan Formation and Great Valley Sequence. The valley is primarily mapped as late Pleistocene to Holocene-age alluvial fan deposits (Sowers et al. 1998). Younger Holocene-age alluvial-terrace deposits are found along sloughs and tributary streams of the Napa River (Sowers et al. 1998), as well as at the APE along the Napa River.

Volcanic activity in the region produced an abundance of obsidian, found primarily on the eastern slopes of the valley, but dispersed in secondary alluvial deposits throughout the basin. Less than 20 miles north of the APE there is a major prehistoric obsidian quarry at Glass Mountain, where cobbles of a dark, glossy, opaque glass cover the slopes. Napa Valley obsidian was the premier toolstone in the North Coast Ranges (White 2002:532), and because of its purity and lack of flaws, was a highly valued material traded throughout central California during the entire Holocene.

Native plant and animal diversity was high in the valley and surrounding mountains, providing ample food for prehistoric hunter-gatherers. South of St. Helena, the valley floor was originally covered by open oak savanna, while to the north, the bottomlands were dominated by mixed-hardwood woodlands. Today, the nearby slopes east of the valley floor are mainly covered in gray pine-blue oak woodland and chaparral-scrub communities (Küchler 1977). Key native plant foods from these local habitats included acorns from a variety of oaks (*Quercus* spp.), pine nuts (*Pinus sabiniana*), bay nuts (*Umbellularia californica*), manzanita berries (*Arctostaphylos* spp.), bulbs and corms, and several small-seeded grasses and annuals. Terrestrial animals hunted by native peoples included elk (*Cervus canadensis*), deer (*Odocoileus hemionus*), rabbits (*Sylvilagus* spp.), and squirrels (Sciuridae), as were economically important birds such as ducks (*Aythya* spp.), geese (Anserini), quail (*Callipepla californica*), and doves (Columbidae).

CULTURAL CONTEXT

PREHISTORY

The southern North Coast Ranges, particularly the Clear Lake basin 80 kilometers (50 miles) to the north of the APE, have been the subject of archaeological research for more than 50 years (e.g., Baumhoff 1985; Fredrickson 1984; Heizer 1953; Meighan 1955; Origer 1987; Stewart 1982), and several integrative culture-historical schemes have been developed (Bennyhoff 1994a; Fredrickson 1973, 1984; Heizer 1953; Meighan 1955; White 2002; White and Fredrickson 1992). The most widely used organizing framework is that of Bennyhoff and Fredrickson (1994), who define six broad temporal periods based on obsidian hydration, radiocarbon dating, and the distribution of diagnostic artifacts. These periods include the paleoindian (pre-10,000 cal BP), Lower Archaic (10,000-7500 cal BP), Middle Archaic (7500-4000 cal BP), Late Archaic (4000-1000 cal BP), Lower Emergent (1000-500 cal BP), and Upper Emergent (500-100 cal BP). Within this chronological framework, five broad adaptive patterns are identified for the southern North Coast Ranges: Post, Borax Lake, Berkeley, Mendocino, and Augustine (White 2002).

As defined by Bennyhoff and Fredrickson (1994:21), archaeological "patterns" are represented by a suite of shared adaptive traits including similar cultural items, economic modes (production, distribution), and burial/ceremonial practices. These broad adaptive patterns are recognized locally as "aspects," reflecting unique regional variations of the primary adaptive pattern. Archaeological manifestations of regional patterns and their local aspects are discussed briefly below. An understanding of these cultural-historical units is important for discussing regional land-use strategies.

Paleoindian Period (pre-10,000 cal BP)

The Post Pattern represents the earliest known occupation of the North Coast Ranges (White 2002). Little is known about paleoindian people due to the rarity of regional sites dating to this time period. Most think that the earliest inhabitants were highly mobile foragers focused on hunting and gathering in a lacustrine setting. Artifacts characteristic of Post Pattern sites include Clovis-like fluted points and chipped-stone crescents (White 2002). No sites dating to this period have been documented in the Napa or Berryessa Valleys.

Lower Archaic Period (10,000-7500 cal BP)

At least three aspects of the Lower Archaic Borax Lake Pattern have been identified in the southern North Coast Ranges. The earliest (Borax Lake Aspect) is found in the Clear Lake basin and is represented by square-stemmed projectile points and milling equipment. Two other aspects, represented archaeologically by wide-stemmed projectile points with indented bases, occur much farther north. No Borax Lake Pattern sites have been identified in Napa or Berryessa Valleys, although occasional wide-stem points have been reported (Carpenter and Mikkelsen 2005).

Middle Archaic Period (7500-4000 cal BP)

The Mendocino Pattern is believed to be the antecedent Middle Archaic cultural stratum in the southern North Coast Ranges, but it spans a long period that also overlaps temporally and (to a degree) spatially with Late Archaic Berkeley Pattern sites. The Hultman Aspect of the Mendocino Pattern has been defined for the southern portion of the North Coast Ranges (White 2002).

Bennyhoff (1994b) argued that the Hultman type site (NAP-131) dated to approximately 5,000 to 3,000 years ago, but marshaled little radiocarbon or obsidian hydration evidence to support this claim. The only site definitively dated to this period in the project vicinity is NAP-916, a buried site along Napa Creek in the Napa Valley, which has a well-rounded but small artifact and plant remains assemblage (Martin and

Meyer 2005). The most substantial occupation site ascribed to the Hultman Aspect is known from Green Valley, where SOL-315 contains at least 90 burials, one of which was dated to approximately 4,000 years ago, and none share the shell beads and ornaments known from contemporaneous Windmiller deposits in the Sacramento-San Joaquin delta (Wiberg 1992).

Late Archaic Period (4000-1000 cal BP)

White has convincingly demonstrated that the North Coast Ranges were occupied simultaneously by Mendocino Pattern and Berkeley Pattern groups during the Late Archaic (2002).

Hultman Aspect of the Mendocino Pattern (4000-1000 cal BP)

Late Archaic sites of the Mendocino Pattern appear to show continuity with Middle Archaic assemblages antedating 4000 cal BP. Archaeological studies indicate that the Mendocino Pattern is centered in the uplands of central California and represents a residentially mobile adaptation (White 2002). Mendocino Pattern populations are thought to have been small family groups who exploited a wide range of plant and animal foods from spatially and seasonally divergent locations. Subsistence economy was variable, in some districts focused on plant processing (evidenced by milling equipment), and in other regions on hunting large and small game.

Mendocino Pattern sites often include a variety of heavy cobble-based pounding, chopping, and scraping tools; minimally modified flake tools; leaf-shaped, side-notched, and concave-based projectile points; and handstones and millingslabs. Regionally, the Mendocino Pattern is manifested by the Hultman Aspect, which continues through the Late Archaic with slight technological shifts, such as the introduction of mortars and pestles. Despite the fact that Berkeley and Mendocino pattern peoples differed in their adaptive approaches, they are thought to have co-existed in the southern North Coast Ranges (Stewart 1989; White 2002), interacting on some level, but maintaining their unique lifestyles. In this area, Berkeley Pattern people are thought to have been year-round residents, while Mendocino Pattern groups are thought to have visited the valley as part of a seasonal round.

Berkeley Pattern (4000-1000 cal BP)

To the north in the Clear Lake basin, White (2002) has argued that the Berkeley Pattern has an origin at least 7,000 years ago. To date, however, no Berkeley Pattern sites older than about 4,000 years have been discovered in the Napa Valley (Bennyhoff 1994b). Berkeley Pattern sites are found throughout the well-watered lowlands of central California and are commonly represented by village mounds containing a diverse array of residential features, human graves, and various non-local manufactured goods (e.g., shell beads and ornaments, obsidian bifaces). These appear to be fixed settlements occupied throughout most, if not all, of the year. Subsistence practices are thought to have been logistically organized (*sensu* Binford 1980), with important resources collected in distant locations and returned to the central village for processing and consumption. Findings from the Warms Springs Dam in northern Sonoma County suggest that Berkeley Pattern settlement focused on the most favored localities along the larger streams, in contrast to Augustine Pattern settlement that expanded into more marginal places (Basgall and Bouey 1991).

In the Napa Valley and wider North Coast Ranges, Berkeley Pattern assemblages commonly include lanceolate-shaped Excelsior and contracting-stemmed points, *Olivella* Saucer and Saddle beads, *Macoma* shell beads, charmstones, and bowl mortars and pestles (Fredrickson 1973:44-45; White 2002:51). The Berkeley Pattern is distinguished by highly specialized bone tools and other implements, including ulna awls, serrated scapula saws, fishhooks and gorges, fish spears, decorative tubes, and hairpins. Although a large variety of plant and animal resources were exploited, the Berkeley Pattern is distinguished by the heightened importance of resources that can be harvested and stored in bulk, including acorn and fish. This is evidenced

by mortars and pestles and abundant acorn hulls in these assemblages, as well as the common remains of resident and anadromous fishes. Evidence of regularized exchange and established territorial boundaries are noticeable at this time (e.g., Fredrickson 1980; Rosenthal 1996).

Emergent Period (1000 cal BP-200 cal BP)

The Lower Emergent Period (1000 cal BP to 450 cal BP) in the Napa area is represented by the St. Helena Aspect of the Augustine Pattern and is distinguished by replacement of the atlatl and dart with the bow-and-arrow. Like the Berkeley Pattern, Augustine Pattern groups are thought to have been residentially stable, as indicated by the numerous large mound sites found throughout Napa and Pope Valleys. The presence of hopper mortars in late components suggests a continued and perhaps substantial reliance on acorn; although small-seeded resources appear to have taken on new importance (Wohlgemuth 2004). Regularized exchange systems (e.g., clam shell disk-bead money), territorial boundaries, and levels of social complexity observed during the early historic period are evident beginning in the Emergent Period.

Augustine Pattern assemblages include steatite ear spools, *Haliotis* pendants with scored edge-decoration, thin rectangular *Olivella* beads, serrated arrow points with straight or slightly expanding stems, collared stone pipes, steatite ring beads, and several specialized bone tools including reamers (Fredrickson 1984). Artifacts associated with the latter part of the St. Helena aspect (Upper Emergent; 450-150 cal BP) include painted stone tablets, corner-notched arrow points, bird-bone ear tubes, clamshell disc beads, and magnesite pipes.

ETHNOGRAPHIC

Ethnolinguistic data place the APE within the territory of the Wappo. Milliken ascribes the rugged hill country northeast of Napa Valley to the Chemoco and Puttato, two small and strongly intermarried groups with mixed Wappo, Patwin, and Miwok female personal names (2006:37-38). At the time of Euro-American contact, the Wappo populated lands within Napa Valley, as well as adjacent areas in the Russian River and Putah Creek drainages. Earliest ethnographic treatments of the Wappo are by Powers (1976, originally published 1877) and Barrett (1908), with later works by Kroeber (1925, 1932), Driver (1936), Heizer (1953), Sawyer (1978), and Milliken (1978). Although the Wappo language is one of four identified within the Yukian linguistic family, its speakers were geographically separated from the three northern groups of Yukian-speakers (Yuki, Coast Yuki, and Huchnom [Barrett 1908:Map 1; Shipley 1978:87]).

The Wappo practiced a hunting and gathering-based economy and lived in permanent villages located along creeks or streams. The basic unit of political organization is thought to have been the tribelet, a territory-holding group of one or more associated villages and smaller temporary encampments. Villages consisted of a cluster of semi-subterranean houses occupied by one or more families. Each village had one or two sweathouses. Leadership within the village was relatively informal, usually by a well-respected individual with persuasive abilities whose main functions were inter-village relations and intra-village communications. Temporary summer villages or camps were located near key resources. Other types of temporary settlements included processing and manufacturing stations, hunting locales, ceremonial sites, and quarries.

Befitting the primary staple, acorn procurement and processing was the most intensive subsistence activity. In addition to acorns, other nuts, roots, seeds, and greens were collected. Deer was the principal game resource, but rabbits, squirrels, ducks, geese, and other birds were also taken, as were woodrats. Trade relations with neighboring villages and groups were well established; exchanges involved obsidian, Saxidomus clamshell disk beads, magnesite cylinder beads, food, and basket-making materials. The aboriginal way of life for the Wappo was disrupted by the establishment of the Spanish missions beginning in the late eighteenth century.

HISTORIC CONTEXT (by Matt Walker)

Introduction

The property comprising the former Napa MGP site is located just south of downtown Napa along the right (west) bank of the Napa River. Originally consisting of three parcels, the subject property is now composed of two parcels due to a line lot adjustment exercised circa 1961. Historically, a number of buildings associated with the Napa MGP facility occupied the southern portion of the study property for a period of 35 years. By 1891, a single story residence was constructed on the northern portion of the study property and remained there through at least the mid-1920s. Following the decommissioning of Napa MGP in 1924 by PG&E, the company razed the remaining buildings and PG&E sold the facility in 1961. By 1963, a residential apartment building had been constructed over the entirety of the study property. PG&E demolished the apartment building in 2011 and today the study property is barren.

Early History

Prior to European settlement, indigenous people of the Wappo tribe inhabited the Napa Valley. Taken from the Spanish word "guapo," meaning "courageous," Wappo occupation of the Napa Valley dates to approximately 8000 BC. The Wappo were a largely hunter-gather society and lived primarily in permanent villages along the Napa River, its watershed, and near important food sources, including hunting trails and oak groves (Weber 1998:3-15).

The Napa Valley was once part of Alta California, an expansive and isolated region north of present-day Mexico included as part of the Spanish empire. In 1821, Mexico gained its independence from Spain. Two years later, the newly independent Mexican government sent an expedition led by Ensign Jose Sanches and Jesuit Father Jose Altimira to establish a new mission north of Yerba Buena (now San Francesco), in large part to discourage encroachment by the Russians and American settlers. After traveling through the region north of the San Pablo Bay, including Sonoma and Napa, Altimira decided that the Sonoma Valley was a preferable location to establish a mission because of its abundance of trees and water sources. Altimira believed the Napa Valley was better suited for cattle and livestock ranching. When Spanish missionaries arrived in the 1820s, there were likely approximately 1,600 Wappo living in the valley itself with 4,600 in the surrounding area. In 1923, Mission San Francisco de Solano was constructed in Sonoma and it became the northernmost and last mission built in California (Schmitt and Coodley 2007:16; Weber 1998:6, 16-24).

The valley remained sparsely developed through the mid-1840s, with land held primarily by large landowners and used for ranching. Following the conclusion of the Mexican-American War (1846-1848), the "District of Sonoma" was established as part of the new California Republic, an area that extended from the San Francisco Bay to the Oregon border and from the Pacific Ocean to the Sacramento River. In 1847, John Grigsby and Nathan Coombs, two participants of Sonoma's Bear Flag Revolt, acquired land that would later become the City of Napa. Coombs laid out a townsite, calling the new town "Napa City," and by December 1847, the first lots had been sold. In 1850, Napa became one of California's original 27 counties, with the town of Napa named the county seat (Schmitt and Coodley 2007:26; Weber 1998:135, 138).

Development of Napa

In 1848, James Marshall's gold discovery along the South Fork of the American River started a mass western migration to California. The discovery fundamentally shaped California and the Napa Valley history. As word spread of the gold discovery California's population swelled from 20,000 non-native people in 1848 to 100,000 in 1849 and more than 200,000 by 1852. These new resident flocked first to gateway cities, such as Stockton, Sacramento, and Marysville for supplies before making their way to the gold fields in the foothills of the Sierra Nevada. Many Napa residents joined the search for gold, but soon returned as their efforts often

proved futile. Merchants soon began to arrive in the valley and buildings began to line the streets of the young town (Rice et al. 2002:189-192; Weber 1998:132-133).

Despite its initial prosperity, Napa City was slow to develop. While the region's mild climate attracted some miners to the region to escape the cold Sierra Nevada winters, few actually passed through the city because the town was not on the way to the gold fields or any major city. In addition, confusion over Mexican land grants halted American settlers' land ownership in the early years. In 1852, the young city had 300 permanent residents, down from 405 in 1850. However, by 1854, as federal legislation began to clarify land claims, Napa City's population rebounded to between 300 and 400 residents, with 40 wood-frame buildings (Figure 2; Schmitt and Coodley 2007:25; Weber 1998:140).

The study property was originally located in "Napa Abajo," or Lower Napa. As Napa's population grew steadily through the 1850s, so too did the city's boundaries. Upon its filing in 1847, the town limits extended from Brown Street to the Napa River and from Napa Creek to the steamboat landing at Third Street. Land was soon acquired from several land grants to form the present town of Napa: land north of First Street was acquired from Salvador Vallejo, land to the south was purchased from Nicholas Higuera, and land to the east of the Napa River acquired from Cayetano Juarez and Damaso Antonio Rodriguez. Napa Abajo was a 100-acre estate purchased by J. P. Thompson from Nicolas Higuera in 1853. Napa Abajo was soon laid out as a separate townsite that extended south along the Napa River to Spruce Street and to Franklin Street on its west side. However, the new townsite was slow to develop and by 1862 only half a dozen houses were present in Napa Abajo. Several other subdivisions were filed between the 1850s and 1870s, including Brown and Walker's Addition of 1857 and the East Napa Subdivision of 1872, as land speculators saw opportunities to turn a profit. When Napa was incorporated in 1872, these later additions were included in the young city's boundaries (Page & Turnbull 2009:29, 36-37; Palmer 1881:233, 239; Weber 1998:30-32).

Development of Napa Lighting

Between the mid-1800s and early 1900s, manufactured gas plants served as one of the most efficient and effective ways to produce gas. These facilities used coal and other organic substances, including oil and wood, to produce gas used for lighting, heating, and cooking. In 1909, there were 74 manufactured gas plants in the State of California. By the 1920s, this process of producing gas reached its height of production, with more than 1,500 manufactured gas plants located in cities and town across the United States (Census Bureau 1909; Cleveland 2009:153; PG&E 2016).

In 1867, the Napa City Gas Light Company was incorporated and it became the city's first lighting company. That year, the City of Napa contracted with the new company to lay down gas pipes along its streets. The contract stated that the Napa City Gas Light Company would provide the existing city streets with light as well as its future development for 15 years (Menefee 1873:78). The Napa City Gas Light Company constructed its first manufactured gas plant on Fifth Street between Main and Brown Street in an industrial area near the Napa River. Manufactured gas plants were often located along rivers to allow for easy transportation of coal to the facilities. When the plant went into operation on September 1, 1867, Napa became the tenth city in California to introduce gas lighting (Coleman 1952:44; McEnery 2012:72).

Development of Napa MGP Property

The study property remained undeveloped until 1889, when the Napa City Gas Light and Heat Company constructed its second manufactured gas plant on the property. Situated just south of downtown Napa between Elm and Pine Streets along the west side of the Napa River, the new facility was constructed to help meet the demands of the growing city (Figure 3). Between 1870 and 1890, Napa's population swelled from just under 2,000 residents to approximately 4,400 residents. Upon its completion, the facility included a

main gasworks building which housed a coke (fuel) shed, two benches and retorts within a generator room, a condenser and scrubber room, a purifying room, and a workshop and gas meter room at the eastern end of the building. The main building was constructed of brick with a corrugated iron roof. A large coal shed was located north of the main gasworks building and a single gas holder was present south of the main building. By 1891, a single story residence had been constructed on an adjacent parcel at the northern portion of the study property. This building likely housed the facility's operator (Amec 2015:3-4; Census Bureau 1870-1990; McEnery 2012:72; Sanborn Perris Map Company 1891:Sheet 19).

The facility employed the coal gasification process for 13 years, from the time of its construction in 1889 to 1902. This process involved heating bituminous coal, with the absence of air, resulting in the production of gas, as well as its byproducts including coal tar. The gas and tar were then separated and impurities were removed from the gas (Amec 2015:3-4; Census Bureau 1870-1990; McEnery 2012:72).

The California Gas and Electric Corporation purchased the Napa MGP facility in 1903. Beginning the previous year, the facility shifted to operate under the Lowe Oil gasification process. This process involved passing oil through a heated chamber, with the absence of air, which vaporized the oil to create gas in addition to its byproducts, which were subsequently separated and impurities in the gas were removed. In 1905, the California Gas and Electric Corporation merged with the San Francisco Gas and Electric Company to form PG&E, and the new company assumed ownership of the Napa MGP site. PG&E expanded the facility in 1910 and again in 1914 to accommodate the growing need for gas lighting in the growing city. The facility operated under this process for 22 years (Amec 2015:3-4: Coleman 1952:227-231; PG&E 2016).

In 1924, PG&E discontinued operation of the Napa MGP and the facility was subsequently dismantled. With the emergence of natural gas as the safest and most efficient way of providing gas to the public in the 1920s and 1930s, most of the manufactured gas plants in California were no longer needed and soon closed. In the years prior to the plant's closing, PG&E foreman Robert C. Hughes lived in the residential building on the parcel just north of the facility and managed the facility's operations. By the late 1940s, the residence had been demolished and only a small storage structure remained along the east side of the subject property. PG&E sold the vacant lot in 1961 and a residential apartment building called the Riverside Apartments was constructed on the study property by 1963. Ownership of the apartment complex changed frequently until 1984, when River Bend Association acquired the property. In 2010, PG&E repurchased the property in order to more thoroughly evaluate site conditions and safety. The Riverside Apartments building was demolished in 2011. The former Napa MGP property is currently undeveloped and covered primarily by concrete (Amec 2015:6-7; NETR Online 2016; Polk-Husted 1918: 57).

SOURCES CONSULTED

RECORDS SEARCH

A records search was conducted for the APE on June 24, 2016 (Appendix B). The records search was performed by the staff at the Northwest Information Center (NWIC) in Rohnert Park, California, and included a review of previous survey coverage and previously recorded resources within one-quarter mile of the APE (File No. 15-1559). In addition to the NWIC records of previously recorded information, the following files were consulted: National Register, California Register, California Inventory of Historic Resources, California Historical Landmarks, and Historic Properties Directory.

The records search did not identify any cultural resources within the APE, but did identify five previous recorded resources within one-quarter mile of the APE (Figure 4). All of the resources are historic in age. Site P-28-000966 (CA-NAP-1113H) is the Napa Valley Southern Pacific Railroad and P-28-001547 is the Napa Valley Railroad. These resources are 800 feet east of the APE; however, the Napa River is located between the resources and the APE. The railroads were determined eligible to the National Register; however, segments and features of them were recommended ineligible. Sites P-28-001676 and P-28-001677 are both residential structures that were built in the 1930s and are located 300 feet west of the APE. The buildings were both determined not eligible to the National Register through consensus by a federal agency and the State Historic Preservation Officer. Site P-28-001684 is the Sawyer Tannery building that was established in 1870-71. The resource is approximately 800 feet southwest of the APE. This resource was determined eligible to the National Register through consensus by a federal agency and the State Historic Preservation Officer (Number 28-0034).

Twenty-five previous studies have been conducted within the record search radius. Ten of these previous studies are pedestrian surveys with another four being evaluation and testing efforts. These studies are listed on Table 1 and are shown in Figure 5. Only one survey (S-00004) occurred within the APE; however, it dates to 1967 and lacks the level of detail seen in more recent inventories.

In addition to the records search, historic-era topographic maps and aerial maps were reviewed to potentially identify any undocumented road, trail, structure, or feature that may be encountered during this project. The city of Napa can be seen laid out, almost to its modern alignment, on the 1902 1:25,000 USGS topographic map (USGS 1902). The 1952 Napa 7.5-minute topographic map shows the current layout of the city (USGS 1952). This latter map is at a scale that depicts structures and eight buildings are seen on the north half of the block on which the API is located. No structures are seen at the location of the APE; however, based on historical records we know that the MGP was present at this location at this period of time.

There are no patents on file with the General Land Office Records because the land was part of the Rancho Entre Napa Mexican land grant. The 7,000-acre land grant was issued to Nicholas Higuera in 1836.

BURIED SITE SENSITIVITY ASSESSMENT (by Naomi Scher)

Buried Site Sensitivity Assessment

Among the many issues that challenge archaeologists and cultural resources managers is the problem of locating buried archaeological sites, such as those covered by naturally deposited sediments or deposits of artificial fill. While some parts of the landscape have remained relatively stable over the span of human occupation (~13,000 years), many other portions were either affected by erosion (mainly

Table 1. Cultural Studies within the Records Search Area.

STUDY NO. (S-)	AUTHOR	YEAR	TITLE	TYPE	WITHIN APE
00004	Fredrickson, D.	1967	*Appraisal of the Archaeological Resources of the Napa River (Trancas Road to Edgerley Island) and Three Potential Reservoir Areas in the Napa River Basin*	Archaeological Survey	Yes
00089	Moratto, M.	1974	*An Archaeological Survey of Possible Dredge Spoil Disposal Sites for the Napa River Channel Improvements Project*	Archaeological Survey	No
00848	Fredrickson, D.	1977	*A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas, Vol. III Socioeconomic Conditions Chapter 7: Historical and Archaeological Resources*	Regional Overview	No
02154	Brandt, S.	1980	*Cultural Resources Investigation of Operation Projects, Napa River Basin.*	Archaeological Survey	No
02458	Ramiller et al.	1981	*Overview of Prehistoric Archaeology for the Northwest Region, California Archaeological Site Survey: Del Norte, Humboldt, Mendocino, Lake, Sonoma, Napa, Marin, Contra Costa, Alameda*	Regional Overview	No
08226	Parkman, E.	1986	*Status Archaeological Resources in the Northern Region, California Department of Parks and Recreation*	Regional Overview	No
09416	McIvers, K.	1987	*An Archaeological Survey of the Gasser Property Development Project, City of Napa, Napa County, California*	Archaeological Survey	No
09462	Miller, T.	1977	*Identification and Recordation of Prehistoric Petroglyphs in Marin and Related Bay Area Counties*	Archaeological Survey	No
09795	Jackson, T.	1986	*Late Prehistoric Obsidian Exchange in Central California*	Regional Overview	No
12492	Phebus, G.	1990	*Archaeological Investigations in the San Pablo-Suisun Region of Central California*	Archaeological Survey	No
12739	Stoll, M.	1960	*Napa Valley Archaeological Survey*	Archaeological Survey	No
16849	King, G.	1986	*Historic Resource Evaluation Report on Former Napa Valley Railroad Line, 04-Nap-29, P.M. 22.2/28.4, 04226-111330*	Evaluation/Testing	No
17190	Psota, S.	1995	*Results of Archaeological Test Pits Conducted on Approximately 125 Acres in Napa, Napa County, Including the Proposed South Napa Marketplace*	Evaluation/Testing	No
17835	Suchey, J.	1975	*Biological Distance of Prehistoric Central California Populations Derived from Non-Metric Traits of the Cranium*	Thesis	No
18217	Gmoser, G.	1996	*Cultural Resource Evaluations for the Caltrans District 04 Phase 2 Seismic Retrofit Program, Status Report: April 1996*	Evaluation/Testing	No
20639	Holman, M. and D. Bieling	1999	*Archaeological Field Inspection of the Proposed Sprint Wireless Base Site, Sawyer Water Tower, 68 Coombs Street, Napa, Napa County (letter report)*	Archaeological Survey	No
23764	Billat, L.	2001	*Nextel Communications Evaluation and Recommendations Regarding a Telecommunications Facilities (Nextel Site Number CA-0135C- "Downtown Napa") Napa, California (letter report)*	Archaeological Survey	No
24386	Bischoff, M. and M. Sterner	2001	*Historic Context for and Evaluation of the Napa Valley Railroad*	Evaluation/Testing	No
30052	Billat, L.	2005	*Sawyer Water Tank/SF-08570A, 68 Coombs Street, Napa, CA*	Unknown	No
32596	Milliken et al.	2006	*The Central California Ethnographic Community Distribution Model, Version 2.0, with Special Attention to the San Francisco Bay Area, Cultural Resources Inventory of Caltrans District 4 Rural Conventional highways.*	Regional Overview	No
33061	Sikes, N., et al.	2006	*Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California*	Archaeological Survey	No
33600	Meyer, J. and J. Rosenthal	2007	*Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4*	Regional Overview	No

Table 1. Cultural Studies within the Records Search Area *continued*.

Study No. (S-)	Author	Year	Title	Type	Within APE
34318	Sterner, M.	2001	*Plan of Work for Evaluation of Cultural Resources Along Part of the Napa Valley Wine Train line, Napa County, California*	Work Plan	No
34685	Sterner, M., and S. Thompson	2003	*Cultural Resources Data Recovery of a Portion of the Napa Valley Wine Train Rail Line, Napa County, California*	Mitigation	No

uplands), or buried by the deposition of sediments (mainly lowlands). Many former land surfaces once used and occupied by prehistoric people have been buried, disturbed, or destroyed by these processes, along with any associated archaeological deposits. Consequently, the present landscape is at best an indirect and imperfect reflection of the environment used by people during the prehistoric and even historic-era periods. Since it is the responsibility of archaeologists to account for the entire archaeological record, it is important to assess both the large- and small-scale effects of landscape evolution to help ensure that buried sites are identified and appropriately sampled.

Buried sites identified throughout the Napa Valley include NAP-15/H, just south of Napa along Suscol Creek; NAP-129 and NAP-399/863 to the west of the Napa River in St. Helena; NAP-189/H along Huichica Creek between Schellville and Napa; and NAP-916 along Napa Creek in Napa (Bartoy et al. 2005; Dalldorf and Meyer 2006; Fredrickson 1984:513; Martin and Meyer 2005; Meighan 1953:315; Stradford and Schwaderer 1982). These sites were found in association with buried soils at depths between 1.5 and 6.0 meters (approximately 4.9 and 19.7 feet) below the ground surface. Additionally, sites in the Napa Valley may have been obscured by urban development, as evidenced by NAP-1128/H adjacent to the Napa River in Calistoga (Scher and Berg 2014).

Information on the stratigraphy in the project area is available from previous environmental investigations in the project area between 1992 and 2014 (Amec 2015:ES-1 to ES-2). These investigations included a total of 110 subsurface testing locations in the project area, including direct push soil boring, cone penetrometer test borings, and test pits. An additional 29 borings were conducted off site as well as at 22 riverbank locations. Based on the results of these samples it appears that in the project area artificial fill extends to two to five feet below ground surface, underlain by fine-grained sediment (silt and clay) to between 25 and 35 feet below ground surface that transitions to channel deposits of sand and gravel to 60 feet below ground surface, underlain by additional fine grained sediments to at least 66 feet below ground surface. However no further details that could aid in determining the presence or absence of buried soils or archaeological materials is provided.

Buried Site Potential Factors

Geologic units that pre-date the Holocene cannot contain archaeological materials because they formed well before human occupation of the continent. As such, the potential for unidentified archaeological deposits is generally limited to the portions of the landscape that contain Holocene or Modern deposits. The potential for buried sites within Holocene-age landforms is based on the age of a particular landform and the probability that any one spot on that landform was occupied by humans at some time in the past. For example, an Early Holocene surface landform can only contain buried sites dating to the Earliest Holocene or Latest Pleistocene (i.e., the Paleo-Indian and Paleo-Archaic periods). There was a very short (2,000- to 3,000-year) window when humans could have occupied any one spot on the landscape during the Latest Pleistocene, and human population densities are thought to have been comparatively low during that early period, resulting in fewer site locations. Thus, an Early Holocene surface landform would tend to have a low potential for buried sites.

The same general logic applies to the sensitivity of all subsequent Holocene-age landforms: the younger the landform, the higher the likelihood that archaeological deposits were buried by that landform. Also, we assume that archaeological deposits from later time periods are more common overall due to higher population densities. Soils buried later in time, therefore, have a higher probability of containing archaeological materials. Thus, the estimates of potential are based largely on the age and depositional environment of the various deposits mapped in the project area.

Additionally, archaeological deposits are not distributed randomly throughout the landscape, but tend to occur in specific geo-environmental settings (Foster et al. 2005:4; Hansen et al. 2004:5; Pilgram 1987; Rosenthal and Meyer 2004). While landform-age mapping provides a useful framework for identifying general areas where younger deposits may have buried prehistoric sites, it does not explicitly account for other factors that likely influenced prehistoric human populations and settlement patterns. For example, the precise location of prehistoric settlements is often dependent on a variety of environmental characteristics, such as proximity to water, topographic setting, and past distributions of important plant and animal foods, which made some locations more attractive or unfavorable for past human use or occupation. Thus, the potential for buried sites can be greatly over-estimated in some areas and underestimated in others if buried site potential is based solely on the age of surface landforms, without consideration of how the environment influenced human settlement decisions in the past. It is well known for instance, that prehistoric occupation is most often associated with relatively level landforms that occur near perennial streams, especially near confluences (Pilgram 1987:44–47), and near bodies of water such as lakes, ponds, or springs, where plant and animal populations are generally more diverse and concentrated.

Results

The sensitivity for buried archaeological sites was assessed based on four factors: surface slope, determined using a digital elevation model; distance to a historic-era water source, in this case the Napa River; distance to a confluence, and; landform age. The resulting model identifies areas of great or lesser sensitivity for terrestrial buried sites in the project area and vicinity. The project area lies on a nearly level Holocene floodplain adjacent to the Napa River, near a confluence with another minor drainage, therefore, the model indicates that the potential for buried sites is highest in the majority of the project area (Figure 6). A small portion of the project area furthest away from the Napa River is considered to have a high potential. Another small portion in the southeast of the project area is mapped as part of the Napa River channel and, therefore appears as having lowest potential on the map, however, it is not clear that this small area should be categorized differently than the remainder of the project area.

Due to the intensive use of the project area since at least the 1880s we anticipate a high amount of previous subsurface disturbance. However, the actual extent of such disturbances or the effect of previous disturbances on the potential for buried prehistoric archaeological deposits is unknown. Additionally, the presence of the historic-era use of the property introduces the potential for buried historic-era resources associated with the MGP facility.

FIELD METHODS

PEDESTRIAN SURVEY

The project APE was subject to pedestrian survey conducted by Far Western employees in two parts (Figure 7). On June 9, 2016, Justin Wisely conducted the first survey which occurred within the fenced and gated former Napa MGP facility footprint. He met with Erik Appel, the senior geologist with Terra Pacific Group for access to the property.

This portion of the survey consisted of parallel linear transects spaced approximately 10 meters apart oriented north-south. One additional transect was conducted at half-spacing (five meters) on the eastern edge of the parcel since the vegetation was denser. The majority of the parcel is covered in concrete, raised-slab foundations (approximately four inches in height, on average) that remain from the demolished residential buildings and the paved parking lots (Figure 8). The outline of the concrete-backfilled swimming pool is one of the distinguishable features left from the residential development. Approximately 20% of the survey parcel is exposed ground, but has poor visibility due to grass cover. These exposed areas are primarily along the eastern edge and in between the raised foundations in the norther portion of the parcel.

Areas with exposed ground were examined closely due to the poor visibility, but no cultural materials were observed. Three modern bricks were found scattered near the northern-most foundation within the survey area. The geologist, Erik Appel, did mention that brick fragments were encountered within Borehole 21 (observed at 0.5–2.5 feet in depth) during the drilling of the testing wells. The subsurface bricks were removed during the borehole clean up so they were unable to be examined for historicity during the pedestrian survey. Several overview photos were taken to demonstrate the degree of paving, concrete coverage, and poor visibility due to heavy grasses, weeds, various flowers. A rose bush was also present, potentially a leftover from landscaping associated with the residential usage of the project area. The area is secured with a fence and a locked gate, but modern trash ends up within the fenced area, and it is periodically cleaned. There is minimal equipment stored on-site, mostly related to site upkeep and maintenance.

A supplemental survey was conducted on July 12, 2016, by Courtney Higgins along the river bank (east of Riverside Drive) and in proximity to the townhomes on Elm Street (west of the fenced facility footprint). Prior to survey, the portion of the parcel within the backyards of the townhomes were photographed by PG&E and these documents were provided to Courtney Higgins for review. The photographs documented use and maintenance of the yards and thus, an unlikelihood of surface cultural materials. Courtney confirmed the fenced-off backyards, but did not access them due to their low potential for surface artifacts. The common area, also currently used and landscaped, was systematically surveyed. This area is north of the townhome's backyards. Vegetation was intentionally planted trees and allowed for bare ground exposure. No cultural materials were seen in this area.

The portion of the survey area between Riverside Drive and the river bank was a thin parcel that was easily accessible from the road. The area was systematically surveyed; however, due to its narrowness it was able to be covered in one transect. Vegetation was densest at the edge of the river bank and became less dense along the road. The cutbank profile was unable to be examined due to the steep drop off into the river preventing accessibility. The southern half of this parcel was wider and included landscape features such as a cement side walk, chipped-wood ground cover, and maintained plants. No cultural materials were found in this survey area. While the ground surface appears modified, this portion of the APE appeared that it might maintain subsurface integrity as all observed disturbances appeared minimal and surficial.

SUMMARY AND RECOMMENDATIONS

Far Western conducted a cultural resources study in support of PG&E's proposed Napa MGP remediation project in conjunction with California's DTSC in Napa, California. The study consisted of a records search, a buried site sensitivity assessment, and an intensive pedestrian survey of the APE. No previously recorded or new cultural resources or historic properties were identified within the APE as a result of these identification efforts. As a result, no historic properties will be affected by the proposed project.

While no known historic properties will be affected by the project, the possibility of encountering previously unidentified archaeological deposits cannot be discounted. The pedestrian survey was limited by poor ground visibility within the former facility footprint; however, the potential for surface cultural resources is low throughout the APE due to the disturbances from the gas manufacturing plant, the 1960s residential buildings, and continued residential use of the land.

The buried soils assessment indicates that there is the potential for buried deposits. The depth of disturbance from the plant, the apartments, and the townhomes are unknown and there is a possibility of buried cultural deposits below the disturbed area. The proximity of the property to the Napa River floodplain indicates it is a formidable location for prehistoric settlements, but also alluvial deposits that could bury evidence of these settlements. The portion of the APE along the Napa River indicates the least potential for subsurface disturbances.

There is also a moderate potential to encounter subsurface historic-era resources based on the presence of the historic-era plant facility. It is unknown how much of the building materials and other associated debris were removed from the property prior to the construction of the apartments.

The clean-up plan defines a maximum depth of excavation to 50 feet below ground surface. Based on the potential for subsurface buried deposits, an archaeological monitor is recommended for this project. Two weeks prior to the start of construction, a PG&E Cultural Resource Specialist should be contacted to coordinate the archaeological tailboard and monitoring. An archaeological awareness tailboard shall be provided to the construction crew prior to the start of ground disturbance. An archaeologist shall monitor all project-related ground disturbances due to the risk for encountering buried cultural resources. The level of monitoring effort required may be reduced, modified or suspended at the discretion of the monitor based on field conditions and soils identified.

At minimum, the Best Management Practice 25 (Environmental Services Procedure P-002) should be implemented during all phases of work occurring at the facility. Should any inadvertent discoveries occur during project implementation, project activities shall cease within 100 feet of the find and a PG&E Cultural Resources Specialist must be contacted immediately. The location of any such finds must be kept confidential and measures should be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. A protocol will be implemented that provides measures for consideration and treatment of the find pursuant to regulation 36 CFR 800.13 (Post-review discoveries) and in coordination with pertinent agency personnel. Additional measures to meet these requirements after the PG&E Cultural Resources Specialist has been notified include assessment of the nature and extent of the resource, including its possible eligibility for listing in the National Register, and subsequent recordation and notification of relevant parties based upon the results of the assessment. Additionally, if human remains are encountered, all provisions provided in California Health and Safety Code 7050.5 and California Public Resources Code 5097.98 will be followed. Work shall stop within 100 feet of the discovery and PG&E's Cultural Resources Specialist must be contacted immediately, who will consult with the County Coroner. If human remains are of Native American origin, the County Coroner will notify the Commission within 24 hours of this determination and a Most Likely Descendent will be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid and/or recover the remains have been implemented.

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APPENDIX A

NATIVE AMERICAN OUTREACH

Napa MGP Contact Log

Name/Affiliation Contact Information	Type of Contact	Date	Action/Response
NAHC	Email	4/29/2016	Requested Sacred Lands Search and Contact List; received Contact List 5/13/2016
Federated Indians of Graton Rancheria Greg Sarris, Chairperson 6400 Redwood Drive, Suite 300, Rohnert Park, CA 707-566-2288	Letter	6/8/2016	Sent contact letter describing project, request input about spiritual places or traditional values.
	Update letter	7/8/2016	Sent update letter with additional areas
	Email		No concerns letter received 7/18/16
Federated Indians of Graton Rancheria Gene Buvelot, Chairperson 6400 Redwood Drive, Suite 300, Rohnert Park, CA 707-566-2288 ext. 103 415-279-4844 cell gbuvelot@gratonrancheria.com	Letter	6/8/2016	Sent contact letter describing project, request input about spiritual places or traditional values.
	Update letter	7/8/2016	Sent update letter with additional areas
	Phone		No concerns letter received 7/18/16
Middletown Rancheria of Pomo Indians Jose Simon III, Chairperson P.O. Box 1035 Middletown, CA 95461	Letter	6/8/2016	Sent contact letter describing project, request input about spiritual places or traditional values.
	Update letter	7/8/2016	Sent update letter with additional areas
	Phone	7/29/2016	Left a message for Stephanie Reyes
Mishewal-Wappo Tribe of Alexander Valley Scott Gabaldon, Chairperson 2275 Silk Road Windsor, CA 95492 scottg@mishewalwappotribe.com 707-494-9159	Letter	6/8/2016	Sent contact letter describing project, request input about spiritual places or traditional values.
	Update letter	7/8/2016	Sent update letter with additional areas
	Phone	7/29/2016	Spoke with Scott Gabaldon who requests monitoring for the project
Yocha Dehe Wintun Nation Leland Kinter, Chairperson P.O. Box 18 Brooks, CA 95606 lkinter@yochadehe-nsn.gov 530-796-3400	Letter	6/8/2016	Sent contact letter describing project, request input about spiritual places or traditional values.
	Update letter	7/8/2016	Sent update letter with additional areas
	Phone	7/29/2016, 8/2/2016	Phone call was transferred to maintenance department and a message was left for the correct individual to return the call (7/29). Left a message on voicemail (8/2/16) with someone in Leland Kinter's office. Received a call on 8/4/16 from Laverne Bill requesting a copy of the letters to review. I sent the letters via email to lbill@ yochadehe-nsn.gov the same day. Letter received 8/17/16.

Napa MGP Contact Log

Name/Affiliation Contact Information	Type of Contact	Date	Action/Response
Cortina Band of Indians Charlie Wright, Chairperson P.O. Box 1630, Williams, CA	Letter	6/8/2016	Sent contact letter describing project, request input about spiritual places or traditional values.
	Update letter	7/8/2016	Sent update letter with additional areas
	Phone	7/29/2016	Asked to call back after 8/1/16. Called and spoke with Charlie Wright on 8/2/16. He said that it is out of their jurisdiction and they have no concerns. However, he said if something is found and no one from the Yocha Dehe tribe can be reached for consultation, that they can be consulted.

Additional Information

California Native Americans
Cultural Resources
Strategic Plan
Commissioners
Federal Laws and Codes
State Laws and Codes
Local Ordinances and Codes
Additional Information

Return to CNAHC Home Page

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: PG&E Napa Manufactured Gas Plant (MGP)

County Napa

USGS Quadrangle

Name Napa

Township N/A Range N/A Section(s) Rancho Entre Napa Land Grant

Company/Firm/Agency: Far Western Anthropological Research

Contact Person: Courtney Higgins

Street Address: 2727 Del Rio Place, Suite A

City: Davis Zip: 95618

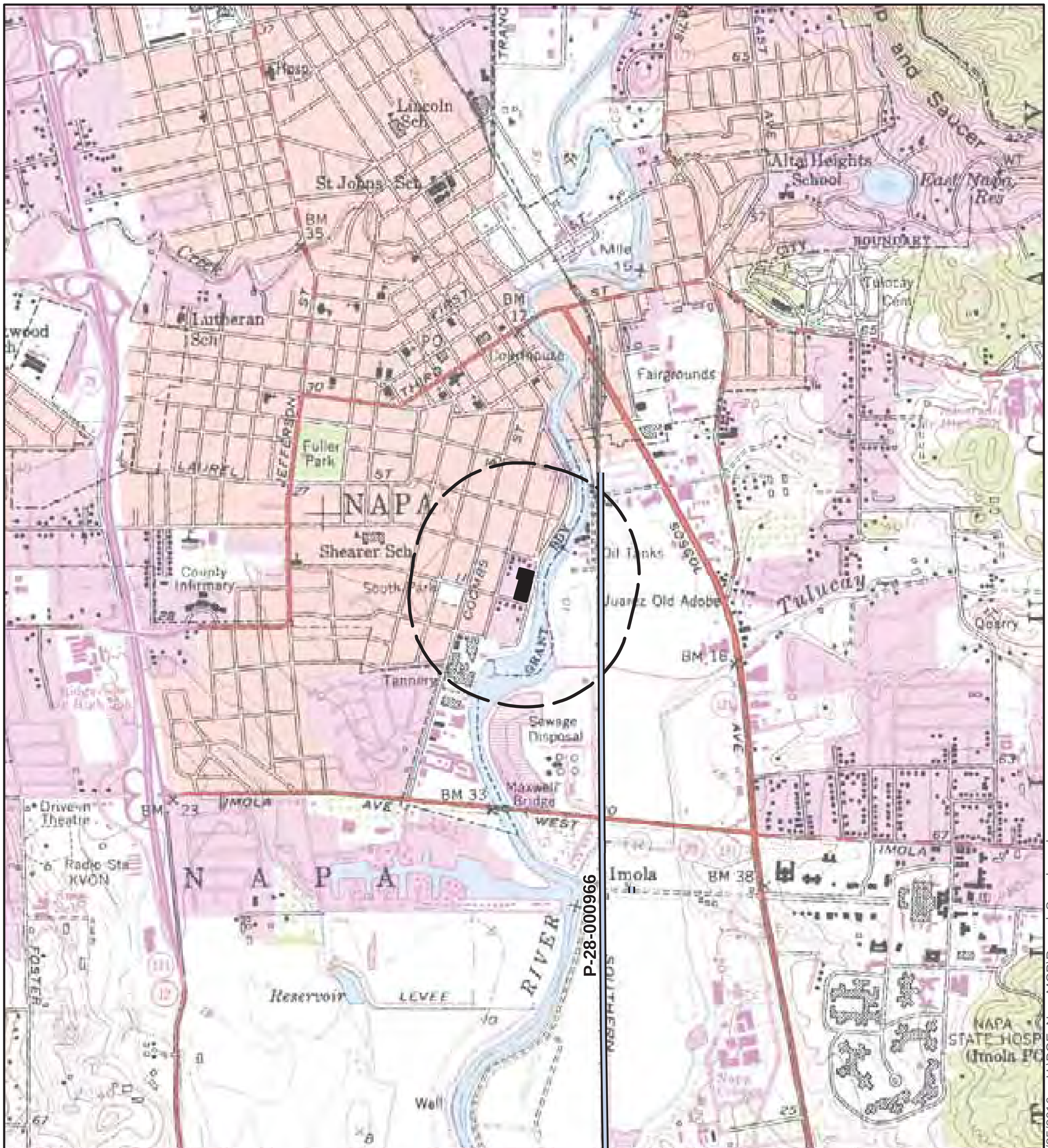
Phone: (530) 756-3941

Fax: (530) 756-0811

Email: courtney@farwestern.com

Project Description:

PG&E is proposing a remediation project at the Napa Manufactured Gas Plant (see attached map).

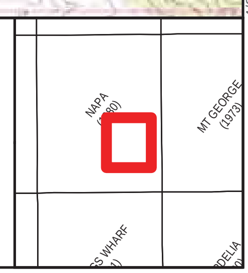


Napa, California 7.5-minute Quadrangle, 1980
Entre Napa, Napa and Tulucay Land Grants
Napa County

Site
Project Location
1/4-mile Records Search Extent

Kilometers
0 0.5 1
0 0.25 0.5
Miles

1:24,000



4/25/2016 H:\PGE_NapaMGP\RecordsSearch.mxd

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax (916) 373-5471

May 13, 2016

Courtney Higgins
Far Western

Sent by Email: Courtney@farwestern.com
Number of Pages: 2

RE: PG&E Napa Manufactured Gas Plant, Napa County

Dear Ms. Higgins:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: Sharaya.souza@nahc.ca.gov.

Sincerely,

Sharaya Souza
Staff Services Analyst

Native American Contacts
Napa County
May 9, 2016

Cortina Band of Indians
Charlie Wright, Chairperson
P.O. Box 1630 — Wintun / Patwin
Williams , CA 95987
(530) 473-3274 Office
(530) 473-3301 Fax

Yocha Dehe Wintun Nation
Leland Kinter, Chairperson
P.O. Box 18 — Wintun (Patwin)
Brooks , CA 95606
lkinter@yochadehe-nsn.gov
(530) 796-3400
(530) 796-2143 Fax

Federated Indians of Graton Rancheria
Greg Sarris, Chairperson
6400 Redwood Drive, Ste 300 — Coast Miwok
Rohnert Park , CA 94928 — Southern Pomo
(707) 566-2288 Office
(707) 566-2291 Fax

Federated Indians of Graton Rancheria
Gene Buvelot
6400 Redwood Drive, Ste 300 — Coast Miwok
Rohnert Park , CA 94928 — Southern Pomo
gbuvelot@gratonrancheria.
(415) 279-4844 Cell
(707) 566-2288 ext 103

Middletown Rancheria of Pomo Indians
Jose Simon III, Chairperson
P.O. Box 1035 — Pomo
Middletown , CA 95461 — Lake Miwok
(707) 987-3670 Office
(707) 987-9091 Fax

Mishewal-Wappo Tribe of Alexander Valley
Scott Gabaldon, Chairperson
2275 Silk Road — Wappo
Windsor , CA 95492
scottg@mishewalwappotribe.com
(707) 494-9159

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed PG&E Napa Manufactured Gas Plant, Napa County.

Pacific Gas and Electric Company

Christophe Descantes, PhD
Sr. Cultural Resources Specialist
Environmental Management - Transmission

245 Market Street — N10A
San Francisco, CA 94105
Tel: (415) 973.1177
Mobile: (925) 719.2740
Email: chd8@PGE.com

June 8, 2016

Mr. Gene Buvelot
Federated Indians of Graton Rancheria
6400 Redwood Drive
Suite 300
Rohnert Park, CA 94928

RE: Proposed PG&E Napa Manufactured Gas Plant, Napa County

Dear Mr. Buvelot,

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Yocha Dehe Wintun Nation
P.O. Box 18
Brooks , CA 95606

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Middletown Rancheria of Pomo Indians
P.O. Box 1035
Middletown, CA 95461

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Williams, CA 95987

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July 8, 2016

Mr. Gene Buvelot
Federated Indians of Graton Rancheria
6400 Redwood Drive
Suite 300
Rohnert Park, CA 94928

RE: Proposed PG&E Napa Manufactured Gas Plant, Napa County, Updated Project Area

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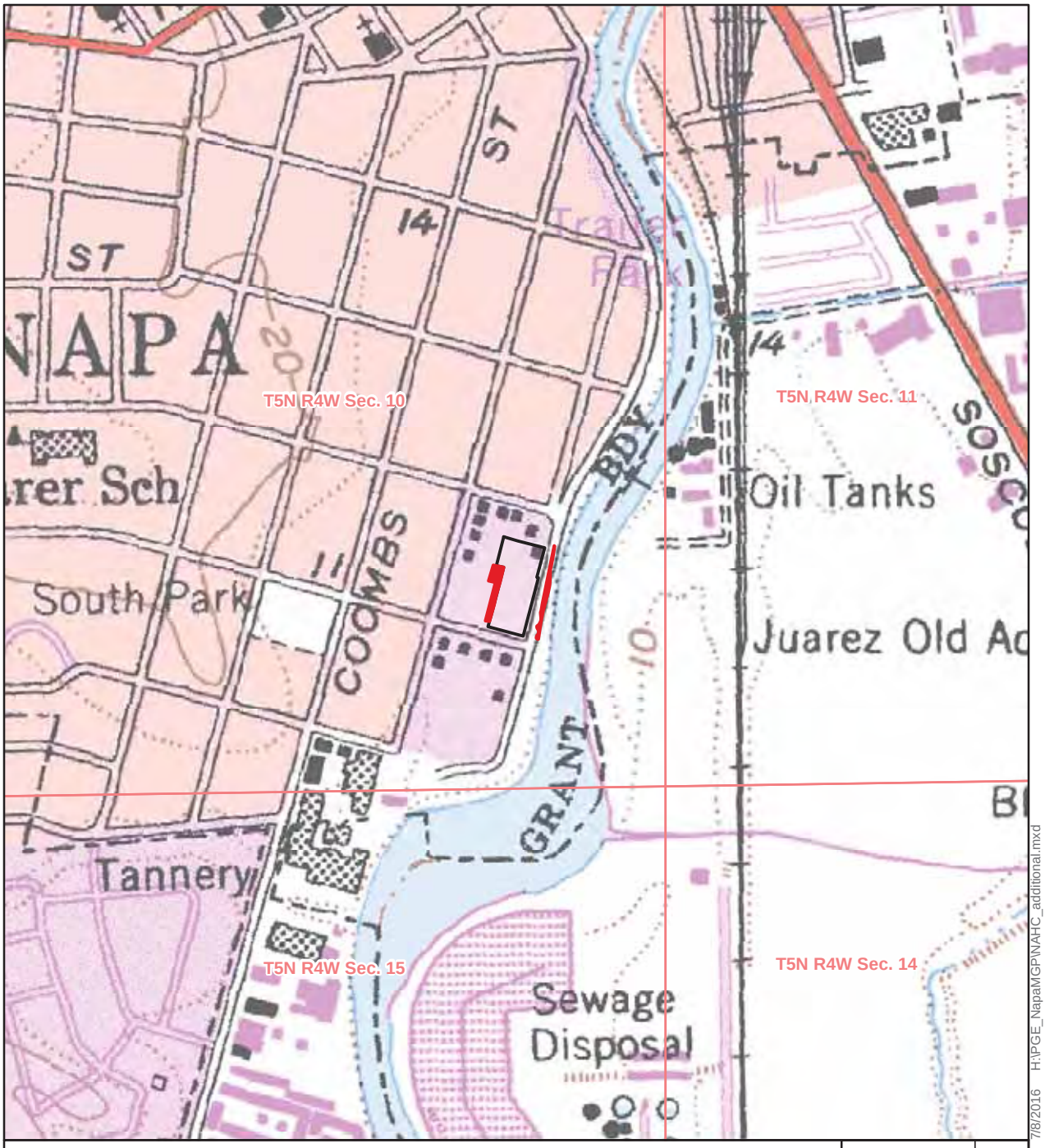

Napa, California 7.5-minute Quadrangle, 1980
T5N R4W Section 10, MDB&M
Napa County

Original Project Extent
Additional Project Extent

Feet
0 500 1,000
0 200 400
Meters

0

NAPA (1980)

7/8/2016 H:\PGE_NapaMGP\NAHC_additional.mxd

Pacific Gas and Electric Company

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Brooks , CA 95606

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FEDERATED INDIANS OF
GRATON
RANCHERIA

July 12, 2016

Pacific Gas and Electric Company
Christophe Descantes
Ch8@pge.com

Dear Pacific Gas and Electric Company:

The Federated Indians of Graton Rancheria, a federally recognized Tribe and sovereign government has received your correspondence requesting information on a project located in Napa County.

The Tribe has reviewed the location of the project and we have determined it is not in our traditional ancestral territory, therefore have no comments on this project, at this time.

We appreciate the opportunity to review the project proposal. If you have any additional questions regarding this letter please feel free to email my office at thpo@gratonrancheria.com or call the office at (707) 566-2288.

Sincerely,

Buffy McQuillen
Tribal Heritage Preservation Officer (THPO)
Native American Graves Protection and Repatriation Act (NAGPRA)
Office: 707.566.2288; ext. 137
Cell: 707.318.0485
FAX: 707.566.2291

YOCHA DEHE
CULTURAL RESOURCES

August 17, 2016

Christophe Descantes
PG&E
245 Market Street-N10A
San Francisco, CA 94105

RE: PG&E Manufactured Gas Plant

Dear Mr. Descantes:

Thank you for your project notification letter dated, July 8, 2016, regarding cultural information on or near the proposed PG&E Manufactured Gas Plant project, Napa County, CA. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe has concerns that the project could impact undiscovered archaeological deposits. Additionally, Yocha Dehe Wintun Nation requests a site visit to the project area to evaluate our cultural concerns.

Please contact the following individual to coordinate a date and time for the site visit.

Mr. James Sarmento
Cultural Resources Manager
Yocha Dehe Wintun Nation
Office: (530) 723-0452, Email: jsarmento@yochadehe-nsn.gov

Please refer to identification number YD – 07272016-01 in any correspondence concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

James Kinter
Tribal Secretary
Tribal Historic Preservation Officer

APPENDIX B

RECORDS SEARCH RESULTS

Appendix B identifies the locations of cultural resources, which are confidential. Disclosure of this information to the public may be in violation of both federal and state laws. To discourage damage resulting from vandalism and artifact looting, these data have been removed from this report. Applicable U.S. laws include, but are not limited to, Section 304 of the National Historic Preservation Act and California state laws that apply include, but are not limited to, Government Code Sections 6250 *et seq.* and 6254 *et seq.*

APPENDIX C

NAPA MGP CONCEPTUAL REMEDIATION

P:\Drafting\PGE-1080\PGE-1080-100\021-PGE-1080-100-Conceptual Remediation Plan-Fig34.dwg 12/15/2017 12:34:56 PM PST

APN 005-123-011-000

SITE
FORMER NAPA-1 MGP

APN 005-123-006-000

RIVERSIDE DRIVE

NAPA RIVER

ELM STREET

EXPLANATION

- CAPPED AREA
- 4-FOOT CLEAN SOIL CAP, OR ASPHALT/CONCRETE
- SOIL EXCAVATION UP TO 4 FEET BGS
- HOTSPOT EXCAVATION UP TO 15 FEET BGS
- EXCAVATION/TREATMENT TO APPROXIMATELY 50 - 60 FEET BGS
- FORMER MGP STRUCTURE
- FORMER MGP 4-INCH BELOW GROUND OIL PIPELINE
- FORMER MGP 6-INCH PIPE BELOW GROUND PIPELINE
- PARCEL LINE
- CURRENT PROPERTY BOUNDARY

0 40 80 FEET
APPROXIMATE SCALE

NOTES:
INFORMATION ABOUT MGP FEATURES WAS OBTAINED FROM AMEC'S 2015 SITE CHARACTERIZATION REPORT. PARCEL LINES OBTAINED FROM NAPA COUNTY GIS WEBSITE, MODIFIED BASED ON APN MAP AND FOULK CIVIL ENGINEERING SURVEY DATED 10/30/2014. AERIAL BASE FROM ESRI.

CONCEPTUAL REMEDIATION PLAN

FORMER NAPA-1 MGP SITE
NAPA, CALIFORNIA

TERRA PACIFIC GROUP
Environmental Engineering, Consulting, and Construction

ATTACHMENT D

AIR EMISSIONS

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

- **Project Air Emissions Estimation**

Pollutant emissions from the proposed project were estimated for on-site (off-road) heavy construction equipment planned for use during each phase of the project, mobile/on-road vehicle emissions for all vehicles expected to access the Site during the project, and for anticipated dust generating activities including grading, bulldozing, truck loading, and truck unloading. The California Emission Estimator Model (CalEEMod) version 2016.3.2 was used to estimate project pollutant emissions for all emission generating activities. The CalEEMod air emission model was developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts and is approved for use in estimating project air emissions as part of CEQA. Where site-specific data was known, it was input into CalEEMod; otherwise the built-in default data was used.

A summary of the project construction schedule used in the CalEEMod air emission analysis is shown in the following table. This project schedule is current as of 9/30/2020, and divides the project into three construction phases/years, where OU-2 is completed in fall 2021; OU-1 is completed spring 2023 through spring 2024; and OU-3 follows in the spring of 2024. Total project estimated at 374 days (~18 months). Refer to Part 3 of this attachment, page 10 for a summary of the modeled construction phases with description for each phase modeled.

Construction Schedule						
Phase Number	Phase Name	Phase Type	Phase Start Date	Phase End Date	Number Days Week	Total Number Days
1	OU2 Site Prep - Demolition	Site Preparation	9/1//2021	9/14/2021	5	10
2	OU2 Excavation	Grading	9/15/2021	10/26/2021	5	30
3	OU2 CAPPING	Grading	10/27/2021	12/7/2021	5	30
4	OU2 RESTORATION (Paving)	Paving	12/8/2021	12/17/2021	5	8
5	OU1 Site Prep - Demolition	Site Preparation	4/3/2023	4/17/2023	5	11
6	OU1 ISS/ISCO	Grading	4/18/2023	10/2/2023	5	120
7	OU1 EXCAVATION	Grading	10/3/2023	1/8/2024	5	70
8	OU1 Capping-Restoration	Grading	1/9/2024	4/8/2024	5	65
9	OU3 Site Preparation	Site Preparation	4/9/2024	4/15/2024	5	5
10	OU3 Capping-Restoration	Grading	4/16/2024	5/13/2024	5	20
11	OU3 Paving	Paving	5/14/2024	5/20/2024	5	5

Off-road (on-site) heavy construction equipment was selected for each phase of the project. A summary of the number, type, and usage for the construction equipment included in the air emission analysis is provided below in the following tables.

Summary of Number of Off-road Construction Equipment		
Phase Number	Phase Name	Off-site Construction Equipment Count
1	OU2 Site Prep - Demolition	7
2	OU2 Excavation	8
3	OU2 CAPPING	6
4	OU2 RESTORATION (Paving)	5
5	OU1 Site Prep - Demolition	7
6	OU1 ISS/ISCO	12
7	OU1 EXCAVATION	9
8	OU1 Capping-Restoration	10
9	OU3 Site Preparation	5
10	OU3 Capping-Restoration	7

Summary of Number of Off-road Construction Equipment		
Phase Number	Phase Name	Off-site Construction Equipment Count
11	OU3 Paving	5

Construction Equipment List			
Phase Name	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Usage Hours
OU2 Site Prep - Demolition	Bore/Drill Rigs	1	8
OU2 Site Prep - Demolition	Concrete/Industrial Saws	1	8
OU2 Site Prep - Demolition	Off-Highway Trucks	1	8
OU2 Site Prep - Demolition	Rubber Tired Dozers	1	7
OU2 Site Prep - Demolition	Sweepers/Scrubbers	1	4
OU2 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8
OU2 Excavation	Excavators	1	8
OU2 Excavation	Off-Highway Trucks	1	8
OU2 Excavation	Other Construction Equipment	1	8
OU2 Excavation	Other Material Handling Equipment	1	8
OU2 Excavation	Rollers	1	8
OU2 Excavation	Rubber Tired Dozers	1	6
OU2 Excavation	Sweepers/Scrubbers	1	4
OU2 Excavation	Tractors/Loaders/Backhoes	1	7
OU2 CAPPING	Excavators	1	7
OU2 CAPPING	Off-Highway Trucks	1	8
OU2 CAPPING	Rollers	1	8
OU2 CAPPING	Rubber Tired Dozers	1	6
OU2 CAPPING	Sweepers/Scrubbers	1	4
OU2 CAPPING	Tractors/Loaders/Backhoes	1	7
OU2 RESTORATION (Paving)	Cement and Mortar Mixers	1	6
OU2 RESTORATION (Paving)	Pavers	1	6
OU2 RESTORATION (Paving)	Paving Equipment	1	8
OU2 RESTORATION (Paving)	Rollers	1	7
OU2 RESTORATION (Paving)	Tractors/Loaders/Backhoes	1	8
OU1 Site Prep - Demolition	Bore/Drill Rigs	1	8
OU1 Site Prep - Demolition	Concrete/Industrial Saws	1	8
OU1 Site Prep - Demolition	Off-Highway Trucks	1	8
OU1 Site Prep - Demolition	Rubber Tired Dozers	1	7
OU1 Site Prep - Demolition	Sweepers/Scrubbers	1	4
OU1 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8

Construction Equipment List			
Phase Name	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Usage Hours
OU1 ISS/ISCO	Bore/Drill Rigs	1	8
OU1 ISS/ISCO	Cement and Mortar Mixers	1	8
OU1 ISS/ISCO	Excavators	1	8
OU1 ISS/ISCO	Forklifts	1	6
OU1 ISS/ISCO	Off-Highway Trucks	1	7
OU1 ISS/ISCO	Other Construction Equipment	1	8
OU1 ISS/ISCO	Other Material Handling Equipment	1	8
OU1 ISS/ISCO	Rollers	1	8
OU1 ISS/ISCO	Rubber Tired Dozers	1	4
OU1 ISS/ISCO	Sweepers/Scrubbers	1	4
OU1 ISS/ISCO	Tractors/Loaders/Backhoes	2	7
OU1 EXCAVATION	Excavators	1	8
OU1 EXCAVATION	Off-Highway Trucks	1	8
OU1 EXCAVATION	Other Construction Equipment	1	8
OU1 EXCAVATION	Other Material Handling Equipment	1	8
OU1 EXCAVATION	Rollers	1	8
OU1 EXCAVATION	Rubber Tired Dozers	1	6
OU1 EXCAVATION	Sweepers/Scrubbers	1	4
OU1 EXCAVATION	Tractors/Loaders/Backhoes	2	7
OU1 Capping-Restoration	Excavators	1	7
OU1 Capping-Restoration	Graders	1	6
OU1 Capping-Restoration	Off-Highway Trucks	1	8
OU1 Capping-Restoration	Other Construction Equipment	1	8
OU1 Capping-Restoration	Other Material Handling Equipment	1	8
OU1 Capping-Restoration	Rollers	1	8
OU1 Capping-Restoration	Rubber Tired Dozers	1	8
OU1 Capping-Restoration	Sweepers/Scrubbers	1	4
OU1 Capping-Restoration	Tractors/Loaders/Backhoes	2	8
OU3 Site Preparation	Forklifts	1	8
OU3 Site Preparation	Off-Highway Trucks	1	8
OU3 Site Preparation	Rubber Tired Dozers	1	7
OU3 Site Preparation	Tractors/Loaders/Backhoes	2	8
OU3 Capping-Restoration	Excavators	1	1
OU3 Capping-Restoration	Graders	1	6
OU3 Capping-Restoration	Off-Highway Trucks	1	8
OU3 Capping-Restoration	Rollers	1	8
OU3 Capping-Restoration	Rubber Tired Dozers	1	6

Construction Equipment List			
Phase Name	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Usage Hours
OU3 Capping-Restoration	Sweepers/Scrubbers	1	4
OU3 Capping-Restoration	Tractors/Loaders/Backhoes	1	7
OU3 Paving	Cement and Mortar Mixers	1	6
OU3 Paving	Pavers	1	6
OU3 Paving	Paving Equipment	1	8
OU3 Paving	Rollers	1	7
OU3 Paving	Tractors/Loaders/Backhoes	1	8

A summary of the material quantities included in the air emission analysis are shown in the below table. In total, the air emission model included a total soil volume of combined export and import of 42,000 CY moved in 2,627 truckloads (5,254 truck trips) to/from the Site over the three construction seasons. This quantity is based on the following project specifications:

- It was assumed that all truckloads would not be phased, thereby requiring an empty truck arrive for export material, and an empty truck leave after off-loading import materials.
- Site Preparation-demolition volumes for OU-1 and OU-2 include export of surface pavement and concrete with thickness of 6-inches over the entire remedial footprint for the OU.
- The material import volume for the ISCO/ISS treatment phase includes the estimated volume of ISS/ISCO agents including (1) Portland cement (PC) assuming 8% PC per cubic yard of treated soil volume plus an extra 15%, and (2) sodium persulfate (SPS) assuming 4% per cubic yard of treated soil volume, as well as backfill soil import to place a 4-foot thick cap over the ISCO/ISS treatment area. A 30% fluff factor was included for the backfill soil import to account for compaction of the fill soil for the clean soil cap.
- The material export volumes listed for the various phases include the estimated volume of ISCO/ISS soil swell that will be unearthed during the project at an estimated rate of 30% of the treatment depth, export of the upper 4-feet of soil over the ISS/ISCO treatment area to allow for construction of a 4-foot thick clean cap, export of 4 feet of soil over the OU-1 remedial capping area, export of impacted soil from the hot spot excavation area to a target excavation depth of 13 feet bgs, and export of 4 feet of soil at OU-2 throughout the remediation area.
- The material import volumes for hot spot excavation at OU-1 assumes 13 feet of backfill soil throughout the excavation area, and 4 feet of soil throughout the OU-2 excavation area, with an additional 30% volume added to each to account for fluff-soil compaction.
- The capping-restoration quantities for the capping phases assume export/import to construct a 2-foot thick cap at OU-3, and a 4-foot thick cap for the remedial capping area at OU-1 (i.e. area to be capped outside the hot spot excavation and ISS/ISCO treatment area).
- Acres of grading was changed from the default value to match the remedial footprint areas for each OU including 1.3 acres at OU-1, 0.19 acres at OU-2, and 0.18 acre at OU-3.
- All other values in the below table are the CalEEMod default values.

Summary of Export and Import Quantities									
Phase Name	Material Imported	Materia Exported	Grading Size Metric	Import Export Phased	Mean Vehicle Speed	Acres Of Grading	Material Moisture Content Bulldozing	Material Moisture Content Truck Loading	Material Silt Content
OU2 Site Prep - Demolition	0	155	Cubic Yards	0	7.1	0	7.9	12	6.9
OU2 Excavation	0	1,088	Cubic Yards	0	7.1	0	7.9	12	6.9
OU2 CAPPING	1,738	0	Cubic Yards	0	7.1	0.19	7.9	12	6.9
OU1 Site Prep - Demolition	0	1,067	Cubic Yards	0	7.1	0	7.9	12	6.9

Summary of Export and Import Quantities									
Phase Name	Material Imported	Materia Exported	Grading Size Metric	Import Export Phased	Mean Vehicle Speed	Acres Of Grading	Material Moisture Content Bulldozing	Material Moisture Content Truck Loading	Material Silt Content
OU1 ISS/ISCO	6,553	8,869	Cubic Yards	0	7.1	0	7.9	12	6.9
OU1 EXCAVATION	3,818	2,824	Cubic Yards	0	7.1	0	7.9	12	6.9
OU1 Capping-Restoration	8,570	5,769	Cubic Yards	0	7.1	1.3	7.9	12	6.9
OU3 Site Preparation	0	0	---	0	7.1	0	7.9	12	6.9
OU3 Capping-Restoration	942	607	Cubic Yards	0	7.1	0.18	7.9	12	6.9

In general, default values were used for worker trip number and worker trip length (distance), vendor trip length, and all vehicle classes. Project-specific data for hauling trip number for export of waste, export of impacted soil, export of ISS/ISCO swell, import of clean soil, and import of ISCO/ISS binding agents was input into the model for each phase of work. The hauling trip number is based on 16 CY/truck x 2 to account for an unphased project. In total, 2,627 haul trucks were included in the air emission modeling (or 5,254 haul trips). For hauling trip length, it was assumed impacted soil haul trucks would travel a distance of 100 miles, which corresponds to the haul distance from the Site to the BAAQMD boundary near Gilroy, California. Also, it was assumed in the air emission analysis that three vendor trips would access the Site daily during each phase of the project instead of the model default value of 0 vehicle/trips.

Summary of Project Vehicle Trips to/from Site									
Phase Name	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
OU2 Site Prep - Demolition	20	3	20	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
OU2 Excavation	23	3	136	10.8	7.3	100	LD_Mix	HDT_Mix	HHDT
OU2 CAPPING	18	3	202	10.8	7.3	100	LD_Mix	HDT_Mix	HHDT
OU2 RESTORATION (Paving)	13	3	16	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
OU1 Site Prep - Demolition	20	3	134	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
OU1 ISS/ISCO	30	3	1,928	10.8	7.3	100	LD_Mix	HDT_Mix	HHDT
OU1 EXCAVATION	25	3	831	10.8	7.3	100	LD_Mix	HDT_Mix	HHDT
OU1 Capping-Restoration	25	3	1,793	10.8	7.3	100	LD_Mix	HDT_Mix	HHDT
OU3 Site Preparation	15	3	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
OU3 Capping-Restoration	18	3	175	10.8	7.3	100	LD_Mix	HDT_Mix	HHDT
OU3 Paving	13	3	19	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT

Mitigation measures were not included in the CalEEMod air emission analysis, therefore allowing for the estimation of worst-case project pollutant emissions. Following input of project-specific data into CalEEMod as summarized above, the model was run and output emission reports were generated using the default summer emission rates, default winter emission rates, and default annual emission rates. These CalEEMod output reports are included in part 3 of this attachment. The results of the air emission analysis for the modeled pollutants are summarized in the following table, which is included as Table 1 in section 3 of the CEQA IS.

Estimated Maximum Project Emissions from Heavy Construction Equipment Exhaust, Construction Activities, and Mobile Sources Exhaust Summarized from CalEEMod ver.2016.3.2 Air Emission Results- Overall Construction (1)				
Pollutant	Maximum Daily Emissions (2) Summer ERs (lb/day)	Maximum Daily Emissions (2) Winter ERs (lb/day)	Maximum Annual Emissions Annual ERs (3) (tons/year)	BAAQMD Daily Threshold lbs/day (4)
ROG	3.3569	3.3649	0.2681	54
NOx	39.1854	39.8044	2.8480	54
CO	32.0096	31.9770	2.7104	---
CO2** Total	15,185.3511	15,132.47	894.8243	---
CH4**	2.0706	2.0740	0.1566	---
CO2e GHG**	15,237.1146	15,184.3203	898.7393	---
PM10 Total	15.5943	15.5944	0.6472	82
PM2.5 Total	8.7690	8.7691	0.2607	54

Notes:

1. Project construction schedule and duration estimated for three construction phase/year, where OU-2 is completed in fall 2021; OU-1 is completed spring 2023 through spring 2024; and OU-3 follows in the spring of 2024. Total project estimated at 374 days. All pollutant emissions shown in this table are based on CalEEMod ver.2016.3.2 estimated emission results using model default summer, winter, and annual emission rates.

2. Maximum Daily Emissions is the highest estimated daily emission of the three construction phases/years using winter and spring emission rates. Refer to Part 3 of this attachment for the CalEEMod output reports.

3. Maximum Annual Emissions is the highest estimated annual emissions of the three construction years/seasons using annual emission rates. Refer to Part 3 of this attachment for the CalEEMod output reports.

4. BAAQMD CEQA Thresholds based on Table 2-4 of the District CEQA Air Quality Handbook dated May 2017.

--- = not applicable; A BAAQMD threshold has not been established for pollutant.
CO2e GHG = greenhouse gases expressed as carbon dioxide equivalent
ERs = emission rates per CalEEMod default values
lb/day = pounds per day
** indicates Maximum Annual Emissions in units of metric tons/year (MT/yr) for this pollutant

- **Greenhouse Gas Emission Estimation**

Project Greenhouse gas emission (GHG) emissions were estimated by CalEEMod for the GHG pollutants and reported as carbon dioxide equivalent (CO2e) for the estimated maximum daily emission for each construction season/year and the estimated annual emissions for each construction season/year for the proposed project activities; refer to part 3 of this attachment (Attachment D) for the CalEEMod output reports. The reported estimated daily maximum, annual maximum, and total project GHG emissions are estimated as follows:

- Daily maximum GHG emissions of 15,237.1146 lbs/day based on summer emission rates.
- Daily maximum GHG emissions of 15,184.3203 lbs/day based on winter emission rates.
- Annual Maximum GHG emissions of 898.7393 metric tons/year.
- Total Project GHG emissions of 1,630 metric tons.

As described in the footnote to the above table, the daily maximum and annual maximum GHG emissions expressed as CO2e is the maximum estimated CO2e emissions of the three construction phases/years. The total project GHG emissions is calculated as the sum of the model output annual CO2e emissions estimated for each construction phases/years, and reported by CalEEMod in the annual output report (refer to part 3 of this Attachment).

Napa-1 MGP CEQA IS

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.20	Acre	0.20	8,712.00	0
Condo/Townhouse	10.00	Dwelling Unit	0.07	3,200.00	29
User Defined Residential	0.00	Dwelling Unit	1.30	56,628.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated Project Schedule
OU2 2021 (9/21 - 12/21)
OU1 2023-2024 (4/23 - 4/24)
OU3 2024 (4/24 - 5/24)

Land Use - OU-1 zoned residential 1.3 acres currently vacant lot
OU-2 developed residential townhomes, 0.8 acre parcel, 10 dwellings 0.07 acre ea.
OU-3 Napa park Area, input as city park

Construction Phase - Updated Const. Phases to match FinalDraft RAP:
OU-2 9/1/21 - 12/16/21 (4 mths)
OU-1 4/1/23 - 4/8/24 (1 year)
OU-3 4/9/24 - 5/2024 (30 days)

Off-road Equipment - site-specific equipment type-count for each construction phase

Trips and VMT - Haul trucks based on 16 CY/truck
total # trucks is 2,625 for total vol import + export
Trip Haul length is mileage to BAAQMD boundary from Site

Grading - Total proj volume of 42,000 CY
Import soil based on 1.3 times export soil, Export ISS Swell based on 30% treatment depth
Acres graded basd on each OU REM footprint acreage

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblEnergyUse	NT24E	3,795.01	4,109.59
tblEnergyUse	T24E	249.32	282.35
tblEnergyUse	T24NG	15,568.01	19,706.34
tblGrading	AcresOfGrading	0.00	0.19
tblGrading	AcresOfGrading	24.38	1.30
tblGrading	AcresOfGrading	15.00	0.18
tblGrading	MaterialExported	0.00	155.00

tblGrading	MaterialExported	0.00	1,088.00
tblGrading	MaterialExported	0.00	1,067.00
tblGrading	MaterialExported	0.00	8,869.00
tblGrading	MaterialExported	0.00	2,824.00
tblGrading	MaterialExported	0.00	5,769.00
tblGrading	MaterialExported	0.00	607.00
tblGrading	MaterialImported	0.00	1,738.00
tblGrading	MaterialImported	0.00	6,553.00
tblGrading	MaterialImported	0.00	3,818.00
tblGrading	MaterialImported	0.00	8,570.00
tblGrading	MaterialImported	0.00	942.00
tblLandUse	LandUseSquareFeet	10,000.00	3,200.00
tblLandUse	LandUseSquareFeet	0.00	56,628.00
tblLandUse	LotAcreage	0.63	0.07
tblLandUse	LotAcreage	0.00	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00

tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	HaulingTripNumber	194.00	175.00
tblTripsAndVMT	HaulingTripNumber	0.00	19.00
tblTripsAndVMT	HaulingTripNumber	217.00	202.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	133.00	134.00
tblTripsAndVMT	HaulingTripNumber	830.00	831.00
tblTripsAndVMT	HaulingTripNumber	1,792.00	1,793.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	20.00	23.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	23.00	25.00

tblTripsAndVMT	WorkerTripNumber	13.00	15.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0977	1.0539	0.7421	2.0800e-003	0.1861	0.0434	0.2296	0.0963	0.0401	0.1363	0.0000	188.5547	188.5547	0.0412	0.0000	189.5848
2023	0.2681	2.8480	2.7104	9.7000e-003	0.5457	0.1015	0.6472	0.2607	0.0936	0.3543	0.0000	894.8243	894.8243	0.1566	0.0000	898.7393
2024	0.1413	1.6214	1.3135	5.7700e-003	0.4482	0.0500	0.4982	0.2117	0.0460	0.2577	0.0000	539.6076	539.6076	0.0787	0.0000	541.5762
Maximum	**0.2681**	**2.8480**	**2.7104**	**9.7000e-003**	**0.5457**	**0.1015**	**0.6472**	**0.2607**	**0.0936**	**0.3543**	**0.0000**	**894.8243**	**894.8243**	**0.1566**	**0.0000**	**898.7393**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0977	1.0539	0.7421	2.0800e-003	0.1861	0.0434	0.2296	0.0963	0.0401	0.1363	0.0000	188.5546	188.5546	0.0412	0.0000	189.5847
2023	0.2681	2.8480	2.7104	9.7000e-003	0.5457	0.1015	0.6472	0.2607	0.0936	0.3543	0.0000	894.8238	894.8238	0.1566	0.0000	898.7388
2024	0.1413	1.6214	1.3135	5.7700e-003	0.4482	0.0500	0.4982	0.2117	0.0460	0.2577	0.0000	539.6073	539.6073	0.0787	0.0000	541.5759
Maximum	**0.2681**	**2.8480**	**2.7104**	**9.7000e-003**	**0.5457**	**0.1015**	**0.6472**	**0.2607**	**0.0936**	**0.3543**	**0.0000**	**894.8238**	**894.8238**	**0.1566**	**0.0000**	**898.7388**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.0413	1.0413
2	**12-1-2021**	**2-28-2022**	0.1073	0.1073
7	**3-1-2023**	**5-31-2023**	0.6468	0.6468
8	**6-1-2023**	**8-31-2023**	1.0974	1.0974
9	**9-1-2023**	**11-30-2023**	1.0229	1.0229
10	**12-1-2023**	**2-29-2024**	1.2217	1.2217
11	**3-1-2024**	**5-31-2024**	0.8765	0.8765
		Highest	1.2217	1.2217

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3012	1.3900e-003	0.1060	7.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7645	8.5000e-004	3.0000e-005	0.7946
Energy	1.2300e-003	0.0105	4.4800e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	27.8887	27.8887	9.4000e-004	3.7000e-004	28.0226
Mobile	0.0124	0.0563	0.1398	5.4000e-004	0.0497	4.4000e-004	0.0501	0.0133	4.1000e-004	0.0137	0.0000	49.5110	49.5110	1.6900e-003	0.0000	49.5532
Waste						0.0000	0.0000		0.0000	0.0000	0.9378	0.0000	0.9378	0.0554	0.0000	2.3234
Water						0.0000	0.0000		0.0000	0.0000	0.2067	1.6865	1.8932	0.0213	5.2000e-004	2.5799
Total	**0.3148**	**0.0682**	**0.2503**	**6.8000e-004**	**0.0497**	**6.2400e-003**	**0.0559**	**0.0133**	**6.2100e-003**	**0.0195**	**1.6004**	**79.3947**	**80.9951**	**0.0802**	**9.2000e-004**	**83.2737**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3012	1.3900e-003	0.1060	7.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7645	8.5000e-004	3.0000e-005	0.7946
Energy	1.2300e-003	0.0105	4.4800e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	27.8887	27.8887	9.4000e-004	3.7000e-004	28.0226
Mobile	0.0124	0.0563	0.1398	5.4000e-004	0.0497	4.4000e-004	0.0501	0.0133	4.1000e-004	0.0137	0.0000	49.5110	49.5110	1.6900e-003	0.0000	49.5532
Waste						0.0000	0.0000		0.0000	0.0000	0.9378	0.0000	0.9378	0.0554	0.0000	2.3234
Water						0.0000	0.0000		0.0000	0.0000	0.2067	1.6865	1.8932	0.0213	5.2000e-004	2.5799
Total	**0.3148**	**0.0682**	**0.2503**	**6.8000e-004**	**0.0497**	**6.2400e-003**	**0.0559**	**0.0133**	**6.2100e-003**	**0.0195**	**1.6004**	**79.3947**	**80.9951**	**0.0802**	**9.2000e-004**	**83.2737**

	ROG	NOx	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	OU2 Site Prep - Demolition	Site Preparation	9/1/2021	9/14/2021	5	10	Mob, Demo
2	OU2 Excavation	Grading	9/15/2021	10/26/2021	5	30	Soil Excavation - Backfill
3	OU2 CAPPING	Grading	10/27/2021	12/7/2021	5	30	Backfill - Rough Grading
4	OU2 RESTORATION (Paving)	Paving	12/8/2021	12/17/2021	5	8	Pave Common Area, Restor Features
5	OU1 Site Prep - Demolition	Site Preparation	4/3/2023	4/17/2023	5	11	Mob, Background Air, Demo
6	OU1 ISS/ISCO	Grading	4/18/2023	10/2/2023	5	120	
7	OU1 EXCAVATION	Grading	10/3/2023	1/8/2024	5	70	Soil Excavation - Backfill
8	OU1 Capping-Restoration	Grading	1/9/2024	4/8/2024	5	65	Backfill, Rough Grade, Finished Surface
9	OU3 Site Preparation	Site Preparation	4/9/2024	4/15/2024	5	5	Mob, Clear-Grub
10	OU3 Capping-Restoration	Grading	4/16/2024	5/13/2024	5	20	rough-finish grading
11	OU3 Paving	Paving	5/14/2024	5/20/2024	5	5	Place hard cap

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
OU2 Site Prep - Demolition	Bore/Drill Rigs	1	8.00	221	0.50
OU2 Site Prep - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
OU2 Site Prep - Demolition	Off-Highway Trucks	1	8.00	402	0.38
OU2 Site Prep - Demolition	Rubber Tired Dozers	1	7.00	247	0.40
OU2 Site Prep - Demolition	Sweepers/Scrubbers	1	4.00	64	0.46

OU2 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU2 Excavation	Excavators	1	8.00	158	0.38
OU2 Excavation	Off-Highway Trucks	1	8.00	402	0.38
OU2 Excavation	Other Construction Equipment	1	8.00	172	0.42
OU2 Excavation	Other Material Handling Equipment	1	8.00	168	0.40
OU2 Excavation	Rollers	1	8.00	80	0.38
OU2 Excavation	Rubber Tired Dozers	1	6.00	247	0.40
OU2 Excavation	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 Excavation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU2 CAPPING	Excavators	1	7.00	158	0.38
OU2 CAPPING	Off-Highway Trucks	1	8.00	402	0.38
OU2 CAPPING	Rollers	1	8.00	80	0.38
OU2 CAPPING	Rubber Tired Dozers	1	6.00	247	0.40
OU2 CAPPING	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 CAPPING	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU2 RESTORATION (Paving)	Cement and Mortar Mixers	1	6.00	9	0.56
OU2 RESTORATION (Paving)	Pavers	1	6.00	130	0.42
OU2 RESTORATION (Paving)	Paving Equipment	1	8.00	132	0.36
OU2 RESTORATION (Paving)	Rollers	1	7.00	80	0.38
OU2 RESTORATION (Paving)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
OU1 Site Prep - Demolition	Bore/Drill Rigs	1	8.00	221	0.50
OU1 Site Prep - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
OU1 Site Prep - Demolition	Off-Highway Trucks	1	8.00	402	0.38
OU1 Site Prep - Demolition	Rubber Tired Dozers	1	7.00	247	0.40
OU1 Site Prep - Demolition	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU1 ISS/ISCO	Bore/Drill Rigs	1	8.00	221	0.50

OU1 ISS/ISCO	Cement and Mortar Mixers	1	8.00	9	0.56
OU1 ISS/ISCO	Excavators	1	8.00	158	0.38
OU1 ISS/ISCO	Forklifts	1	6.00	89	0.20
OU1 ISS/ISCO	Off-Highway Trucks	1	7.00	402	0.38
OU1 ISS/ISCO	Other Construction Equipment	1	8.00	172	0.42
OU1 ISS/ISCO	Other Material Handling Equipment	1	8.00	168	0.40
OU1 ISS/ISCO	Rollers	1	8.00	80	0.38
OU1 ISS/ISCO	Rubber Tired Dozers	1	4.00	247	0.40
OU1 ISS/ISCO	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 ISS/ISCO	Tractors/Loaders/Backhoes	2	7.00	97	0.37
OU1 EXCAVATION	Excavators	1	8.00	158	0.38
OU1 EXCAVATION	Off-Highway Trucks	1	8.00	402	0.38
OU1 EXCAVATION	Other Construction Equipment	1	8.00	172	0.42
OU1 EXCAVATION	Other Material Handling Equipment	1	8.00	168	0.40
OU1 EXCAVATION	Rollers	1	8.00	80	0.38
OU1 EXCAVATION	Rubber Tired Dozers	1	6.00	247	0.40
OU1 EXCAVATION	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 EXCAVATION	Tractors/Loaders/Backhoes	2	7.00	97	0.37
OU1 Capping-Restoration	Excavators	1	7.00	158	0.38
OU1 Capping-Restoration	Graders	1	6.00	187	0.41
OU1 Capping-Restoration	Off-Highway Trucks	1	8.00	402	0.38
OU1 Capping-Restoration	Other Construction Equipment	1	8.00	172	0.42
OU1 Capping-Restoration	Other Material Handling Equipment	1	8.00	168	0.40
OU1 Capping-Restoration	Rollers	1	8.00	80	0.38
OU1 Capping-Restoration	Rubber Tired Dozers	1	8.00	247	0.40
OU1 Capping-Restoration	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 Capping-Restoration	Tractors/Loaders/Backhoes	2	8.00	97	0.37

OU3 Site Preparation	Forklifts	1	8.00	89	0.20
OU3 Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
OU3 Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
OU3 Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU3 Capping-Restoration	Excavators	1	1.00	158	0.38
OU3 Capping-Restoration	Graders	1	6.00	187	0.41
OU3 Capping-Restoration	Off-Highway Trucks	1	8.00	402	0.38
OU3 Capping-Restoration	Rollers	1	8.00	80	0.38
OU3 Capping-Restoration	Rubber Tired Dozers	1	6.00	247	0.40
OU3 Capping-Restoration	Sweepers/Scrubbers	1	4.00	64	0.46
OU3 Capping-Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU3 Paving	Cement and Mortar Mixers	1	6.00	9	0.56
OU3 Paving	Pavers	1	6.00	130	0.42
OU3 Paving	Paving Equipment	1	8.00	132	0.36
OU3 Paving	Rollers	1	7.00	80	0.38
OU3 Paving	Tractors/Loaders/Backhoes	1	8.00	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
OU2 Site Prep - Demolition	7	20.00	3.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU2 Excavation	8	23.00	3.00	136.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU2 CAPPING	6	18.00	3.00	202.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU2 RESTORATION (Paving)	5	13.00	3.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU1 Site Prep - Demolition	7	20.00	3.00	134.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU1 ISS/ISCO	12	30.00	3.00	1,928.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU1 EXCAVATION	9	25.00	3.00	831.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU1 Capping-Restoration	10	25.00	3.00	1,793.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU3 Site Preparation	5	15.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU3 Capping-Restoration	7	18.00	3.00	175.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU3 Paving	5	13.00	3.00	19.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 OU2 Site Prep - Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0290	0.0000	0.0290	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1287	0.0919	2.2000e-004		6.1100e-003	6.1100e-003		5.6900e-003	5.6900e-003	0.0000	19.1964	19.1964	5.5000e-003	0.0000	19.3337
Total	**0.0133**	**0.1287**	**0.0919**	**2.2000e-004**	**0.0290**	**6.1100e-003**	**0.0351**	**0.0159**	**5.6900e-003**	**0.0216**	**0.0000**	**19.1964**	**19.1964**	**5.5000e-003**	**0.0000**	**19.3337**

3.2 OU2 Site Prep - Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	5.8000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.7565	0.7565	4.0000e-005	0.0000	0.7575
Vendor	5.0000e-005	1.5700e-003	3.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3890	0.3890	2.0000e-005	0.0000	0.3895
Worker	3.1000e-004	2.1000e-004	2.2400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6680	0.6680	1.0000e-005	0.0000	0.6684
Total	**4.4000e-004**	**4.4800e-003**	**3.2100e-003**	**2.0000e-005**	**1.0600e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.8136**	**1.8136**	**7.0000e-005**	**0.0000**	**1.8154**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0290	0.0000	0.0290	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1287	0.0919	2.2000e-004		6.1100e-003	6.1100e-003		5.6900e-003	5.6900e-003	0.0000	19.1963	19.1963	5.5000e-003	0.0000	19.3337
Total	**0.0133**	**0.1287**	**0.0919**	**2.2000e-004**	**0.0290**	**6.1100e-003**	**0.0351**	**0.0159**	**5.6900e-003**	**0.0216**	**0.0000**	**19.1963**	**19.1963**	**5.5000e-003**	**0.0000**	**19.3337**

3.2 OU2 Site Prep - Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.0000e-005	2.7000e-003	5.8000e-004	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.7565	0.7565	4.0000e-005	0.0000	0.7575
Vendor	5.0000e-005	1.5700e-003	3.9000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.3890	0.3890	2.0000e-005	0.0000	0.3895
Worker	3.1000e-004	2.1000e-004	2.2400e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6680	0.6680	1.0000e-005	0.0000	0.6684
Total	**4.4000e-004**	**4.4800e-003**	**3.2100e-003**	**2.0000e-005**	**1.0600e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.8136**	**1.8136**	**7.0000e-005**	**0.0000**	**1.8154**

3.3 OU2 Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0678	0.0000	0.0678	0.0373	0.0000	0.0373	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0420	0.4095	0.3387	6.5000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	57.1240	57.1240	0.0185	0.0000	57.5859
Total	**0.0420**	**0.4095**	**0.3387**	**6.5000e-004**	**0.0678**	**0.0203**	**0.0881**	**0.0373**	**0.0187**	**0.0559**	**0.0000**	**57.1240**	**57.1240**	**0.0185**	**0.0000**	**57.5859**

3.3 OU2 Excavation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2200e-003	0.0669	0.0160	2.4000e-004	5.7400e-003	2.7000e-004	6.0100e-003	1.5800e-003	2.6000e-004	1.8400e-003	0.0000	23.1345	23.1345	9.3000e-004	0.0000	23.1578
Vendor	1.4000e-004	4.7000e-003	1.1700e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.1671	1.1671	6.0000e-005	0.0000	1.1685
Worker	1.0600e-003	7.3000e-004	7.7400e-003	3.0000e-005	2.7300e-003	2.0000e-005	2.7400e-003	7.3000e-004	2.0000e-005	7.4000e-004	0.0000	2.3046	2.3046	5.0000e-005	0.0000	2.3059
Total	**3.4200e-003**	**0.0723**	**0.0249**	**2.8000e-004**	**8.7700e-003**	**3.0000e-004**	**9.0600e-003**	**2.4000e-003**	**2.9000e-004**	**2.6800e-003**	**0.0000**	**26.6062**	**26.6062**	**1.0400e-003**	**0.0000**	**26.6321**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0678	0.0000	0.0678	0.0373	0.0000	0.0373	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0420	0.4095	0.3387	6.5000e-004		0.0203	0.0203		0.0187	0.0187	0.0000	57.1239	57.1239	0.0185	0.0000	57.5858
Total	**0.0420**	**0.4095**	**0.3387**	**6.5000e-004**	**0.0678**	**0.0203**	**0.0881**	**0.0373**	**0.0187**	**0.0559**	**0.0000**	**57.1239**	**57.1239**	**0.0185**	**0.0000**	**57.5858**

3.3 OU2 Excavation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2200e-003	0.0669	0.0160	2.4000e-004	5.7400e-003	2.7000e-004	6.0100e-003	1.5800e-003	2.6000e-004	1.8400e-003	0.0000	23.1345	23.1345	9.3000e-004	0.0000	23.1578
Vendor	1.4000e-004	4.7000e-003	1.1700e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.1671	1.1671	6.0000e-005	0.0000	1.1685
Worker	1.0600e-003	7.3000e-004	7.7400e-003	3.0000e-005	2.7300e-003	2.0000e-005	2.7400e-003	7.3000e-004	2.0000e-005	7.4000e-004	0.0000	2.3046	2.3046	5.0000e-005	0.0000	2.3059
Total	**3.4200e-003**	**0.0723**	**0.0249**	**2.8000e-004**	**8.7700e-003**	**3.0000e-004**	**9.0600e-003**	**2.4000e-003**	**2.9000e-004**	**2.6800e-003**	**0.0000**	**26.6062**	**26.6062**	**1.0400e-003**	**0.0000**	**26.6321**

3.4 OU2 CAPPING - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0680	0.0000	0.0680	0.0373	0.0000	0.0373	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0309	0.2998	0.2149	4.6000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	40.5126	40.5126	0.0131	0.0000	40.8402
Total	**0.0309**	**0.2998**	**0.2149**	**4.6000e-004**	**0.0680**	**0.0146**	**0.0826**	**0.0373**	**0.0135**	**0.0507**	**0.0000**	**40.5126**	**40.5126**	**0.0131**	**0.0000**	**40.8402**

3.4 OU2 CAPPING - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2900e-003	0.0993	0.0238	3.5000e-004	8.5200e-003	4.0000e-004	8.9200e-003	2.3400e-003	3.9000e-004	2.7300e-003	0.0000	34.3616	34.3616	1.3800e-003	0.0000	34.3961
Vendor	1.4000e-004	4.7000e-003	1.1700e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.1671	1.1671	6.0000e-005	0.0000	1.1685
Worker	8.3000e-004	5.7000e-004	6.0600e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.8036	1.8036	4.0000e-005	0.0000	1.8046
Total	**4.2600e-003**	**0.1046**	**0.0310**	**3.8000e-004**	**0.0110**	**4.2000e-004**	**0.0114**	**3.0000e-003**	**4.1000e-004**	**3.4100e-003**	**0.0000**	**37.3322**	**37.3322**	**1.4800e-003**	**0.0000**	**37.3691**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0680	0.0000	0.0680	0.0373	0.0000	0.0373	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0309	0.2998	0.2149	4.6000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	40.5126	40.5126	0.0131	0.0000	40.8402
Total	**0.0309**	**0.2998**	**0.2149**	**4.6000e-004**	**0.0680**	**0.0146**	**0.0826**	**0.0373**	**0.0135**	**0.0507**	**0.0000**	**40.5126**	**40.5126**	**0.0131**	**0.0000**	**40.8402**

3.4 OU2 CAPPING - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2900e-003	0.0993	0.0238	3.5000e-004	8.5200e-003	4.0000e-004	8.9200e-003	2.3400e-003	3.9000e-004	2.7300e-003	0.0000	34.3616	34.3616	1.3800e-003	0.0000	34.3961
Vendor	1.4000e-004	4.7000e-003	1.1700e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.1671	1.1671	6.0000e-005	0.0000	1.1685
Worker	8.3000e-004	5.7000e-004	6.0600e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.8036	1.8036	4.0000e-005	0.0000	1.8046
Total	**4.2600e-003**	**0.1046**	**0.0310**	**3.8000e-004**	**0.0110**	**4.2000e-004**	**0.0114**	**3.0000e-003**	**4.1000e-004**	**3.4100e-003**	**0.0000**	**37.3322**	**37.3322**	**1.4800e-003**	**0.0000**	**37.3691**

3.5 OU2 RESTORATION (Paving) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1000e-003	0.0310	0.0354	5.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	4.7060	4.7060	1.4900e-003	0.0000	4.7433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1000e-003**	**0.0310**	**0.0354**	**5.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**4.7060**	**4.7060**	**1.4900e-003**	**0.0000**	**4.7433**

3.5 OU2 RESTORATION (Paving) - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.1600e-003	4.6000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.6052	0.6052	3.0000e-005	0.0000	0.6060
Vendor	4.0000e-005	1.2500e-003	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3112	0.3112	2.0000e-005	0.0000	0.3116
Worker	1.6000e-004	1.1000e-004	1.1700e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3474	0.3474	1.0000e-005	0.0000	0.3476
Total	**2.6000e-004**	**3.5200e-003**	**1.9400e-003**	**1.0000e-005**	**6.3000e-004**	**1.0000e-005**	**6.3000e-004**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**1.2638**	**1.2638**	**6.0000e-005**	**0.0000**	**1.2652**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	3.1000e-003	0.0310	0.0354	5.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	4.7060	4.7060	1.4900e-003	0.0000	4.7433
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1000e-003**	**0.0310**	**0.0354**	**5.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**4.7060**	**4.7060**	**1.4900e-003**	**0.0000**	**4.7433**

3.5 OU2 RESTORATION (Paving) - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.1600e-003	4.6000e-004	1.0000e-005	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.6052	0.6052	3.0000e-005	0.0000	0.6060
Vendor	4.0000e-005	1.2500e-003	3.1000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3112	0.3112	2.0000e-005	0.0000	0.3116
Worker	1.6000e-004	1.1000e-004	1.1700e-003	0.0000	4.1000e-004	0.0000	4.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3474	0.3474	1.0000e-005	0.0000	0.3476
Total	**2.6000e-004**	**3.5200e-003**	**1.9400e-003**	**1.0000e-005**	**6.3000e-004**	**1.0000e-005**	**6.3000e-004**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**1.2638**	**1.2638**	**6.0000e-005**	**0.0000**	**1.2652**

3.6 OU1 Site Prep - Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0791	0.0000	0.0791	0.0435	0.0000	0.0435	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.1009	0.0942	2.4000e-004		4.4600e-003	4.4600e-003		4.1600e-003	4.1600e-003	0.0000	21.1447	21.1447	6.0300e-003	0.0000	21.2954
Total	**0.0113**	**0.1009**	**0.0942**	**2.4000e-004**	**0.0791**	**4.4600e-003**	**0.0836**	**0.0435**	**4.1600e-003**	**0.0476**	**0.0000**	**21.1447**	**21.1447**	**6.0300e-003**	**0.0000**	**21.2954**

3.6 OU1 Site Prep - Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0111	3.4300e-003	5.0000e-005	1.1300e-003	2.0000e-005	1.1500e-003	3.1000e-004	2.0000e-005	3.3000e-004	0.0000	4.8093	4.8093	2.3000e-004	0.0000	4.8149
Vendor	4.0000e-005	1.2600e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4119	0.4119	2.0000e-005	0.0000	0.4123
Worker	2.9000e-004	1.9000e-004	2.0900e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.6807	0.6807	1.0000e-005	0.0000	0.6811
Total	**6.7000e-004**	**0.0126**	**5.8800e-003**	**6.0000e-005**	**2.1100e-003**	**3.0000e-005**	**2.1300e-003**	**5.7000e-004**	**3.0000e-005**	**6.0000e-004**	**0.0000**	**5.9018**	**5.9018**	**2.6000e-004**	**0.0000**	**5.9083**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0791	0.0000	0.0791	0.0435	0.0000	0.0435	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.1009	0.0942	2.4000e-004		4.4600e-003	4.4600e-003		4.1600e-003	4.1600e-003	0.0000	21.1447	21.1447	6.0300e-003	0.0000	21.2954
Total	**0.0113**	**0.1009**	**0.0942**	**2.4000e-004**	**0.0791**	**4.4600e-003**	**0.0836**	**0.0435**	**4.1600e-003**	**0.0476**	**0.0000**	**21.1447**	**21.1447**	**6.0300e-003**	**0.0000**	**21.2954**

3.6 OU1 Site Prep - Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0111	3.4300e-003	5.0000e-005	1.1300e-003	2.0000e-005	1.1500e-003	3.1000e-004	2.0000e-005	3.3000e-004	0.0000	4.8093	4.8093	2.3000e-004	0.0000	4.8149
Vendor	4.0000e-005	1.2600e-003	3.6000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4119	0.4119	2.0000e-005	0.0000	0.4123
Worker	2.9000e-004	1.9000e-004	2.0900e-003	1.0000e-005	8.7000e-004	1.0000e-005	8.7000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.6807	0.6807	1.0000e-005	0.0000	0.6811
Total	**6.7000e-004**	**0.0126**	**5.8800e-003**	**6.0000e-005**	**2.1100e-003**	**3.0000e-005**	**2.1300e-003**	**5.7000e-004**	**3.0000e-005**	**6.0000e-004**	**0.0000**	**5.9018**	**5.9018**	**2.6000e-004**	**0.0000**	**5.9083**

3.7 OU1 ISS/ISCO - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.1815	0.0000	0.1815	0.0994	0.0000	0.0994	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1463	1.3228	1.5219	3.2200e-003		0.0625	0.0625		0.0576	0.0576	0.0000	281.5907	281.5907	0.0905	0.0000	283.8525
Total	**0.1463**	**1.3228**	**1.5219**	**3.2200e-003**	**0.1815**	**0.0625**	**0.2441**	**0.0994**	**0.0576**	**0.1570**	**0.0000**	**281.5907**	**281.5907**	**0.0905**	**0.0000**	**283.8525**

3.7 OU1 ISS/ISCO - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0201	0.5089	0.2050	3.2000e-003	0.0814	1.3500e-003	0.0827	0.0224	1.2900e-003	0.0237	0.0000	311.0622	311.0622	0.0124	0.0000	311.3732
Vendor	4.0000e-004	0.0137	3.9500e-003	5.0000e-005	1.1800e-003	2.0000e-005	1.2000e-003	3.4000e-004	2.0000e-005	3.6000e-004	0.0000	4.4929	4.4929	1.9000e-004	0.0000	4.4975
Worker	4.8200e-003	3.0700e-003	0.0341	1.2000e-004	0.0142	9.0000e-005	0.0143	3.7800e-003	8.0000e-005	3.8700e-003	0.0000	11.1394	11.1394	2.2000e-004	0.0000	11.1448
Total	**0.0253**	**0.5257**	**0.2431**	**3.3700e-003**	**0.0968**	**1.4600e-003**	**0.0982**	**0.0265**	**1.3900e-003**	**0.0279**	**0.0000**	**326.6945**	**326.6945**	**0.0129**	**0.0000**	**327.0156**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.1815	0.0000	0.1815	0.0994	0.0000	0.0994	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1463	1.3228	1.5219	3.2200e-003		0.0625	0.0625		0.0576	0.0576	0.0000	281.5904	281.5904	0.0905	0.0000	283.8521
Total	**0.1463**	**1.3228**	**1.5219**	**3.2200e-003**	**0.1815**	**0.0625**	**0.2441**	**0.0994**	**0.0576**	**0.1570**	**0.0000**	**281.5904**	**281.5904**	**0.0905**	**0.0000**	**283.8521**

3.7 OU1 ISS/ISCO - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0201	0.5089	0.2050	3.2000e-003	0.0814	1.3500e-003	0.0827	0.0224	1.2900e-003	0.0237	0.0000	311.0622	311.0622	0.0124	0.0000	311.3732
Vendor	4.0000e-004	0.0137	3.9500e-003	5.0000e-005	1.1800e-003	2.0000e-005	1.2000e-003	3.4000e-004	2.0000e-005	3.6000e-004	0.0000	4.4929	4.4929	1.9000e-004	0.0000	4.4975
Worker	4.8200e-003	3.0700e-003	0.0341	1.2000e-004	0.0142	9.0000e-005	0.0143	3.7800e-003	8.0000e-005	3.8700e-003	0.0000	11.1394	11.1394	2.2000e-004	0.0000	11.1448
Total	**0.0253**	**0.5257**	**0.2431**	**3.3700e-003**	**0.0968**	**1.4600e-003**	**0.0982**	**0.0265**	**1.3900e-003**	**0.0279**	**0.0000**	**326.6945**	**326.6945**	**0.0129**	**0.0000**	**327.0156**

3.8 OU1 EXCAVATION - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.1449	0.0000	0.1449	0.0795	0.0000	0.0795	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0743	0.6767	0.7473	1.4800e-003		0.0324	0.0324		0.0299	0.0299	0.0000	129.5645	129.5645	0.0419	0.0000	130.6121
Total	**0.0743**	**0.6767**	**0.7473**	**1.4800e-003**	**0.1449**	**0.0324**	**0.1774**	**0.0795**	**0.0299**	**0.1094**	**0.0000**	**129.5645**	**129.5645**	**0.0419**	**0.0000**	**130.6121**

3.8 OU1 EXCAVATION - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.9200e-003	0.2006	0.0808	1.2600e-003	0.0343	5.3000e-004	0.0348	9.3700e-003	5.1000e-004	9.8800e-003	0.0000	122.5810	122.5810	4.9000e-003	0.0000	122.7036
Vendor	2.1000e-004	7.3200e-003	2.1100e-003	2.0000e-005	6.3000e-004	1.0000e-005	6.4000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	2.3962	2.3962	1.0000e-004	0.0000	2.3987
Worker	2.1400e-003	1.3700e-003	0.0152	5.0000e-005	6.3200e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	4.9509	4.9509	1.0000e-004	0.0000	4.9533
Total	**0.0103**	**0.2092**	**0.0981**	**1.3300e-003**	**0.0413**	**5.8000e-004**	**0.0418**	**0.0112**	**5.6000e-004**	**0.0118**	**0.0000**	**129.9281**	**129.9281**	**5.1000e-003**	**0.0000**	**130.0555**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.1449	0.0000	0.1449	0.0795	0.0000	0.0795	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0743	0.6767	0.7473	1.4800e-003		0.0324	0.0324		0.0299	0.0299	0.0000	129.5643	129.5643	0.0419	0.0000	130.6119
Total	**0.0743**	**0.6767**	**0.7473**	**1.4800e-003**	**0.1449**	**0.0324**	**0.1774**	**0.0795**	**0.0299**	**0.1094**	**0.0000**	**129.5643**	**129.5643**	**0.0419**	**0.0000**	**130.6119**

3.8 OU1 EXCAVATION - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.9200e-003	0.2006	0.0808	1.2600e-003	0.0343	5.3000e-004	0.0348	9.3700e-003	5.1000e-004	9.8800e-003	0.0000	122.5810	122.5810	4.9000e-003	0.0000	122.7036
Vendor	2.1000e-004	7.3200e-003	2.1100e-003	2.0000e-005	6.3000e-004	1.0000e-005	6.4000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	2.3962	2.3962	1.0000e-004	0.0000	2.3987
Worker	2.1400e-003	1.3700e-003	0.0152	5.0000e-005	6.3200e-003	4.0000e-005	6.3600e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	4.9509	4.9509	1.0000e-004	0.0000	4.9533
Total	**0.0103**	**0.2092**	**0.0981**	**1.3300e-003**	**0.0413**	**5.8000e-004**	**0.0418**	**0.0112**	**5.6000e-004**	**0.0118**	**0.0000**	**129.9281**	**129.9281**	**5.1000e-003**	**0.0000**	**130.0555**

3.8 OU1 EXCAVATION - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0139	0.0000	0.0139	7.5000e-003	0.0000	7.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7800e-003	0.0603	0.0701	1.4000e-004		2.8400e-003	2.8400e-003		2.6100e-003	2.6100e-003	0.0000	12.1493	12.1493	3.9300e-003	0.0000	12.2475
Total	**6.7800e-003**	**0.0603**	**0.0701**	**1.4000e-004**	**0.0139**	**2.8400e-003**	**0.0168**	**7.5000e-003**	**2.6100e-003**	**0.0101**	**0.0000**	**12.1493**	**12.1493**	**3.9300e-003**	**0.0000**	**12.2475**

3.8 OU1 EXCAVATION - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4000e-004	0.0183	7.6300e-003	1.2000e-004	0.0270	5.0000e-005	0.0271	6.7200e-003	5.0000e-005	6.7700e-003	0.0000	11.4159	11.4159	4.6000e-004	0.0000	11.4275
Vendor	2.0000e-005	6.8000e-004	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2231	0.2231	1.0000e-005	0.0000	0.2234
Worker	1.9000e-004	1.2000e-004	1.3200e-003	0.0000	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4458	0.4458	1.0000e-005	0.0000	0.4460
Total	**9.5000e-004**	**0.0191**	**9.1400e-003**	**1.2000e-004**	**0.0277**	**5.0000e-005**	**0.0277**	**6.9000e-003**	**5.0000e-005**	**6.9500e-003**	**0.0000**	**12.0848**	**12.0848**	**4.8000e-004**	**0.0000**	**12.0968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0139	0.0000	0.0139	7.5000e-003	0.0000	7.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7800e-003	0.0603	0.0701	1.4000e-004		2.8400e-003	2.8400e-003		2.6100e-003	2.6100e-003	0.0000	12.1493	12.1493	3.9300e-003	0.0000	12.2475
Total	**6.7800e-003**	**0.0603**	**0.0701**	**1.4000e-004**	**0.0139**	**2.8400e-003**	**0.0168**	**7.5000e-003**	**2.6100e-003**	**0.0101**	**0.0000**	**12.1493**	**12.1493**	**3.9300e-003**	**0.0000**	**12.2475**

3.8 OU1 EXCAVATION - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4000e-004	0.0183	7.6300e-003	1.2000e-004	0.0270	5.0000e-005	0.0271	6.7200e-003	5.0000e-005	6.7700e-003	0.0000	11.4159	11.4159	4.6000e-004	0.0000	11.4275
Vendor	2.0000e-005	6.8000e-004	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2231	0.2231	1.0000e-005	0.0000	0.2234
Worker	1.9000e-004	1.2000e-004	1.3200e-003	0.0000	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4458	0.4458	1.0000e-005	0.0000	0.4460
Total	**9.5000e-004**	**0.0191**	**9.1400e-003**	**1.2000e-004**	**0.0277**	**5.0000e-005**	**0.0277**	**6.9000e-003**	**5.0000e-005**	**6.9500e-003**	**0.0000**	**12.0848**	**12.0848**	**4.8000e-004**	**0.0000**	**12.0968**

3.9 OU1 Capping-Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.1972	0.0000	0.1972	0.1078	0.0000	0.1078	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0882	0.8183	0.8302	1.7300e-003		0.0369	0.0369		0.0339	0.0339	0.0000	152.2567	152.2567	0.0492	0.0000	153.4878
Total	**0.0882**	**0.8183**	**0.8302**	**1.7300e-003**	**0.1972**	**0.0369**	**0.2341**	**0.1078**	**0.0339**	**0.1417**	**0.0000**	**152.2567**	**152.2567**	**0.0492**	**0.0000**	**153.4878**

3.9 OU1 Capping-Restoration - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0186	0.4611	0.1920	2.9500e-003	0.0757	1.2400e-003	0.0769	0.0208	1.1900e-003	0.0220	0.0000	287.3669	287.3669	0.0117	0.0000	287.6582
Vendor	2.1000e-004	7.3500e-003	2.0600e-003	3.0000e-005	6.4000e-004	1.0000e-005	6.5000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	2.4172	2.4172	1.0000e-004	0.0000	2.4197
Worker	2.0400e-003	1.2500e-003	0.0143	5.0000e-005	6.4200e-003	4.0000e-005	6.4600e-003	1.7100e-003	4.0000e-005	1.7400e-003	0.0000	4.8292	4.8292	9.0000e-005	0.0000	4.8314
Total	**0.0208**	**0.4697**	**0.2083**	**3.0300e-003**	**0.0827**	**1.2900e-003**	**0.0840**	**0.0227**	**1.2400e-003**	**0.0239**	**0.0000**	**294.6133**	**294.6133**	**0.0119**	**0.0000**	**294.9093**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.1972	0.0000	0.1972	0.1078	0.0000	0.1078	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0882	0.8183	0.8302	1.7300e-003		0.0369	0.0369		0.0339	0.0339	0.0000	152.2566	152.2566	0.0492	0.0000	153.4876
Total	**0.0882**	**0.8183**	**0.8302**	**1.7300e-003**	**0.1972**	**0.0369**	**0.2341**	**0.1078**	**0.0339**	**0.1417**	**0.0000**	**152.2566**	**152.2566**	**0.0492**	**0.0000**	**153.4876**

3.9 OU1 Capping-Restoration - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0186	0.4611	0.1920	2.9500e-003	0.0757	1.2400e-003	0.0769	0.0208	1.1900e-003	0.0220	0.0000	287.3669	287.3669	0.0117	0.0000	287.6582
Vendor	2.1000e-004	7.3500e-003	2.0600e-003	3.0000e-005	6.4000e-004	1.0000e-005	6.5000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	2.4172	2.4172	1.0000e-004	0.0000	2.4197
Worker	2.0400e-003	1.2500e-003	0.0143	5.0000e-005	6.4200e-003	4.0000e-005	6.4600e-003	1.7100e-003	4.0000e-005	1.7400e-003	0.0000	4.8292	4.8292	9.0000e-005	0.0000	4.8314
Total	**0.0208**	**0.4697**	**0.2083**	**3.0300e-003**	**0.0827**	**1.2900e-003**	**0.0840**	**0.0227**	**1.2400e-003**	**0.0239**	**0.0000**	**294.6133**	**294.6133**	**0.0119**	**0.0000**	**294.9093**

3.10 OU3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0264	0.0000	0.0264	0.0145	0.0000	0.0145	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7200e-003	0.0334	0.0290	7.0000e-005		1.4600e-003	1.4600e-003		1.3500e-003	1.3500e-003	0.0000	6.2494	6.2494	2.0200e-003	0.0000	6.3000
Total	**3.7200e-003**	**0.0334**	**0.0290**	**7.0000e-005**	**0.0264**	**1.4600e-003**	**0.0278**	**0.0145**	**1.3500e-003**	**0.0158**	**0.0000**	**6.2494**	**6.2494**	**2.0200e-003**	**0.0000**	**6.3000**

3.10 OU3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1859	0.1859	1.0000e-005	0.0000	0.1861
Worker	9.0000e-005	6.0000e-005	6.6000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2229	0.2229	0.0000	0.0000	0.2230
Total	**1.1000e-004**	**6.3000e-004**	**8.2000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.4088**	**0.4088**	**1.0000e-005**	**0.0000**	**0.4091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0264	0.0000	0.0264	0.0145	0.0000	0.0145	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7200e-003	0.0334	0.0290	7.0000e-005		1.4600e-003	1.4600e-003		1.3500e-003	1.3500e-003	0.0000	6.2494	6.2494	2.0200e-003	0.0000	6.2999
Total	**3.7200e-003**	**0.0334**	**0.0290**	**7.0000e-005**	**0.0264**	**1.4600e-003**	**0.0278**	**0.0145**	**1.3500e-003**	**0.0158**	**0.0000**	**6.2494**	**6.2494**	**2.0200e-003**	**0.0000**	**6.2999**

3.10 OU3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.7000e-004	1.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1859	0.1859	1.0000e-005	0.0000	0.1861
Worker	9.0000e-005	6.0000e-005	6.6000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2229	0.2229	0.0000	0.0000	0.2230
Total	**1.1000e-004**	**6.3000e-004**	**8.2000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.4088**	**0.4088**	**1.0000e-005**	**0.0000**	**0.4091**

3.11 OU3 Capping-Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0905	0.0000	0.0905	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0167	0.1556	0.1201	3.2000e-004		6.5800e-003	6.5800e-003		6.0600e-003	6.0600e-003	0.0000	27.9847	27.9847	9.0500e-003	0.0000	28.2109
Total	**0.0167**	**0.1556**	**0.1201**	**3.2000e-004**	**0.0905**	**6.5800e-003**	**0.0971**	**0.0497**	**6.0600e-003**	**0.0557**	**0.0000**	**27.9847**	**27.9847**	**9.0500e-003**	**0.0000**	**28.2109**

3.11 OU3 Capping-Restoration - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8100e-003	0.0450	0.0187	2.9000e-004	7.3800e-003	1.2000e-004	7.5100e-003	2.0300e-003	1.2000e-004	2.1500e-003	0.0000	28.0475	28.0475	1.1400e-003	0.0000	28.0760
Vendor	6.0000e-005	2.2600e-003	6.3000e-004	1.0000e-005	2.0000e-004	0.0000	2.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.7438	0.7438	3.0000e-005	0.0000	0.7445
Worker	4.5000e-004	2.8000e-004	3.1600e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0699	1.0699	2.0000e-005	0.0000	1.0703
Total	**2.3200e-003**	**0.0476**	**0.0225**	**3.1000e-004**	**9.0000e-003**	**1.3000e-004**	**9.1400e-003**	**2.4700e-003**	**1.3000e-004**	**2.6000e-003**	**0.0000**	**29.8611**	**29.8611**	**1.1900e-003**	**0.0000**	**29.8908**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0905	0.0000	0.0905	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0167	0.1556	0.1201	3.2000e-004		6.5800e-003	6.5800e-003		6.0600e-003	6.0600e-003	0.0000	27.9846	27.9846	9.0500e-003	0.0000	28.2109
Total	**0.0167**	**0.1556**	**0.1201**	**3.2000e-004**	**0.0905**	**6.5800e-003**	**0.0971**	**0.0497**	**6.0600e-003**	**0.0557**	**0.0000**	**27.9846**	**27.9846**	**9.0500e-003**	**0.0000**	**28.2109**

3.11 OU3 Capping-Restoration - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8100e-003	0.0450	0.0187	2.9000e-004	7.3800e-003	1.2000e-004	7.5100e-003	2.0300e-003	1.2000e-004	2.1500e-003	0.0000	28.0475	28.0475	1.1400e-003	0.0000	28.0760
Vendor	6.0000e-005	2.2600e-003	6.3000e-004	1.0000e-005	2.0000e-004	0.0000	2.0000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.7438	0.7438	3.0000e-005	0.0000	0.7445
Worker	4.5000e-004	2.8000e-004	3.1600e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0699	1.0699	2.0000e-005	0.0000	1.0703
Total	**2.3200e-003**	**0.0476**	**0.0225**	**3.1000e-004**	**9.0000e-003**	**1.3000e-004**	**9.1400e-003**	**2.4700e-003**	**1.3000e-004**	**2.6000e-003**	**0.0000**	**29.8611**	**29.8611**	**1.1900e-003**	**0.0000**	**29.8908**

3.12 OU3 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5400e-003	0.0147	0.0221	3.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	2.9435	2.9435	9.3000e-004	0.0000	2.9669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5400e-003**	**0.0147**	**0.0221**	**3.0000e-005**		**7.0000e-004**	**7.0000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**2.9435**	**2.9435**	**9.3000e-004**	**0.0000**	**2.9669**

3.12 OU3 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.5400e-003	4.9000e-004	1.0000e-005	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.6768	0.6768	3.0000e-005	0.0000	0.6776
Vendor	2.0000e-005	5.7000e-004	1.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1859	0.1859	1.0000e-005	0.0000	0.1861
Worker	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.6000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.1932	0.1932	0.0000	0.0000	0.1933
Total	**1.5000e-004**	**2.1600e-003**	**1.2200e-003**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.0559**	**1.0559**	**4.0000e-005**	**0.0000**	**1.0570**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5400e-003	0.0147	0.0221	3.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	2.9435	2.9435	9.3000e-004	0.0000	2.9668
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5400e-003**	**0.0147**	**0.0221**	**3.0000e-005**		**7.0000e-004**	**7.0000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**2.9435**	**2.9435**	**9.3000e-004**	**0.0000**	**2.9668**

3.12 OU3 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.5400e-003	4.9000e-004	1.0000e-005	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.6768	0.6768	3.0000e-005	0.0000	0.6776
Vendor	2.0000e-005	5.7000e-004	1.6000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1859	0.1859	1.0000e-005	0.0000	0.1861
Worker	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.6000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.1932	0.1932	0.0000	0.0000	0.1933
Total	**1.5000e-004**	**2.1600e-003**	**1.2200e-003**	**1.0000e-005**	**4.7000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.0559**	**1.0559**	**4.0000e-005**	**0.0000**	**1.0570**

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	0.0124	0.0563	0.1398	5.4000e-004	0.0497	4.4000e-004	0.0501	0.0133	4.1000e-004	0.0137	0.0000	49.5110	49.5110	1.6900e-003	0.0000	49.5532
Unmitigated	0.0124	0.0563	0.1398	5.4000e-004	0.0497	4.4000e-004	0.0501	0.0133	4.1000e-004	0.0137	0.0000	49.5110	49.5110	1.6900e-003	0.0000	49.5532

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.38	4.55	3.35	2,985	2,985
Condo/Townhouse	58.10	56.70	48.40	130,526	130,526
User Defined Residential	0.00	0.00	0.00		
Total	58.48	61.25	51.75	133,511	133,511

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
User Defined Residential	10.80	4.80	5.70	31.00	15.00	54.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Condo/Townhouse	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
User Defined Residential	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

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	15.6890	15.6890	7.1000e-004	1.5000e-004	15.7505
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	15.6890	15.6890	7.1000e-004	1.5000e-004	15.7505
NaturalGas Mitigated	1.2300e-003	0.0105	4.4800e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	12.1997	12.1997	2.3000e-004	2.2000e-004	12.2722
NaturalGas Unmitigated	1.2300e-003	0.0105	4.4800e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	12.1997	12.1997	2.3000e-004	2.2000e-004	12.2722

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	228613	1.2300e-003	0.0105	4.4800e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	12.1997	12.1997	2.3000e-004	2.2000e-004	12.2722
User Defined Residential	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		**1.2300e-003**	**0.0105**	**4.4800e-003**	**7.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**12.1997**	**12.1997**	**2.3000e-004**	**2.2000e-004**	**12.2722**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	228613	1.2300e-003	0.0105	4.4800e-003	7.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	12.1997	12.1997	2.3000e-004	2.2000e-004	12.2722
User Defined Residential	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		**1.2300e-003**	**0.0105**	**4.4800e-003**	**7.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**12.1997**	**12.1997**	**2.3000e-004**	**2.2000e-004**	**12.2722**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	53930.4	15.6890	7.1000e-004	1.5000e-004	15.7505
User Defined Residential	0	0.0000	0.0000	0.0000	0.0000
Total		**15.6890**	**7.1000e-004**	**1.5000e-004**	**15.7505**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	53930.4	15.6890	7.1000e-004	1.5000e-004	15.7505
User Defined Residential	0	0.0000	0.0000	0.0000	0.0000
Total		**15.6890**	**7.1000e-004**	**1.5000e-004**	**15.7505**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3012	1.3900e-003	0.1060	7.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7645	8.5000e-004	3.0000e-005	0.7946
Unmitigated	0.3012	1.3900e-003	0.1060	7.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7645	8.5000e-004	3.0000e-005	0.7946

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	0.0421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	5.3000e-004	0.0318	6.0000e-005		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.4559	0.1873	0.6432	7.3000e-004	3.0000e-005	0.6704
Landscaping	2.2300e-003	8.6000e-004	0.0742	0.0000		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.1213	0.1213	1.2000e-004	0.0000	0.1242
Total	**0.3012**	**1.3900e-003**	**0.1060**	**6.0000e-005**		**4.9500e-003**	**4.9500e-003**		**4.9500e-003**	**4.9500e-003**	**0.4559**	**0.3086**	**0.7645**	**8.5000e-004**	**3.0000e-005**	**0.7946**

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	0.0421					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	5.3000e-004	0.0318	6.0000e-005		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.4559	0.1873	0.6432	7.3000e-004	3.0000e-005	0.6704
Landscaping	2.2300e-003	8.6000e-004	0.0742	0.0000		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.1213	0.1213	1.2000e-004	0.0000	0.1242
Total	**0.3012**	**1.3900e-003**	**0.1060**	**6.0000e-005**		**4.9500e-003**	**4.9500e-003**		**4.9500e-003**	**4.9500e-003**	**0.4559**	**0.3086**	**0.7645**	**8.5000e-004**	**3.0000e-005**	**0.7946**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.8932	0.0213	5.2000e-004	2.5799
Unmitigated	1.8932	0.0213	5.2000e-004	2.5799

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.238296	0.2426	1.0000e-005	0.0000	0.2436
Condo/Townhouse	0.65154 / 0.410754	1.6505	0.0213	5.1000e-004	2.3363
User Defined Residential	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**1.8932**	**0.0213**	**5.1000e-004**	**2.5799**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0.238296	0.2426	1.0000e-005	0.0000	0.2436
Condo/Townhouse	0.65154 / 0.410754	1.6505	0.0213	5.1000e-004	2.3363
User Defined Residential	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**1.8932**	**0.0213**	**5.1000e-004**	**2.5799**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.9378	0.0554	0.0000	2.3234
Unmitigated	0.9378	0.0554	0.0000	2.3234

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.02	4.0600e-003	2.4000e-004	0.0000	0.0101
Condo/Townhouse	4.6	0.9338	0.0552	0.0000	2.3134
User Defined Residential	0	0.0000	0.0000	0.0000	0.0000
Total		**0.9378**	**0.0554**	**0.0000**	**2.3234**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.02	4.0600e-003	2.4000e-004	0.0000	0.0101
Condo/Townhouse	4.6	0.9338	0.0552	0.0000	2.3134
User Defined Residential	0	0.0000	0.0000	0.0000	0.0000
Total		**0.9378**	**0.0554**	**0.0000**	**2.3234**

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

Napa-1 MGP CEQA IS

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.20	Acre	0.20	8,712.00	0
Condo/Townhouse	10.00	Dwelling Unit	0.07	3,200.00	29
User Defined Residential	0.00	Dwelling Unit	1.30	56,628.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated Project Schedule
OU2 2021 (9/21 - 12/21)
OU1 2023-2024 (4/23 - 4/24)
OU3 2024 (4/24 - 5/24)

Land Use - OU-1 zoned residential 1.3 acres currently vacant lot
OU-2 developed residential townhomes, 0.8 acre parcel, 10 dwellings 0.07 acre ea.
OU-3 Napa park Area, input as city park

Construction Phase - Updated Const. Phases to match FinalDraft RAP:
OU-2 9/1/21 - 12/16/21 (4 mths)
OU-1 4/1/23 - 4/8/24 (1 year)
OU-3 4/9/24 - 5/2024 (30 days)

Off-road Equipment - site-specific equipment type-count for each construction phase

Trips and VMT - Haul trucks based on 16 CY/truck
total # trucks is 2,625 for total vol import + export
Trip Haul length is mileage to BAAQMD boundary from Site

Grading - Total proj volume of 42,000 CY
Import soil based on 1.3 times export soil, Export ISS Swell based on 30% treatment depth
Acres graded basd on each OU REM footprint acreage

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblEnergyUse	NT24E	3,795.01	4,109.59
tblEnergyUse	T24E	249.32	282.35
tblEnergyUse	T24NG	15,568.01	19,706.34
tblGrading	AcresOfGrading	0.00	0.19
tblGrading	AcresOfGrading	24.38	1.30
tblGrading	AcresOfGrading	15.00	0.18
tblGrading	MaterialExported	0.00	155.00

tblGrading	MaterialExported	0.00	1,088.00
tblGrading	MaterialExported	0.00	1,067.00
tblGrading	MaterialExported	0.00	8,869.00
tblGrading	MaterialExported	0.00	2,824.00
tblGrading	MaterialExported	0.00	5,769.00
tblGrading	MaterialExported	0.00	607.00
tblGrading	MaterialImported	0.00	1,738.00
tblGrading	MaterialImported	0.00	6,553.00
tblGrading	MaterialImported	0.00	3,818.00
tblGrading	MaterialImported	0.00	8,570.00
tblGrading	MaterialImported	0.00	942.00
tblLandUse	LandUseSquareFeet	10,000.00	3,200.00
tblLandUse	LandUseSquareFeet	0.00	56,628.00
tblLandUse	LotAcreage	0.63	0.07
tblLandUse	LotAcreage	0.00	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00

tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	HaulingTripNumber	194.00	175.00
tblTripsAndVMT	HaulingTripNumber	0.00	19.00
tblTripsAndVMT	HaulingTripNumber	217.00	202.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	133.00	134.00
tblTripsAndVMT	HaulingTripNumber	830.00	831.00
tblTripsAndVMT	HaulingTripNumber	1,792.00	1,793.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	20.00	23.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	23.00	25.00

tblTripsAndVMT	WorkerTripNumber	13.00	15.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.0330	31.9655	24.2869	0.0619	6.0176	1.3718	7.2438	3.2454	1.2627	4.3875	0.0000	6,169.5347	6,169.5347	1.4337	0.0000	6,205.3769
2023	2.8626	30.5379	29.4784	0.1100	14.7793	1.0665	15.5943	8.0088	0.9832	8.7690	0.0000	11,200.8337	11,200.8337	1.8973	0.0000	11,248.2675
2024	3.3569	39.1854	32.0096	0.1468	14.1601	1.1746	15.1236	5.8314	1.0821	6.3704	0.0000	15,185.3511	15,185.3511	2.0706	0.0000	15,237.1146
Maximum	**3.3569**	**39.1854**	**32.0096**	**0.1468**	**14.7793**	**1.3718**	**15.5943**	**8.0088**	**1.2627**	**8.7690**	**0.0000**	**15,185.3511**	**15,185.3511**	**2.0706**	**0.0000**	**15,237.1146**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.0330	31.9655	24.2869	0.0619	6.0176	1.3718	7.2438	3.2454	1.2627	4.3875	0.0000	6,169.5347	6,169.5347	1.4337	0.0000	6,205.3769
2023	2.8626	30.5379	29.4784	0.1100	14.7793	1.0665	15.5943	8.0088	0.9832	8.7690	0.0000	11,200.8337	11,200.8337	1.8973	0.0000	11,248.2675
2024	3.3569	39.1854	32.0096	0.1468	14.1601	1.1746	15.1236	5.8314	1.0821	6.3704	0.0000	15,185.3511	15,185.3511	2.0706	0.0000	15,237.1146
Maximum	**3.3569**	**39.1854**	**32.0096**	**0.1468**	**14.7793**	**1.3718**	**15.5943**	**8.0088**	**1.2627**	**8.7690**	**0.0000**	**15,185.3511**	**15,185.3511**	**2.0706**	**0.0000**	**15,237.1146**

Napa-1 MGP CEQA IS - Bay Area AQMD Air District, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155
Energy	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
Mobile	0.0846	0.3246	0.8636	3.3700e-003	0.3057	2.6000e-003	0.3083	0.0818	2.4200e-003	0.0842		341.7765	341.7765	0.0111		342.0532
Total	**5.7403**	**0.4827**	**7.1464**	**0.0143**	**0.3057**	**0.7832**	**1.0889**	**0.0818**	**0.7830**	**0.8648**	**83.7085**	**454.0077**	**537.7162**	**0.1285**	**7.2700e-003**	**543.0934**

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	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155
Energy	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
Mobile	0.0846	0.3246	0.8636	3.3700e-003	0.3057	2.6000e-003	0.3083	0.0818	2.4200e-003	0.0842		341.7765	341.7765	0.0111		342.0532
Total	**5.7403**	**0.4827**	**7.1464**	**0.0143**	**0.3057**	**0.7832**	**1.0889**	**0.0818**	**0.7830**	**0.8648**	**83.7085**	**454.0077**	**537.7162**	**0.1285**	**7.2700e-003**	**543.0934**

	ROG	NOx	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	OU2 Site Prep - Demolition	Site Preparation	9/1/2021	9/14/2021	5	10	Mob, Demo
2	OU2 Excavation	Grading	9/15/2021	10/26/2021	5	30	Soil Excavation - Backfill
3	OU2 CAPPING	Grading	10/27/2021	12/7/2021	5	30	Backfill - Rough Grading
4	OU2 RESTORATION (Paving)	Paving	12/8/2021	12/17/2021	5	8	Pave Common Area, Restor Features
5	OU1 Site Prep - Demolition	Site Preparation	4/3/2023	4/17/2023	5	11	Mob, Background Air, Demo
6	OU1 ISS/ISCO	Grading	4/18/2023	10/2/2023	5	120	
7	OU1 EXCAVATION	Grading	10/3/2023	1/8/2024	5	70	Soil Excavation - Backfill
8	OU1 Capping-Restoration	Grading	1/9/2024	4/8/2024	5	65	Backfill, Rough Grade, Finished Surface
9	OU3 Site Preparation	Site Preparation	4/9/2024	4/15/2024	5	5	Mob, Clear-Grub
10	OU3 Capping-Restoration	Grading	4/16/2024	5/13/2024	5	20	rough-finish grading
11	OU3 Paving	Paving	5/14/2024	5/20/2024	5	5	Place hard cap

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
OU2 Site Prep - Demolition	Bore/Drill Rigs	1	8.00	221	0.50
OU2 Site Prep - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
OU2 Site Prep - Demolition	Off-Highway Trucks	1	8.00	402	0.38
OU2 Site Prep - Demolition	Rubber Tired Dozers	1	7.00	247	0.40
OU2 Site Prep - Demolition	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU2 Excavation	Excavators	1	8.00	158	0.38
OU2 Excavation	Off-Highway Trucks	1	8.00	402	0.38
OU2 Excavation	Other Construction Equipment	1	8.00	172	0.42
OU2 Excavation	Other Material Handling Equipment	1	8.00	168	0.40
OU2 Excavation	Rollers	1	8.00	80	0.38
OU2 Excavation	Rubber Tired Dozers	1	6.00	247	0.40
OU2 Excavation	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 Excavation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU2 CAPPING	Excavators	1	7.00	158	0.38
OU2 CAPPING	Off-Highway Trucks	1	8.00	402	0.38
OU2 CAPPING	Rollers	1	8.00	80	0.38
OU2 CAPPING	Rubber Tired Dozers	1	6.00	247	0.40
OU2 CAPPING	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 CAPPING	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU2 RESTORATION (Paving)	Cement and Mortar Mixers	1	6.00	9	0.56
OU2 RESTORATION (Paving)	Pavers	1	6.00	130	0.42
OU2 RESTORATION (Paving)	Paving Equipment	1	8.00	132	0.36
OU2 RESTORATION (Paving)	Rollers	1	7.00	80	0.38
OU2 RESTORATION (Paving)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
OU1 Site Prep - Demolition	Bore/Drill Rigs	1	8.00	221	0.50

OU1 Site Prep - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
OU1 Site Prep - Demolition	Off-Highway Trucks	1	8.00	402	0.38
OU1 Site Prep - Demolition	Rubber Tired Dozers	1	7.00	247	0.40
OU1 Site Prep - Demolition	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU1 ISS/ISCO	Bore/Drill Rigs	1	8.00	221	0.50
OU1 ISS/ISCO	Cement and Mortar Mixers	1	8.00	9	0.56
OU1 ISS/ISCO	Excavators	1	8.00	158	0.38
OU1 ISS/ISCO	Forklifts	1	6.00	89	0.20
OU1 ISS/ISCO	Off-Highway Trucks	1	7.00	402	0.38
OU1 ISS/ISCO	Other Construction Equipment	1	8.00	172	0.42
OU1 ISS/ISCO	Other Material Handling Equipment	1	8.00	168	0.40
OU1 ISS/ISCO	Rollers	1	8.00	80	0.38
OU1 ISS/ISCO	Rubber Tired Dozers	1	4.00	247	0.40
OU1 ISS/ISCO	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 ISS/ISCO	Tractors/Loaders/Backhoes	2	7.00	97	0.37
OU1 EXCAVATION	Excavators	1	8.00	158	0.38
OU1 EXCAVATION	Off-Highway Trucks	1	8.00	402	0.38
OU1 EXCAVATION	Other Construction Equipment	1	8.00	172	0.42
OU1 EXCAVATION	Other Material Handling Equipment	1	8.00	168	0.40
OU1 EXCAVATION	Rollers	1	8.00	80	0.38
OU1 EXCAVATION	Rubber Tired Dozers	1	6.00	247	0.40
OU1 EXCAVATION	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 EXCAVATION	Tractors/Loaders/Backhoes	2	7.00	97	0.37
OU1 Capping-Restoration	Excavators	1	7.00	158	0.38
OU1 Capping-Restoration	Graders	1	6.00	187	0.41
OU1 Capping-Restoration	Off-Highway Trucks	1	8.00	402	0.38

OU1 Capping-Restoration	Other Construction Equipment	1	8.00	172	0.42
OU1 Capping-Restoration	Other Material Handling Equipment	1	8.00	168	0.40
OU1 Capping-Restoration	Rollers	1	8.00	80	0.38
OU1 Capping-Restoration	Rubber Tired Dozers	1	8.00	247	0.40
OU1 Capping-Restoration	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 Capping-Restoration	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU3 Site Preparation	Forklifts	1	8.00	89	0.20
OU3 Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
OU3 Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
OU3 Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU3 Capping-Restoration	Excavators	1	1.00	158	0.38
OU3 Capping-Restoration	Graders	1	6.00	187	0.41
OU3 Capping-Restoration	Off-Highway Trucks	1	8.00	402	0.38
OU3 Capping-Restoration	Rollers	1	8.00	80	0.38
OU3 Capping-Restoration	Rubber Tired Dozers	1	6.00	247	0.40
OU3 Capping-Restoration	Sweepers/Scrubbers	1	4.00	64	0.46
OU3 Capping-Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU3 Paving	Cement and Mortar Mixers	1	6.00	9	0.56
OU3 Paving	Pavers	1	6.00	130	0.42
OU3 Paving	Paving Equipment	1	8.00	132	0.36
OU3 Paving	Rollers	1	7.00	80	0.38
OU3 Paving	Tractors/Loaders/Backhoes	1	8.00	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
OU2 Site Prep - Demolition	7	20.00	3.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU2 Excavation	8	23.00	3.00	136.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU2 CAPPING	6	18.00	3.00	202.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU2 RESTORATION (Paving)	5	13.00	3.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU1 Site Prep - Demolition	7	20.00	3.00	134.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU1 ISS/ISCO	12	30.00	3.00	1,928.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU1 EXCAVATION	9	25.00	3.00	831.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU1 Capping-Restoration	10	25.00	3.00	1,793.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU3 Site Preparation	5	15.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU3 Capping-Restoration	7	18.00	3.00	175.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU3 Paving	5	13.00	3.00	19.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 OU2 Site Prep - Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7980	0.0000	5.7980	3.1864	0.0000	3.1864			0.0000			0.0000
Off-Road	2.6533	25.7441	18.3814	0.0438		1.2229	1.2229		1.1389	1.1389		4,232.0716	4,232.0716	1.2115		4,262.3584
Total	**2.6533**	**25.7441**	**18.3814**	**0.0438**	**5.7980**	**1.2229**	**7.0209**	**3.1864**	**1.1389**	**4.3253**		**4,232.0716**	**4,232.0716**	**1.2115**		**4,262.3584**

3.2 OU2 Site Prep - Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0156	0.5292	0.1116	1.5700e-003	0.0349	1.6600e-003	0.0366	9.5800e-003	1.5900e-003	0.0112		167.9819	167.9819	8.3400e-003		168.1903
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0643	0.0376	0.4913	1.5900e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		158.3919	158.3919	3.5400e-003		158.4804
Total	**0.0892**	**0.8768**	**0.6759**	**3.9800e-003**	**0.2196**	**3.3600e-003**	**0.2229**	**0.0590**	**3.1800e-003**	**0.0622**		**413.0614**	**413.0614**	**0.0160**		**413.4600**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					5.7980	0.0000	5.7980	3.1864	0.0000	3.1864			0.0000			0.0000
Off-Road	2.6533	25.7441	18.3814	0.0438		1.2229	1.2229		1.1389	1.1389	0.0000	4,232.0716	4,232.0716	1.2115		4,262.3584
Total	**2.6533**	**25.7441**	**18.3814**	**0.0438**	**5.7980**	**1.2229**	**7.0209**	**3.1864**	**1.1389**	**4.3253**	**0.0000**	**4,232.0716**	**4,232.0716**	**1.2115**		**4,262.3584**

3.2 OU2 Site Prep - Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0156	0.5292	0.1116	1.5700e-003	0.0349	1.6600e-003	0.0366	9.5800e-003	1.5900e-003	0.0112		167.9819	167.9819	8.3400e-003		168.1903
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0643	0.0376	0.4913	1.5900e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		158.3919	158.3919	3.5400e-003		158.4804
Total	**0.0892**	**0.8768**	**0.6759**	**3.9800e-003**	**0.2196**	**3.3600e-003**	**0.2229**	**0.0590**	**3.1800e-003**	**0.0622**		**413.0614**	**413.0614**	**0.0160**		**413.4600**

3.3 OU2 Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5207	0.0000	4.5207	2.4833	0.0000	2.4833			0.0000			0.0000
Off-Road	2.8022	27.3002	22.5816	0.0433		1.3518	1.3518		1.2437	1.2437		4,197.8950	4,197.8950	1.3577		4,231.8371
Total	**2.8022**	**27.3002**	**22.5816**	**0.0433**	**4.5207**	**1.3518**	**5.8725**	**2.4833**	**1.2437**	**3.7270**		**4,197.8950**	**4,197.8950**	**1.3577**		**4,231.8371**

3.3 OU2 Excavation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1476	4.3121	1.0672	0.0159	0.3956	0.0180	0.4137	0.1084	0.0173	0.1256		1,702.8015	1,702.8015	0.0679		1,704.4981
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0740	0.0432	0.5650	1.8300e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		182.1507	182.1507	4.0700e-003		182.2525
Total	**0.2308**	**4.6653**	**1.7053**	**0.0186**	**0.6049**	**0.0199**	**0.6248**	**0.1644**	**0.0190**	**0.1833**		**1,971.6397**	**1,971.6397**	**0.0760**		**1,973.5399**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5207	0.0000	4.5207	2.4833	0.0000	2.4833			0.0000			0.0000
Off-Road	2.8022	27.3002	22.5816	0.0433		1.3518	1.3518		1.2437	1.2437	0.0000	4,197.8950	4,197.8950	1.3577		4,231.8371
Total	**2.8022**	**27.3002**	**22.5816**	**0.0433**	**4.5207**	**1.3518**	**5.8725**	**2.4833**	**1.2437**	**3.7270**	**0.0000**	**4,197.8950**	**4,197.8950**	**1.3577**		**4,231.8371**

3.3 OU2 Excavation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1476	4.3121	1.0672	0.0159	0.3956	0.0180	0.4137	0.1084	0.0173	0.1256		1,702.8015	1,702.8015	0.0679		1,704.4981
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0740	0.0432	0.5650	1.8300e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		182.1507	182.1507	4.0700e-003		182.2525
Total	**0.2308**	**4.6653**	**1.7053**	**0.0186**	**0.6049**	**0.0199**	**0.6248**	**0.1644**	**0.0190**	**0.1833**		**1,971.6397**	**1,971.6397**	**0.0760**		**1,973.5399**

3.4 OU2 CAPPING - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5298	0.0000	4.5298	2.4844	0.0000	2.4844			0.0000			0.0000
Off-Road	2.0589	19.9877	14.3292	0.0307		0.9749	0.9749		0.8969	0.8969		2,977.1698	2,977.1698	0.9629		3,001.2417
Total	**2.0589**	**19.9877**	**14.3292**	**0.0307**	**4.5298**	**0.9749**	**5.5047**	**2.4844**	**0.8969**	**3.3813**		**2,977.1698**	**2,977.1698**	**0.9629**		**3,001.2417**

3.4 OU2 CAPPING - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2192	6.4047	1.5852	0.0236	0.5876	0.0268	0.6144	0.1610	0.0256	0.1866		2,529.1610	2,529.1610	0.1008		2,531.6810
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.2863**	**6.7486**	**2.1004**	**0.0259**	**0.7558**	**0.0284**	**0.7842**	**0.2061**	**0.0271**	**0.2332**		**2,758.4013**	**2,758.4013**	**0.1081**		**2,761.1027**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5298	0.0000	4.5298	2.4844	0.0000	2.4844			0.0000			0.0000
Off-Road	2.0589	19.9877	14.3292	0.0307		0.9749	0.9749		0.8969	0.8969	0.0000	2,977.1698	2,977.1698	0.9629		3,001.2417
Total	**2.0589**	**19.9877**	**14.3292**	**0.0307**	**4.5298**	**0.9749**	**5.5047**	**2.4844**	**0.8969**	**3.3813**	**0.0000**	**2,977.1698**	**2,977.1698**	**0.9629**		**3,001.2417**

3.4 OU2 CAPPING - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2192	6.4047	1.5852	0.0236	0.5876	0.0268	0.6144	0.1610	0.0256	0.1866		2,529.1610	2,529.1610	0.1008		2,531.6810
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.2863**	**6.7486**	**2.1004**	**0.0259**	**0.7558**	**0.0284**	**0.7842**	**0.2061**	**0.0271**	**0.2332**		**2,758.4013**	**2,758.4013**	**0.1081**		**2,761.1027**

3.5 OU2 RESTORATION (Paving) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7739**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**		**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.5 OU2 RESTORATION (Paving) - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0156	0.5292	0.1116	1.5700e-003	0.0349	1.6600e-003	0.0366	9.5800e-003	1.5900e-003	0.0112		167.9819	167.9819	8.3400e-003		168.1903
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0418	0.0244	0.3193	1.0300e-003	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		102.9547	102.9547	2.3000e-003		103.0123
Total	**0.0667**	**0.8637**	**0.5040**	**3.4200e-003**	**0.1620**	**3.0000e-003**	**0.1650**	**0.0438**	**2.8500e-003**	**0.0466**		**357.6242**	**357.6242**	**0.0147**		**357.9919**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7739**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**	**0.0000**	**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.5 OU2 RESTORATION (Paving) - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0156	0.5292	0.1116	1.5700e-003	0.0349	1.6600e-003	0.0366	9.5800e-003	1.5900e-003	0.0112		167.9819	167.9819	8.3400e-003		168.1903
Vendor	9.3000e-003	0.3100	0.0731	8.2000e-004	0.0203	6.7000e-004	0.0210	5.8500e-003	6.4000e-004	6.4900e-003		86.6876	86.6876	4.0700e-003		86.7893
Worker	0.0418	0.0244	0.3193	1.0300e-003	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		102.9547	102.9547	2.3000e-003		103.0123
Total	**0.0667**	**0.8637**	**0.5040**	**3.4200e-003**	**0.1620**	**3.0000e-003**	**0.1650**	**0.0438**	**2.8500e-003**	**0.0466**		**357.6242**	**357.6242**	**0.0147**		**357.9919**

3.6 OU1 Site Prep - Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					14.3819	0.0000	14.3819	7.9011	0.0000	7.9011			0.0000			0.0000
Off-Road	2.0455	18.3523	17.1187	0.0439		0.8102	0.8102		0.7556	0.7556		4,237.8243	4,237.8243	1.2081		4,268.0272
Total	**2.0455**	**18.3523**	**17.1187**	**0.0439**	**14.3819**	**0.8102**	**15.1920**	**7.9011**	**0.7556**	**8.6567**		**4,237.8243**	**4,237.8243**	**1.2081**		**4,268.0272**

3.6 OU1 Site Prep - Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0611	1.9905	0.6097	9.0500e-003	0.2129	3.5900e-003	0.2165	0.0583	3.4400e-003	0.0618		970.8299	970.8299	0.0448		971.9502
Vendor	6.5000e-003	0.2271	0.0619	7.9000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.0900e-003		83.4285	83.4285	3.3200e-003		83.5116
Worker	0.0559	0.0303	0.4175	1.4700e-003	0.1643	9.9000e-004	0.1653	0.0436	9.1000e-004	0.0445		146.7298	146.7298	2.8500e-003		146.8011
Total	**0.1235**	**2.2479**	**1.0891**	**0.0113**	**0.3975**	**4.8400e-003**	**0.4023**	**0.1078**	**4.6000e-003**	**0.1124**		**1,200.9881**	**1,200.9881**	**0.0510**		**1,202.2629**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					14.3819	0.0000	14.3819	7.9011	0.0000	7.9011			0.0000			0.0000
Off-Road	2.0455	18.3523	17.1187	0.0439		0.8102	0.8102		0.7556	0.7556	0.0000	4,237.8242	4,237.8242	1.2081		4,268.0272
Total	**2.0455**	**18.3523**	**17.1187**	**0.0439**	**14.3819**	**0.8102**	**15.1920**	**7.9011**	**0.7556**	**8.6567**	**0.0000**	**4,237.8242**	**4,237.8242**	**1.2081**		**4,268.0272**

3.6 OU1 Site Prep - Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0611	1.9905	0.6097	9.0500e-003	0.2129	3.5900e-003	0.2165	0.0583	3.4400e-003	0.0618		970.8299	970.8299	0.0448		971.9502
Vendor	6.5000e-003	0.2271	0.0619	7.9000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.0900e-003		83.4285	83.4285	3.3200e-003		83.5116
Worker	0.0559	0.0303	0.4175	1.4700e-003	0.1643	9.9000e-004	0.1653	0.0436	9.1000e-004	0.0445		146.7298	146.7298	2.8500e-003		146.8011
Total	**0.1235**	**2.2479**	**1.0891**	**0.0113**	**0.3975**	**4.8400e-003**	**0.4023**	**0.1078**	**4.6000e-003**	**0.1124**		**1,200.9881**	**1,200.9881**	**0.0510**		**1,202.2629**

3.7 OU1 ISS/ISCO - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					3.0256	0.0000	3.0256	1.6573	0.0000	1.6573			0.0000			0.0000
Off-Road	2.4378	22.0465	25.3650	0.0536		1.0423	1.0423		0.9600	0.9600		5,173.3443	5,173.3443	1.6621		5,214.8960
Total	**2.4378**	**22.0465**	**25.3650**	**0.0536**	**3.0256**	**1.0423**	**4.0678**	**1.6573**	**0.9600**	**2.6173**		**5,173.3443**	**5,173.3443**	**1.6621**		**5,214.8960**

3.7 OU1 ISS/ISCO - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3344	8.2189	3.4252	0.0533	1.4023	0.0225	1.4248	0.3842	0.0215	0.4057		5,723.9664	5,723.9664	0.2277		5,729.6582
Vendor	6.5000e-003	0.2271	0.0619	7.9000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.0900e-003		83.4285	83.4285	3.3200e-003		83.5116
Worker	0.0838	0.0455	0.6262	2.2100e-003	0.2464	1.4800e-003	0.2479	0.0654	1.3700e-003	0.0667		220.0946	220.0946	4.2800e-003		220.2017
Total	**0.4248**	**8.4914**	**4.1134**	**0.0563**	**1.6691**	**0.0242**	**1.6933**	**0.4554**	**0.0231**	**0.4785**		**6,027.4895**	**6,027.4895**	**0.2353**		**6,033.3715**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					3.0256	0.0000	3.0256	1.6573	0.0000	1.6573			0.0000			0.0000
Off-Road	2.4378	22.0465	25.3650	0.0536		1.0423	1.0423		0.9600	0.9600	0.0000	5,173.3443	5,173.3443	1.6621		5,214.8960
Total	**2.4378**	**22.0465**	**25.3650**	**0.0536**	**3.0256**	**1.0423**	**4.0678**	**1.6573**	**0.9600**	**2.6173**	**0.0000**	**5,173.3443**	**5,173.3443**	**1.6621**		**5,214.8960**

3.7 OU1 ISS/ISCO - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3344	8.2189	3.4252	0.0533	1.4023	0.0225	1.4248	0.3842	0.0215	0.4057		5,723.9664	5,723.9664	0.2277		5,729.6582
Vendor	6.5000e-003	0.2271	0.0619	7.9000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.0900e-003		83.4285	83.4285	3.3200e-003		83.5116
Worker	0.0838	0.0455	0.6262	2.2100e-003	0.2464	1.4800e-003	0.2479	0.0654	1.3700e-003	0.0667		220.0946	220.0946	4.2800e-003		220.2017
Total	**0.4248**	**8.4914**	**4.1134**	**0.0563**	**1.6691**	**0.0242**	**1.6933**	**0.4554**	**0.0231**	**0.4785**		**6,027.4895**	**6,027.4895**	**0.2353**		**6,033.3715**

3.8 OU1 EXCAVATION - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.3212	21.1468	23.3528	0.0461		1.0138	1.0138		0.9327	0.9327		4,463.1378	4,463.1378	1.4435		4,499.2245
Total	**2.3212**	**21.1468**	**23.3528**	**0.0461**	**4.5273**	**1.0138**	**5.5411**	**2.4843**	**0.9327**	**3.4170**		**4,463.1378**	**4,463.1378**	**1.4435**		**4,499.2245**

3.8 OU1 EXCAVATION - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2471	6.0728	2.5309	0.0394	1.1097	0.0166	1.1264	0.3019	0.0159	0.3178		4,229.3563	4,229.3563	0.1682		4,233.5619
Vendor	6.5000e-003	0.2271	0.0619	7.9000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.0900e-003		83.4285	83.4285	3.3200e-003		83.5116
Worker	0.0699	0.0379	0.5219	1.8400e-003	0.2054	1.2400e-003	0.2066	0.0545	1.1400e-003	0.0556		183.4122	183.4122	3.5700e-003		183.5014
Total	**0.3235**	**6.3378**	**3.1146**	**0.0420**	**1.3354**	**0.0181**	**1.3535**	**0.3623**	**0.0173**	**0.3795**		**4,496.1970**	**4,496.1970**	**0.1751**		**4,500.5749**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.3212	21.1468	23.3528	0.0461		1.0138	1.0138		0.9327	0.9327	0.0000	4,463.1378	4,463.1378	1.4435		4,499.2245
Total	**2.3212**	**21.1468**	**23.3528**	**0.0461**	**4.5273**	**1.0138**	**5.5411**	**2.4843**	**0.9327**	**3.4170**	**0.0000**	**4,463.1378**	**4,463.1378**	**1.4435**		**4,499.2245**

3.8 OU1 EXCAVATION - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2471	6.0728	2.5309	0.0394	1.1097	0.0166	1.1264	0.3019	0.0159	0.3178		4,229.3563	4,229.3563	0.1682		4,233.5619
Vendor	6.5000e-003	0.2271	0.0619	7.9000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.0900e-003		83.4285	83.4285	3.3200e-003		83.5116
Worker	0.0699	0.0379	0.5219	1.8400e-003	0.2054	1.2400e-003	0.2066	0.0545	1.1400e-003	0.0556		183.4122	183.4122	3.5700e-003		183.5014
Total	**0.3235**	**6.3378**	**3.1146**	**0.0420**	**1.3354**	**0.0181**	**1.3535**	**0.3623**	**0.0173**	**0.3795**		**4,496.1970**	**4,496.1970**	**0.1751**		**4,500.5749**

3.8 OU1 EXCAVATION - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.2612	20.0927	23.3677	0.0461		0.9456	0.9456		0.8700	0.8700		4,464.0986	4,464.0986	1.4438		4,500.1931
Total	**2.2612**	**20.0927**	**23.3677**	**0.0461**	**4.5273**	**0.9456**	**5.4729**	**2.4843**	**0.8700**	**3.3543**		**4,464.0986**	**4,464.0986**	**1.4438**		**4,500.1931**

3.8 OU1 EXCAVATION - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2456	5.9169	2.5486	0.0391	9.4071	0.0164	9.4235	2.3386	0.0157	2.3543		4,201.3064	4,201.3064	0.1695		4,205.5442
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0655	0.0342	0.4844	1.7700e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		176.1460	176.1460	3.2200e-003		176.2264
Total	**0.3174**	**6.1757**	**3.0927**	**0.0417**	**9.6328**	**0.0179**	**9.6507**	**2.3989**	**0.0171**	**2.4160**		**4,460.3110**	**4,460.3110**	**0.1760**		**4,464.7107**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.2612	20.0927	23.3677	0.0461		0.9456	0.9456		0.8700	0.8700	0.0000	4,464.0986	4,464.0986	1.4438		4,500.1931
Total	**2.2612**	**20.0927**	**23.3677**	**0.0461**	**4.5273**	**0.9456**	**5.4729**	**2.4843**	**0.8700**	**3.3543**	**0.0000**	**4,464.0986**	**4,464.0986**	**1.4438**		**4,500.1931**

3.8 OU1 EXCAVATION - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2456	5.9169	2.5486	0.0391	9.4071	0.0164	9.4235	2.3386	0.0157	2.3543		4,201.3064	4,201.3064	0.1695		4,205.5442
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0655	0.0342	0.4844	1.7700e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		176.1460	176.1460	3.2200e-003		176.2264
Total	**0.3174**	**6.1757**	**3.0927**	**0.0417**	**9.6328**	**0.0179**	**9.6507**	**2.3989**	**0.0171**	**2.4160**		**4,460.3110**	**4,460.3110**	**0.1760**		**4,464.7107**

3.9 OU1 Capping-Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0682	0.0000	6.0682	3.3163	0.0000	3.3163			0.0000			0.0000
Off-Road	2.7143	25.1781	25.5436	0.0533		1.1350	1.1350		1.0442	1.0442		5,164.1329	5,164.1329	1.6702		5,205.8876
Total	**2.7143**	**25.1781**	**25.5436**	**0.0533**	**6.0682**	**1.1350**	**7.2032**	**3.3163**	**1.0442**	**4.3605**		**5,164.1329**	**5,164.1329**	**1.6702**		**5,205.8876**

3.9 OU1 Capping-Restoration - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5707	13.7485	5.9220	0.0909	2.4078	0.0382	2.4460	0.6597	0.0366	0.6962		9,762.2136	9,762.2136	0.3939		9,772.0605
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0655	0.0342	0.4844	1.7700e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		176.1460	176.1460	3.2200e-003		176.2264
Total	**0.6425**	**14.0073**	**6.4661**	**0.0935**	**2.6335**	**0.0397**	**2.6732**	**0.7200**	**0.0379**	**0.7579**		**10,021.2182**	**10,021.2182**	**0.4004**		**10,031.2270**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0682	0.0000	6.0682	3.3163	0.0000	3.3163			0.0000			0.0000
Off-Road	2.7143	25.1781	25.5436	0.0533		1.1350	1.1350		1.0442	1.0442	0.0000	5,164.1329	5,164.1329	1.6702		5,205.8876
Total	**2.7143**	**25.1781**	**25.5436**	**0.0533**	**6.0682**	**1.1350**	**7.2032**	**3.3163**	**1.0442**	**4.3605**	**0.0000**	**5,164.1329**	**5,164.1329**	**1.6702**		**5,205.8876**

3.9 OU1 Capping-Restoration - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5707	13.7485	5.9220	0.0909	2.4078	0.0382	2.4460	0.6597	0.0366	0.6962		9,762.2136	9,762.2136	0.3939		9,772.0605
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0655	0.0342	0.4844	1.7700e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		176.1460	176.1460	3.2200e-003		176.2264
Total	**0.6425**	**14.0073**	**6.4661**	**0.0935**	**2.6335**	**0.0397**	**2.6732**	**0.7200**	**0.0379**	**0.7579**		**10,021.2182**	**10,021.2182**	**0.4004**		**10,031.2270**

3.10 OU3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					10.5387	0.0000	10.5387	5.7929	0.0000	5.7929			0.0000			0.0000
Off-Road	1.4873	13.3446	11.6004	0.0285		0.5848	0.5848		0.5380	0.5380		2,755.5231	2,755.5231	0.8912		2,777.8029
Total	**1.4873**	**13.3446**	**11.6004**	**0.0285**	**10.5387**	**0.5848**	**11.1234**	**5.7929**	**0.5380**	**6.3309**		**2,755.5231**	**2,755.5231**	**0.8912**		**2,777.8029**

3.10 OU3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0393	0.0205	0.2906	1.0600e-003	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		105.6876	105.6876	1.9300e-003		105.7359
Total	**0.0456**	**0.2451**	**0.3503**	**1.8400e-003**	**0.1435**	**9.8000e-004**	**0.1445**	**0.0385**	**9.1000e-004**	**0.0394**		**188.5462**	**188.5462**	**5.1900e-003**		**188.6759**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					10.5387	0.0000	10.5387	5.7929	0.0000	5.7929			0.0000			0.0000
Off-Road	1.4873	13.3446	11.6004	0.0285		0.5848	0.5848		0.5380	0.5380	0.0000	2,755.5231	2,755.5231	0.8912		2,777.8029
Total	**1.4873**	**13.3446**	**11.6004**	**0.0285**	**10.5387**	**0.5848**	**11.1234**	**5.7929**	**0.5380**	**6.3309**	**0.0000**	**2,755.5231**	**2,755.5231**	**0.8912**		**2,777.8029**

3.10 OU3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0393	0.0205	0.2906	1.0600e-003	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		105.6876	105.6876	1.9300e-003		105.7359
Total	**0.0456**	**0.2451**	**0.3503**	**1.8400e-003**	**0.1435**	**9.8000e-004**	**0.1445**	**0.0385**	**9.1000e-004**	**0.0394**		**188.5462**	**188.5462**	**5.1900e-003**		**188.6759**

3.11 OU3 Capping-Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0514	0.0000	9.0514	4.9677	0.0000	4.9677			0.0000			0.0000
Off-Road	1.6646	15.5617	12.0139	0.0319		0.6582	0.6582		0.6055	0.6055		3,084.7798	3,084.7798	0.9977		3,109.7218
Total	**1.6646**	**15.5617**	**12.0139**	**0.0319**	**9.0514**	**0.6582**	**9.7096**	**4.9677**	**0.6055**	**5.5732**		**3,084.7798**	**3,084.7798**	**0.9977**		**3,109.7218**

3.11 OU3 Capping-Restoration - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1810	4.3611	1.8785	0.0288	0.7638	0.0121	0.7759	0.2093	0.0116	0.2209		3,096.6308	3,096.6308	0.1249		3,099.7543
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0472	0.0247	0.3488	1.2700e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		126.8251	126.8251	2.3200e-003		126.8830
Total	**0.2345**	**4.6103**	**2.2869**	**0.0309**	**0.9320**	**0.0132**	**0.9452**	**0.2543**	**0.0126**	**0.2670**		**3,306.3145**	**3,306.3145**	**0.1305**		**3,309.5774**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0514	0.0000	9.0514	4.9677	0.0000	4.9677			0.0000			0.0000
Off-Road	1.6646	15.5617	12.0139	0.0319		0.6582	0.6582		0.6055	0.6055	0.0000	3,084.7798	3,084.7798	0.9977		3,109.7218
Total	**1.6646**	**15.5617**	**12.0139**	**0.0319**	**9.0514**	**0.6582**	**9.7096**	**4.9677**	**0.6055**	**5.5732**	**0.0000**	**3,084.7798**	**3,084.7798**	**0.9977**		**3,109.7218**

3.11 OU3 Capping-Restoration - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1810	4.3611	1.8785	0.0288	0.7638	0.0121	0.7759	0.2093	0.0116	0.2209		3,096.6308	3,096.6308	0.1249		3,099.7543
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0472	0.0247	0.3488	1.2700e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		126.8251	126.8251	2.3200e-003		126.8830
Total	**0.2345**	**4.6103**	**2.2869**	**0.0309**	**0.9320**	**0.0132**	**0.9452**	**0.2543**	**0.0126**	**0.2670**		**3,306.3145**	**3,306.3145**	**0.1305**		**3,309.5774**

3.12 OU3 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**		**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

3.12 OU3 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0189	0.6080	0.1909	2.8000e-003	0.0664	1.1000e-003	0.0675	0.0182	1.0600e-003	0.0193		300.5638	300.5638	0.0139		300.9123
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0341	0.0178	0.2519	9.2000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		91.5959	91.5959	1.6700e-003		91.6378
Total	**0.0592**	**0.8504**	**0.5024**	**4.5000e-003**	**0.1935**	**1.9800e-003**	**0.1955**	**0.0524**	**1.8800e-003**	**0.0543**		**475.0183**	**475.0183**	**0.0189**		**475.4902**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**	**0.0000**	**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

3.12 OU3 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0189	0.6080	0.1909	2.8000e-003	0.0664	1.1000e-003	0.0675	0.0182	1.0600e-003	0.0193		300.5638	300.5638	0.0139		300.9123
Vendor	6.2900e-003	0.2246	0.0596	7.8000e-004	0.0203	2.5000e-004	0.0206	5.8500e-003	2.4000e-004	6.0900e-003		82.8586	82.8586	3.2600e-003		82.9401
Worker	0.0341	0.0178	0.2519	9.2000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		91.5959	91.5959	1.6700e-003		91.6378
Total	**0.0592**	**0.8504**	**0.5024**	**4.5000e-003**	**0.1935**	**1.9800e-003**	**0.1955**	**0.0524**	**1.8800e-003**	**0.0543**		**475.0183**	**475.0183**	**0.0189**		**475.4902**

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	0.0846	0.3246	0.8636	3.3700e-003	0.3057	2.6000e-003	0.3083	0.0818	2.4200e-003	0.0842		341.7765	341.7765	0.0111		342.0532
Unmitigated	0.0846	0.3246	0.8636	3.3700e-003	0.3057	2.6000e-003	0.3083	0.0818	2.4200e-003	0.0842		341.7765	341.7765	0.0111		342.0532

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.38	4.55	3.35	2,985	2,985
Condo/Townhouse	58.10	56.70	48.40	130,526	130,526
User Defined Residential	0.00	0.00	0.00		
Total	58.48	61.25	51.75	133,511	133,511

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
User Defined Residential	10.80	4.80	5.70	31.00	15.00	54.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Condo/Townhouse	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
User Defined Residential	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

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	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
NaturalGas Unmitigated	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	626.338	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
User Defined Residential	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		**6.7500e-003**	**0.0577**	**0.0246**	**3.7000e-004**		**4.6700e-003**	**4.6700e-003**		**4.6700e-003**	**4.6700e-003**		**73.6868**	**73.6868**	**1.4100e-003**	**1.3500e-003**	**74.1247**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0.626338	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
User Defined Residential	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		**6.7500e-003**	**0.0577**	**0.0246**	**3.7000e-004**		**4.6700e-003**	**4.6700e-003**		**4.6700e-003**	**4.6700e-003**		**73.6868**	**73.6868**	**1.4100e-003**	**1.3500e-003**	**74.1247**

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	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155
Unmitigated	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155

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	0.2308					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.1126	0.0909	5.4336	0.0105		0.7714	0.7714		0.7714	0.7714	83.7085	37.0588	120.7673	0.1146	5.9200e-003	125.3942
Landscaping	0.0248	9.5000e-003	0.8247	4.0000e-005		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003		1.4856	1.4856	1.4300e-003		1.5212
Total	**5.6489**	**0.1004**	**6.2583**	**0.0105**		**0.7759**	**0.7759**		**0.7759**	**0.7759**	**83.7085**	**38.5444**	**122.2529**	**0.1160**	**5.9200e-003**	**126.9154**

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	0.2308					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.1126	0.0909	5.4336	0.0105		0.7714	0.7714		0.7714	0.7714	83.7085	37.0588	120.7673	0.1146	5.9200e-003	125.3942
Landscaping	0.0248	9.5000e-003	0.8247	4.0000e-005		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003		1.4856	1.4856	1.4300e-003		1.5212
Total	**5.6489**	**0.1004**	**6.2583**	**0.0105**		**0.7759**	**0.7759**		**0.7759**	**0.7759**	**83.7085**	**38.5444**	**122.2529**	**0.1160**	**5.9200e-003**	**126.9154**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Napa-1 MGP CEQA IS

Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.20	Acre	0.20	8,712.00	0
Condo/Townhouse	10.00	Dwelling Unit	0.07	3,200.00	29
User Defined Residential	0.00	Dwelling Unit	1.30	56,628.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated Project Schedule
OU2 2021 (9/21 - 12/21)
OU1 2023-2024 (4/23 - 4/24)
OU3 2024 (4/24 - 5/24)

Land Use - OU-1 zoned residential 1.3 acres currently vacant lot
OU-2 developed residential townhomes, 0.8 acre parcel, 10 dwellings 0.07 acre ea.
OU-3 Napa park Area, input as city park

Construction Phase - Updated Const. Phases to match FinalDraft RAP:
OU-2 9/1/21 - 12/16/21 (4 mths)
OU-1 4/1/23 - 4/8/24 (1 year)
OU-3 4/9/24 - 5/2024 (30 days)

Off-road Equipment - site-specific equipment type-count for each construction phase

Trips and VMT - Haul trucks based on 16 CY/truck
total # trucks is 2,625 for total vol import + export
Trip Haul length is mileage to BAAQMD boundary from Site

Grading - Total proj volume of 42,000 CY
Import soil based on 1.3 times export soil, Export ISS Swell based on 30% treatment depth
Acres graded basd on each OU REM footprint acreage

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblEnergyUse	NT24E	3,795.01	4,109.59
tblEnergyUse	T24E	249.32	282.35
tblEnergyUse	T24NG	15,568.01	19,706.34
tblGrading	AcresOfGrading	0.00	0.19
tblGrading	AcresOfGrading	24.38	1.30
tblGrading	AcresOfGrading	15.00	0.18
tblGrading	MaterialExported	0.00	155.00

tblGrading	MaterialExported	0.00	1,088.00
tblGrading	MaterialExported	0.00	1,067.00
tblGrading	MaterialExported	0.00	8,869.00
tblGrading	MaterialExported	0.00	2,824.00
tblGrading	MaterialExported	0.00	5,769.00
tblGrading	MaterialExported	0.00	607.00
tblGrading	MaterialImported	0.00	1,738.00
tblGrading	MaterialImported	0.00	6,553.00
tblGrading	MaterialImported	0.00	3,818.00
tblGrading	MaterialImported	0.00	8,570.00
tblGrading	MaterialImported	0.00	942.00
tblLandUse	LandUseSquareFeet	10,000.00	3,200.00
tblLandUse	LandUseSquareFeet	0.00	56,628.00
tblLandUse	LotAcreage	0.63	0.07
tblLandUse	LotAcreage	0.00	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00

tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripLength	20.00	100.00
tblTripsAndVMT	HaulingTripNumber	19.00	20.00
tblTripsAndVMT	HaulingTripNumber	194.00	175.00
tblTripsAndVMT	HaulingTripNumber	0.00	19.00
tblTripsAndVMT	HaulingTripNumber	217.00	202.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	HaulingTripNumber	133.00	134.00
tblTripsAndVMT	HaulingTripNumber	830.00	831.00
tblTripsAndVMT	HaulingTripNumber	1,792.00	1,793.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	20.00	23.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	23.00	25.00

tblTripsAndVMT	WorkerTripNumber	13.00	15.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.0388	32.1813	24.2668	0.0617	6.0176	1.3718	7.2439	3.2454	1.2628	4.3875	0.0000	6,146.5411	6,146.5411	1.4346	0.0000	6,182.4057
2023	2.8703	30.9146	29.4404	0.1096	14.7793	1.0666	15.5944	8.0088	0.9833	8.7691	0.0000	11,159.5442	11,159.5442	1.8994	0.0000	11,207.0286
2024	3.3649	39.8044	31.9770	0.1463	14.1601	1.1748	15.1237	5.8314	1.0823	6.3704	0.0000	15,132.4705	15,132.4705	2.0740	0.0000	15,184.3203
Maximum	**3.3649**	**39.8044**	**31.9770**	**0.1463**	**14.7793**	**1.3718**	**15.5944**	**8.0088**	**1.2628**	**8.7691**	**0.0000**	**15,132.4705**	**15,132.4705**	**2.0740**	**0.0000**	**15,184.3203**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.0388	32.1813	24.2668	0.0617	6.0176	1.3718	7.2439	3.2454	1.2628	4.3875	0.0000	6,146.5411	6,146.5411	1.4346	0.0000	6,182.4057
2023	2.8703	30.9146	29.4404	0.1096	14.7793	1.0666	15.5944	8.0088	0.9833	8.7691	0.0000	11,159.5442	11,159.5442	1.8994	0.0000	11,207.0286
2024	3.3649	39.8044	31.9770	0.1463	14.1601	1.1748	15.1237	5.8314	1.0823	6.3704	0.0000	15,132.4705	15,132.4705	2.0740	0.0000	15,184.3203
Maximum	**3.3649**	**39.8044**	**31.9770**	**0.1463**	**14.7793**	**1.3718**	**15.5944**	**8.0088**	**1.2628**	**8.7691**	**0.0000**	**15,132.4705**	**15,132.4705**	**2.0740**	**0.0000**	**15,184.3203**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155
Energy	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
Mobile	0.0727	0.3401	0.8664	3.1600e-003	0.3057	2.6100e-003	0.3083	0.0818	2.4300e-003	0.0842		320.2350	320.2350	0.0113		320.5172
Total	**5.7284**	**0.4982**	**7.1492**	**0.0140**	**0.3057**	**0.7832**	**1.0889**	**0.0818**	**0.7830**	**0.8648**	**83.7085**	**432.4662**	**516.1747**	**0.1287**	**7.2700e-003**	**521.5574**

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	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155
Energy	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
Mobile	0.0727	0.3401	0.8664	3.1600e-003	0.3057	2.6100e-003	0.3083	0.0818	2.4300e-003	0.0842		320.2350	320.2350	0.0113		320.5172
Total	**5.7284**	**0.4982**	**7.1492**	**0.0140**	**0.3057**	**0.7832**	**1.0889**	**0.0818**	**0.7830**	**0.8648**	**83.7085**	**432.4662**	**516.1747**	**0.1287**	**7.2700e-003**	**521.5574**

	ROG	NOx	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	OU2 Site Prep - Demolition	Site Preparation	9/1/2021	9/14/2021	5	10	Mob, Demo
2	OU2 Excavation	Grading	9/15/2021	10/26/2021	5	30	Soil Excavation - Backfill
3	OU2 CAPPING	Grading	10/27/2021	12/7/2021	5	30	Backfill - Rough Grading
4	OU2 RESTORATION (Paving)	Paving	12/8/2021	12/17/2021	5	8	Pave Common Area, Restor Features
5	OU1 Site Prep - Demolition	Site Preparation	4/3/2023	4/17/2023	5	11	Mob, Background Air, Demo
6	OU1 ISS/ISCO	Grading	4/18/2023	10/2/2023	5	120	
7	OU1 EXCAVATION	Grading	10/3/2023	1/8/2024	5	70	Soil Excavation - Backfill
8	OU1 Capping-Restoration	Grading	1/9/2024	4/8/2024	5	65	Backfill, Rough Grade, Finished Surface
9	OU3 Site Preparation	Site Preparation	4/9/2024	4/15/2024	5	5	Mob, Clear-Grub
10	OU3 Capping-Restoration	Grading	4/16/2024	5/13/2024	5	20	rough-finish grading
11	OU3 Paving	Paving	5/14/2024	5/20/2024	5	5	Place hard cap

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
OU2 Site Prep - Demolition	Bore/Drill Rigs	1	8.00	221	0.50
OU2 Site Prep - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
OU2 Site Prep - Demolition	Off-Highway Trucks	1	8.00	402	0.38
OU2 Site Prep - Demolition	Rubber Tired Dozers	1	7.00	247	0.40
OU2 Site Prep - Demolition	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU2 Excavation	Excavators	1	8.00	158	0.38
OU2 Excavation	Off-Highway Trucks	1	8.00	402	0.38
OU2 Excavation	Other Construction Equipment	1	8.00	172	0.42
OU2 Excavation	Other Material Handling Equipment	1	8.00	168	0.40
OU2 Excavation	Rollers	1	8.00	80	0.38
OU2 Excavation	Rubber Tired Dozers	1	6.00	247	0.40
OU2 Excavation	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 Excavation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU2 CAPPING	Excavators	1	7.00	158	0.38
OU2 CAPPING	Off-Highway Trucks	1	8.00	402	0.38
OU2 CAPPING	Rollers	1	8.00	80	0.38
OU2 CAPPING	Rubber Tired Dozers	1	6.00	247	0.40
OU2 CAPPING	Sweepers/Scrubbers	1	4.00	64	0.46
OU2 CAPPING	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU2 RESTORATION (Paving)	Cement and Mortar Mixers	1	6.00	9	0.56
OU2 RESTORATION (Paving)	Pavers	1	6.00	130	0.42
OU2 RESTORATION (Paving)	Paving Equipment	1	8.00	132	0.36
OU2 RESTORATION (Paving)	Rollers	1	7.00	80	0.38
OU2 RESTORATION (Paving)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
OU1 Site Prep - Demolition	Bore/Drill Rigs	1	8.00	221	0.50

OU1 Site Prep - Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
OU1 Site Prep - Demolition	Off-Highway Trucks	1	8.00	402	0.38
OU1 Site Prep - Demolition	Rubber Tired Dozers	1	7.00	247	0.40
OU1 Site Prep - Demolition	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 Site Prep - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU1 ISS/ISCO	Bore/Drill Rigs	1	8.00	221	0.50
OU1 ISS/ISCO	Cement and Mortar Mixers	1	8.00	9	0.56
OU1 ISS/ISCO	Excavators	1	8.00	158	0.38
OU1 ISS/ISCO	Forklifts	1	6.00	89	0.20
OU1 ISS/ISCO	Off-Highway Trucks	1	7.00	402	0.38
OU1 ISS/ISCO	Other Construction Equipment	1	8.00	172	0.42
OU1 ISS/ISCO	Other Material Handling Equipment	1	8.00	168	0.40
OU1 ISS/ISCO	Rollers	1	8.00	80	0.38
OU1 ISS/ISCO	Rubber Tired Dozers	1	4.00	247	0.40
OU1 ISS/ISCO	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 ISS/ISCO	Tractors/Loaders/Backhoes	2	7.00	97	0.37
OU1 EXCAVATION	Excavators	1	8.00	158	0.38
OU1 EXCAVATION	Off-Highway Trucks	1	8.00	402	0.38
OU1 EXCAVATION	Other Construction Equipment	1	8.00	172	0.42
OU1 EXCAVATION	Other Material Handling Equipment	1	8.00	168	0.40
OU1 EXCAVATION	Rollers	1	8.00	80	0.38
OU1 EXCAVATION	Rubber Tired Dozers	1	6.00	247	0.40
OU1 EXCAVATION	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 EXCAVATION	Tractors/Loaders/Backhoes	2	7.00	97	0.37
OU1 Capping-Restoration	Excavators	1	7.00	158	0.38
OU1 Capping-Restoration	Graders	1	6.00	187	0.41
OU1 Capping-Restoration	Off-Highway Trucks	1	8.00	402	0.38

OU1 Capping-Restoration	Other Construction Equipment	1	8.00	172	0.42
OU1 Capping-Restoration	Other Material Handling Equipment	1	8.00	168	0.40
OU1 Capping-Restoration	Rollers	1	8.00	80	0.38
OU1 Capping-Restoration	Rubber Tired Dozers	1	8.00	247	0.40
OU1 Capping-Restoration	Sweepers/Scrubbers	1	4.00	64	0.46
OU1 Capping-Restoration	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU3 Site Preparation	Forklifts	1	8.00	89	0.20
OU3 Site Preparation	Off-Highway Trucks	1	8.00	402	0.38
OU3 Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
OU3 Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OU3 Capping-Restoration	Excavators	1	1.00	158	0.38
OU3 Capping-Restoration	Graders	1	6.00	187	0.41
OU3 Capping-Restoration	Off-Highway Trucks	1	8.00	402	0.38
OU3 Capping-Restoration	Rollers	1	8.00	80	0.38
OU3 Capping-Restoration	Rubber Tired Dozers	1	6.00	247	0.40
OU3 Capping-Restoration	Sweepers/Scrubbers	1	4.00	64	0.46
OU3 Capping-Restoration	Tractors/Loaders/Backhoes	1	7.00	97	0.37
OU3 Paving	Cement and Mortar Mixers	1	6.00	9	0.56
OU3 Paving	Pavers	1	6.00	130	0.42
OU3 Paving	Paving Equipment	1	8.00	132	0.36
OU3 Paving	Rollers	1	7.00	80	0.38
OU3 Paving	Tractors/Loaders/Backhoes	1	8.00	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
OU2 Site Prep - Demolition	7	20.00	3.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU2 Excavation	8	23.00	3.00	136.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU2 CAPPING	6	18.00	3.00	202.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU2 RESTORATION (Paving)	5	13.00	3.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU1 Site Prep - Demolition	7	20.00	3.00	134.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU1 ISS/ISCO	12	30.00	3.00	1,928.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU1 EXCAVATION	9	25.00	3.00	831.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU1 Capping-Restoration	10	25.00	3.00	1,793.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU3 Site Preparation	5	15.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
OU3 Capping-Restoration	7	18.00	3.00	175.00	10.80	7.30	100.00	LD_Mix	HDT_Mix	HHDT
OU3 Paving	5	13.00	3.00	19.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 OU2 Site Prep - Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7980	0.0000	5.7980	3.1864	0.0000	3.1864			0.0000			0.0000
Off-Road	2.6533	25.7441	18.3814	0.0438		1.2229	1.2229		1.1389	1.1389		4,232.0716	4,232.0716	1.2115		4,262.3584
Total	**2.6533**	**25.7441**	**18.3814**	**0.0438**	**5.7980**	**1.2229**	**7.0209**	**3.1864**	**1.1389**	**4.3253**		**4,232.0716**	**4,232.0716**	**1.2115**		**4,262.3584**

3.2 OU2 Site Prep - Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0160	0.5416	0.1198	1.5400e-003	0.0349	1.6900e-003	0.0366	9.5800e-003	1.6200e-003	0.0112		165.1421	165.1421	8.7400e-003		165.3606
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0681	0.0464	0.4596	1.4600e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		145.9073	145.9073	3.3000e-003		145.9899
Total	**0.0940**	**0.9007**	**0.6634**	**3.8000e-003**	**0.2196**	**3.4200e-003**	**0.2230**	**0.0590**	**3.2300e-003**	**0.0622**		**395.5376**	**395.5376**	**0.0164**		**395.9487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					5.7980	0.0000	5.7980	3.1864	0.0000	3.1864			0.0000			0.0000
Off-Road	2.6533	25.7441	18.3814	0.0438		1.2229	1.2229		1.1389	1.1389	0.0000	4,232.0716	4,232.0716	1.2115		4,262.3584
Total	**2.6533**	**25.7441**	**18.3814**	**0.0438**	**5.7980**	**1.2229**	**7.0209**	**3.1864**	**1.1389**	**4.3253**	**0.0000**	**4,232.0716**	**4,232.0716**	**1.2115**		**4,262.3584**

3.2 OU2 Site Prep - Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0160	0.5416	0.1198	1.5400e-003	0.0349	1.6900e-003	0.0366	9.5800e-003	1.6200e-003	0.0112		165.1421	165.1421	8.7400e-003		165.3606
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0681	0.0464	0.4596	1.4600e-003	0.1643	1.0300e-003	0.1653	0.0436	9.5000e-004	0.0445		145.9073	145.9073	3.3000e-003		145.9899
Total	**0.0940**	**0.9007**	**0.6634**	**3.8000e-003**	**0.2196**	**3.4200e-003**	**0.2230**	**0.0590**	**3.2300e-003**	**0.0622**		**395.5376**	**395.5376**	**0.0164**		**395.9487**

3.3 OU2 Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5207	0.0000	4.5207	2.4833	0.0000	2.4833			0.0000			0.0000
Off-Road	2.8022	27.3002	22.5816	0.0433		1.3518	1.3518		1.2437	1.2437		4,197.8950	4,197.8950	1.3577		4,231.8371
Total	**2.8022**	**27.3002**	**22.5816**	**0.0433**	**4.5207**	**1.3518**	**5.8725**	**2.4833**	**1.2437**	**3.7270**		**4,197.8950**	**4,197.8950**	**1.3577**		**4,231.8371**

3.3 OU2 Excavation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1484	4.5151	1.0726	0.0158	0.3956	0.0181	0.4137	0.1084	0.0173	0.1257		1,696.3645	1,696.3645	0.0687		1,698.0821
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0783	0.0534	0.5286	1.6800e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		167.7934	167.7934	3.8000e-003		167.8884
Total	**0.2366**	**4.8812**	**1.6852**	**0.0183**	**0.6049**	**0.0200**	**0.6249**	**0.1644**	**0.0191**	**0.1834**		**1,948.6461**	**1,948.6461**	**0.0769**		**1,950.5686**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5207	0.0000	4.5207	2.4833	0.0000	2.4833			0.0000			0.0000
Off-Road	2.8022	27.3002	22.5816	0.0433		1.3518	1.3518		1.2437	1.2437	0.0000	4,197.8950	4,197.8950	1.3577		4,231.8371
Total	**2.8022**	**27.3002**	**22.5816**	**0.0433**	**4.5207**	**1.3518**	**5.8725**	**2.4833**	**1.2437**	**3.7270**	**0.0000**	**4,197.8950**	**4,197.8950**	**1.3577**		**4,231.8371**

3.3 OU2 Excavation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1484	4.5151	1.0726	0.0158	0.3956	0.0181	0.4137	0.1084	0.0173	0.1257		1,696.3645	1,696.3645	0.0687		1,698.0821
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0783	0.0534	0.5286	1.6800e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		167.7934	167.7934	3.8000e-003		167.8884
Total	**0.2366**	**4.8812**	**1.6852**	**0.0183**	**0.6049**	**0.0200**	**0.6249**	**0.1644**	**0.0191**	**0.1834**		**1,948.6461**	**1,948.6461**	**0.0769**		**1,950.5686**

3.4 OU2 CAPPING - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5298	0.0000	4.5298	2.4844	0.0000	2.4844			0.0000			0.0000
Off-Road	2.0589	19.9877	14.3292	0.0307		0.9749	0.9749		0.8969	0.8969		2,977.1698	2,977.1698	0.9629		3,001.2417
Total	**2.0589**	**19.9877**	**14.3292**	**0.0307**	**4.5298**	**0.9749**	**5.5047**	**2.4844**	**0.8969**	**3.3813**		**2,977.1698**	**2,977.1698**	**0.9629**		**3,001.2417**

3.4 OU2 CAPPING - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2204	6.7062	1.5931	0.0235	0.5876	0.0269	0.6145	0.1610	0.0257	0.1867		2,519.6003	2,519.6003	0.1020		2,522.1513
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.2915**	**7.0607**	**2.0908**	**0.0257**	**0.7558**	**0.0285**	**0.7843**	**0.2061**	**0.0273**	**0.2333**		**2,735.4050**	**2,735.4050**	**0.1094**		**2,738.1404**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5298	0.0000	4.5298	2.4844	0.0000	2.4844			0.0000			0.0000
Off-Road	2.0589	19.9877	14.3292	0.0307		0.9749	0.9749		0.8969	0.8969	0.0000	2,977.1698	2,977.1698	0.9629		3,001.2417
Total	**2.0589**	**19.9877**	**14.3292**	**0.0307**	**4.5298**	**0.9749**	**5.5047**	**2.4844**	**0.8969**	**3.3813**	**0.0000**	**2,977.1698**	**2,977.1698**	**0.9629**		**3,001.2417**

3.4 OU2 CAPPING - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2204	6.7062	1.5931	0.0235	0.5876	0.0269	0.6145	0.1610	0.0257	0.1867		2,519.6003	2,519.6003	0.1020		2,522.1513
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.2915**	**7.0607**	**2.0908**	**0.0257**	**0.7558**	**0.0285**	**0.7843**	**0.2061**	**0.0273**	**0.2333**		**2,735.4050**	**2,735.4050**	**0.1094**		**2,738.1404**

3.5 OU2 RESTORATION (Paving) - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830		1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7739**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**		**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.5 OU2 RESTORATION (Paving) - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0160	0.5416	0.1198	1.5400e-003	0.0349	1.6900e-003	0.0366	9.5800e-003	1.6200e-003	0.0112		165.1421	165.1421	8.7400e-003		165.3606
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0443	0.0302	0.2988	9.5000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		94.8398	94.8398	2.1500e-003		94.8934
Total	**0.0701**	**0.8844**	**0.5026**	**3.2900e-003**	**0.1620**	**3.0600e-003**	**0.1651**	**0.0438**	**2.9000e-003**	**0.0467**		**344.4700**	**344.4700**	**0.0153**		**344.8522**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.8664	1,296.8664	0.4111		1,307.1442
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7739**	**7.7422**	**8.8569**	**0.0135**		**0.4153**	**0.4153**		**0.3830**	**0.3830**	**0.0000**	**1,296.8664**	**1,296.8664**	**0.4111**		**1,307.1442**

3.5 OU2 RESTORATION (Paving) - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0160	0.5416	0.1198	1.5400e-003	0.0349	1.6900e-003	0.0366	9.5800e-003	1.6200e-003	0.0112		165.1421	165.1421	8.7400e-003		165.3606
Vendor	9.8600e-003	0.3127	0.0840	8.0000e-004	0.0203	7.0000e-004	0.0210	5.8500e-003	6.6000e-004	6.5100e-003		84.4881	84.4881	4.4000e-003		84.5982
Worker	0.0443	0.0302	0.2988	9.5000e-004	0.1068	6.7000e-004	0.1075	0.0283	6.2000e-004	0.0290		94.8398	94.8398	2.1500e-003		94.8934
Total	**0.0701**	**0.8844**	**0.5026**	**3.2900e-003**	**0.1620**	**3.0600e-003**	**0.1651**	**0.0438**	**2.9000e-003**	**0.0467**		**344.4700**	**344.4700**	**0.0153**		**344.8522**

3.6 OU1 Site Prep - Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					14.3819	0.0000	14.3819	7.9011	0.0000	7.9011			0.0000			0.0000
Off-Road	2.0455	18.3523	17.1187	0.0439		0.8102	0.8102		0.7556	0.7556		4,237.8243	4,237.8243	1.2081		4,268.0272
Total	**2.0455**	**18.3523**	**17.1187**	**0.0439**	**14.3819**	**0.8102**	**15.1920**	**7.9011**	**0.7556**	**8.6567**		**4,237.8243**	**4,237.8243**	**1.2081**		**4,268.0272**

3.6 OU1 Site Prep - Demolition - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0628	2.0232	0.6435	8.8900e-003	0.2129	3.6800e-003	0.2165	0.0583	3.5200e-003	0.0619		954.2634	954.2634	0.0466		955.4279
Vendor	6.9100e-003	0.2282	0.0701	7.7000e-004	0.0203	2.7000e-004	0.0206	5.8500e-003	2.6000e-004	6.1000e-003		81.3198	81.3198	3.5700e-003		81.4091
Worker	0.0596	0.0374	0.3874	1.3600e-003	0.1643	9.9000e-004	0.1653	0.0436	9.1000e-004	0.0445		135.1756	135.1756	2.6500e-003		135.2418
Total	**0.1293**	**2.2888**	**1.1010**	**0.0110**	**0.3975**	**4.9400e-003**	**0.4024**	**0.1078**	**4.6900e-003**	**0.1125**		**1,170.7588**	**1,170.7588**	**0.0528**		**1,172.0788**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					14.3819	0.0000	14.3819	7.9011	0.0000	7.9011			0.0000			0.0000
Off-Road	2.0455	18.3523	17.1187	0.0439		0.8102	0.8102		0.7556	0.7556	0.0000	4,237.8242	4,237.8242	1.2081		4,268.0272
Total	**2.0455**	**18.3523**	**17.1187**	**0.0439**	**14.3819**	**0.8102**	**15.1920**	**7.9011**	**0.7556**	**8.6567**	**0.0000**	**4,237.8242**	**4,237.8242**	**1.2081**		**4,268.0272**

3.6 OU1 Site Prep - Demolition - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0628	2.0232	0.6435	8.8900e-003	0.2129	3.6800e-003	0.2165	0.0583	3.5200e-003	0.0619		954.2634	954.2634	0.0466		955.4279
Vendor	6.9100e-003	0.2282	0.0701	7.7000e-004	0.0203	2.7000e-004	0.0206	5.8500e-003	2.6000e-004	6.1000e-003		81.3198	81.3198	3.5700e-003		81.4091
Worker	0.0596	0.0374	0.3874	1.3600e-003	0.1643	9.9000e-004	0.1653	0.0436	9.1000e-004	0.0445		135.1756	135.1756	2.6500e-003		135.2418
Total	**0.1293**	**2.2888**	**1.1010**	**0.0110**	**0.3975**	**4.9400e-003**	**0.4024**	**0.1078**	**4.6900e-003**	**0.1125**		**1,170.7588**	**1,170.7588**	**0.0528**		**1,172.0788**

3.7 OU1 ISS/ISCO - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					3.0256	0.0000	3.0256	1.6573	0.0000	1.6573			0.0000			0.0000
Off-Road	2.4378	22.0465	25.3650	0.0536		1.0423	1.0423		0.9600	0.9600		5,173.3443	5,173.3443	1.6621		5,214.8960
Total	**2.4378**	**22.0465**	**25.3650**	**0.0536**	**3.0256**	**1.0423**	**4.0678**	**1.6573**	**0.9600**	**2.6173**		**5,173.3443**	**5,173.3443**	**1.6621**		**5,214.8960**

3.7 OU1 ISS/ISCO - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3362	8.5838	3.4242	0.0531	1.4023	0.0226	1.4250	0.3842	0.0216	0.4058		5,702.1167	5,702.1167	0.2298		5,707.8608
Vendor	6.9100e-003	0.2282	0.0701	7.7000e-004	0.0203	2.7000e-004	0.0206	5.8500e-003	2.6000e-004	6.1000e-003		81.3198	81.3198	3.5700e-003		81.4091
Worker	0.0893	0.0561	0.5811	2.0300e-003	0.2464	1.4800e-003	0.2479	0.0654	1.3700e-003	0.0667		202.7634	202.7634	3.9700e-003		202.8626
Total	**0.4325**	**8.8681**	**4.0754**	**0.0559**	**1.6691**	**0.0244**	**1.6935**	**0.4554**	**0.0233**	**0.4787**		**5,986.2000**	**5,986.2000**	**0.2373**		**5,992.1325**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					3.0256	0.0000	3.0256	1.6573	0.0000	1.6573			0.0000			0.0000
Off-Road	2.4378	22.0465	25.3650	0.0536		1.0423	1.0423		0.9600	0.9600	0.0000	5,173.3443	5,173.3443	1.6621		5,214.8960
Total	**2.4378**	**22.0465**	**25.3650**	**0.0536**	**3.0256**	**1.0423**	**4.0678**	**1.6573**	**0.9600**	**2.6173**	**0.0000**	**5,173.3443**	**5,173.3443**	**1.6621**		**5,214.8960**

3.7 OU1 ISS/ISCO - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3362	8.5838	3.4242	0.0531	1.4023	0.0226	1.4250	0.3842	0.0216	0.4058		5,702.1167	5,702.1167	0.2298		5,707.8608
Vendor	6.9100e-003	0.2282	0.0701	7.7000e-004	0.0203	2.7000e-004	0.0206	5.8500e-003	2.6000e-004	6.1000e-003		81.3198	81.3198	3.5700e-003		81.4091
Worker	0.0893	0.0561	0.5811	2.0300e-003	0.2464	1.4800e-003	0.2479	0.0654	1.3700e-003	0.0667		202.7634	202.7634	3.9700e-003		202.8626
Total	**0.4325**	**8.8681**	**4.0754**	**0.0559**	**1.6691**	**0.0244**	**1.6935**	**0.4554**	**0.0233**	**0.4787**		**5,986.2000**	**5,986.2000**	**0.2373**		**5,992.1325**

3.8 OU1 EXCAVATION - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.3212	21.1468	23.3528	0.0461		1.0138	1.0138		0.9327	0.9327		4,463.1378	4,463.1378	1.4435		4,499.2245
Total	**2.3212**	**21.1468**	**23.3528**	**0.0461**	**4.5273**	**1.0138**	**5.5411**	**2.4843**	**0.9327**	**3.4170**		**4,463.1378**	**4,463.1378**	**1.4435**		**4,499.2245**

3.8 OU1 EXCAVATION - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2484	6.3425	2.5301	0.0393	1.1097	0.0167	1.1265	0.3019	0.0160	0.3179		4,213.2119	4,213.2119	0.1698		4,217.4562
Vendor	6.9100e-003	0.2282	0.0701	7.7000e-004	0.0203	2.7000e-004	0.0206	5.8500e-003	2.6000e-004	6.1000e-003		81.3198	81.3198	3.5700e-003		81.4091
Worker	0.0745	0.0468	0.4842	1.6900e-003	0.2054	1.2400e-003	0.2066	0.0545	1.1400e-003	0.0556		168.9695	168.9695	3.3100e-003		169.0522
Total	**0.3298**	**6.6174**	**3.0845**	**0.0417**	**1.3354**	**0.0182**	**1.3536**	**0.3623**	**0.0174**	**0.3796**		**4,463.5013**	**4,463.5013**	**0.1767**		**4,467.9174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.3212	21.1468	23.3528	0.0461		1.0138	1.0138		0.9327	0.9327	0.0000	4,463.1378	4,463.1378	1.4435		4,499.2245
Total	**2.3212**	**21.1468**	**23.3528**	**0.0461**	**4.5273**	**1.0138**	**5.5411**	**2.4843**	**0.9327**	**3.4170**	**0.0000**	**4,463.1378**	**4,463.1378**	**1.4435**		**4,499.2245**

3.8 OU1 EXCAVATION - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2484	6.3425	2.5301	0.0393	1.1097	0.0167	1.1265	0.3019	0.0160	0.3179		4,213.2119	4,213.2119	0.1698		4,217.4562
Vendor	6.9100e-003	0.2282	0.0701	7.7000e-004	0.0203	2.7000e-004	0.0206	5.8500e-003	2.6000e-004	6.1000e-003		81.3198	81.3198	3.5700e-003		81.4091
Worker	0.0745	0.0468	0.4842	1.6900e-003	0.2054	1.2400e-003	0.2066	0.0545	1.1400e-003	0.0556		168.9695	168.9695	3.3100e-003		169.0522
Total	**0.3298**	**6.6174**	**3.0845**	**0.0417**	**1.3354**	**0.0182**	**1.3536**	**0.3623**	**0.0174**	**0.3796**		**4,463.5013**	**4,463.5013**	**0.1767**		**4,467.9174**

3.8 OU1 EXCAVATION - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.2612	20.0927	23.3677	0.0461		0.9456	0.9456		0.8700	0.8700		4,464.0986	4,464.0986	1.4438		4,500.1931
Total	**2.2612**	**20.0927**	**23.3677**	**0.0461**	**4.5273**	**0.9456**	**5.4729**	**2.4843**	**0.8700**	**3.3543**		**4,464.0986**	**4,464.0986**	**1.4438**		**4,500.1931**

3.8 OU1 EXCAVATION - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2469	6.1793	2.5469	0.0390	9.4071	0.0165	9.4236	2.3386	0.0158	2.3544		4,185.4092	4,185.4092	0.1710		4,189.6842
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0701	0.0422	0.4480	1.6300e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		162.2825	162.2825	2.9700e-003		162.3569
Total	**0.3237**	**6.4472**	**3.0624**	**0.0414**	**9.6328**	**0.0180**	**9.6508**	**2.3989**	**0.0172**	**2.4161**		**4,428.4721**	**4,428.4721**	**0.1775**		**4,432.9088**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5273	0.0000	4.5273	2.4843	0.0000	2.4843			0.0000			0.0000
Off-Road	2.2612	20.0927	23.3677	0.0461		0.9456	0.9456		0.8700	0.8700	0.0000	4,464.0986	4,464.0986	1.4438		4,500.1931
Total	**2.2612**	**20.0927**	**23.3677**	**0.0461**	**4.5273**	**0.9456**	**5.4729**	**2.4843**	**0.8700**	**3.3543**	**0.0000**	**4,464.0986**	**4,464.0986**	**1.4438**		**4,500.1931**

3.8 OU1 EXCAVATION - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2469	6.1793	2.5469	0.0390	9.4071	0.0165	9.4236	2.3386	0.0158	2.3544		4,185.4092	4,185.4092	0.1710		4,189.6842
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0701	0.0422	0.4480	1.6300e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		162.2825	162.2825	2.9700e-003		162.3569
Total	**0.3237**	**6.4472**	**3.0624**	**0.0414**	**9.6328**	**0.0180**	**9.6508**	**2.3989**	**0.0172**	**2.4161**		**4,428.4721**	**4,428.4721**	**0.1775**		**4,432.9088**

3.9 OU1 Capping-Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0682	0.0000	6.0682	3.3163	0.0000	3.3163			0.0000			0.0000
Off-Road	2.7143	25.1781	25.5436	0.0533		1.1350	1.1350		1.0442	1.0442		5,164.1329	5,164.1329	1.6702		5,205.8876
Total	**2.7143**	**25.1781**	**25.5436**	**0.0533**	**6.0682**	**1.1350**	**7.2032**	**3.3163**	**1.0442**	**4.3605**		**5,164.1329**	**5,164.1329**	**1.6702**		**5,205.8876**

3.9 OU1 Capping-Restoration - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5737	14.3584	5.9179	0.0906	2.4078	0.0384	2.4462	0.6597	0.0367	0.6964		9,725.2746	9,725.2746	0.3973		9,735.2081
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0701	0.0422	0.4480	1.6300e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		162.2825	162.2825	2.9700e-003		162.3569
Total	**0.6506**	**14.6262**	**6.4334**	**0.0929**	**2.6335**	**0.0399**	**2.6734**	**0.7200**	**0.0381**	**0.7581**		**9,968.3376**	**9,968.3376**	**0.4038**		**9,978.4327**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0682	0.0000	6.0682	3.3163	0.0000	3.3163			0.0000			0.0000
Off-Road	2.7143	25.1781	25.5436	0.0533		1.1350	1.1350		1.0442	1.0442	0.0000	5,164.1329	5,164.1329	1.6702		5,205.8876
Total	**2.7143**	**25.1781**	**25.5436**	**0.0533**	**6.0682**	**1.1350**	**7.2032**	**3.3163**	**1.0442**	**4.3605**	**0.0000**	**5,164.1329**	**5,164.1329**	**1.6702**		**5,205.8876**

3.9 OU1 Capping-Restoration - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5737	14.3584	5.9179	0.0906	2.4078	0.0384	2.4462	0.6597	0.0367	0.6964		9,725.2746	9,725.2746	0.3973		9,735.2081
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0701	0.0422	0.4480	1.6300e-003	0.2054	1.2100e-003	0.2066	0.0545	1.1200e-003	0.0556		162.2825	162.2825	2.9700e-003		162.3569
Total	**0.6506**	**14.6262**	**6.4334**	**0.0929**	**2.6335**	**0.0399**	**2.6734**	**0.7200**	**0.0381**	**0.7581**		**9,968.3376**	**9,968.3376**	**0.4038**		**9,978.4327**

3.10 OU3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					10.5387	0.0000	10.5387	5.7929	0.0000	5.7929			0.0000			0.0000
Off-Road	1.4873	13.3446	11.6004	0.0285		0.5848	0.5848		0.5380	0.5380		2,755.5231	2,755.5231	0.8912		2,777.8029
Total	**1.4873**	**13.3446**	**11.6004**	**0.0285**	**10.5387**	**0.5848**	**11.1234**	**5.7929**	**0.5380**	**6.3309**		**2,755.5231**	**2,755.5231**	**0.8912**		**2,777.8029**

3.10 OU3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0421	0.0253	0.2688	9.8000e-004	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		97.3695	97.3695	1.7800e-003		97.4141
Total	**0.0488**	**0.2510**	**0.3363**	**1.7400e-003**	**0.1435**	**9.9000e-004**	**0.1445**	**0.0385**	**9.2000e-004**	**0.0395**		**178.1499**	**178.1499**	**5.2800e-003**		**178.2819**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					10.5387	0.0000	10.5387	5.7929	0.0000	5.7929			0.0000			0.0000
Off-Road	1.4873	13.3446	11.6004	0.0285		0.5848	0.5848		0.5380	0.5380	0.0000	2,755.5231	2,755.5231	0.8912		2,777.8029
Total	**1.4873**	**13.3446**	**11.6004**	**0.0285**	**10.5387**	**0.5848**	**11.1234**	**5.7929**	**0.5380**	**6.3309**	**0.0000**	**2,755.5231**	**2,755.5231**	**0.8912**		**2,777.8029**

3.10 OU3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0421	0.0253	0.2688	9.8000e-004	0.1232	7.3000e-004	0.1240	0.0327	6.7000e-004	0.0334		97.3695	97.3695	1.7800e-003		97.4141
Total	**0.0488**	**0.2510**	**0.3363**	**1.7400e-003**	**0.1435**	**9.9000e-004**	**0.1445**	**0.0385**	**9.2000e-004**	**0.0395**		**178.1499**	**178.1499**	**5.2800e-003**		**178.2819**

3.11 OU3 Capping-Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0514	0.0000	9.0514	4.9677	0.0000	4.9677			0.0000			0.0000
Off-Road	1.6646	15.5617	12.0139	0.0319		0.6582	0.6582		0.6055	0.6055		3,084.7798	3,084.7798	0.9977		3,109.7218
Total	**1.6646**	**15.5617**	**12.0139**	**0.0319**	**9.0514**	**0.6582**	**9.7096**	**4.9677**	**0.6055**	**5.5732**		**3,084.7798**	**3,084.7798**	**0.9977**		**3,109.7218**

3.11 OU3 Capping-Restoration - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1820	4.5546	1.8772	0.0287	0.7638	0.0122	0.7760	0.2093	0.0117	0.2209		3,084.9135	3,084.9135	0.1260		3,088.0645
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0505	0.0304	0.3226	1.1700e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		116.8434	116.8434	2.1400e-003		116.8969
Total	**0.2392**	**4.8106**	**2.2673**	**0.0307**	**0.9320**	**0.0133**	**0.9453**	**0.2543**	**0.0127**	**0.2670**		**3,282.5373**	**3,282.5373**	**0.1317**		**3,285.8292**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0514	0.0000	9.0514	4.9677	0.0000	4.9677			0.0000			0.0000
Off-Road	1.6646	15.5617	12.0139	0.0319		0.6582	0.6582		0.6055	0.6055	0.0000	3,084.7798	3,084.7798	0.9977		3,109.7218
Total	**1.6646**	**15.5617**	**12.0139**	**0.0319**	**9.0514**	**0.6582**	**9.7096**	**4.9677**	**0.6055**	**5.5732**	**0.0000**	**3,084.7798**	**3,084.7798**	**0.9977**		**3,109.7218**

3.11 OU3 Capping-Restoration - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1820	4.5546	1.8772	0.0287	0.7638	0.0122	0.7760	0.2093	0.0117	0.2209		3,084.9135	3,084.9135	0.1260		3,088.0645
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0505	0.0304	0.3226	1.1700e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		116.8434	116.8434	2.1400e-003		116.8969
Total	**0.2392**	**4.8106**	**2.2673**	**0.0307**	**0.9320**	**0.0133**	**0.9453**	**0.2543**	**0.0127**	**0.2670**		**3,282.5373**	**3,282.5373**	**0.1317**		**3,285.8292**

3.12 OU3 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594		1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**		**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

3.12 OU3 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0194	0.6179	0.2011	2.7500e-003	0.0664	1.1300e-003	0.0675	0.0182	1.0800e-003	0.0193		295.4752	295.4752	0.0145		295.8370
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0365	0.0220	0.2330	8.5000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		84.3869	84.3869	1.5500e-003		84.4256
Total	**0.0625**	**0.8655**	**0.5016**	**4.3600e-003**	**0.1935**	**2.0200e-003**	**0.1955**	**0.0524**	**1.9100e-003**	**0.0543**		**460.6425**	**460.6425**	**0.0195**		**461.1303**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.6180	5.8607	8.8253	0.0136		0.2810	0.2810		0.2594	0.2594	0.0000	1,297.8688	1,297.8688	0.4114		1,308.1547
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6180**	**5.8607**	**8.8253**	**0.0136**		**0.2810**	**0.2810**		**0.2594**	**0.2594**	**0.0000**	**1,297.8688**	**1,297.8688**	**0.4114**		**1,308.1547**

3.12 OU3 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0194	0.6179	0.2011	2.7500e-003	0.0664	1.1300e-003	0.0675	0.0182	1.0800e-003	0.0193		295.4752	295.4752	0.0145		295.8370
Vendor	6.6800e-003	0.2256	0.0675	7.6000e-004	0.0203	2.6000e-004	0.0206	5.8500e-003	2.5000e-004	6.1000e-003		80.7804	80.7804	3.5000e-003		80.8678
Worker	0.0365	0.0220	0.2330	8.5000e-004	0.1068	6.3000e-004	0.1074	0.0283	5.8000e-004	0.0289		84.3869	84.3869	1.5500e-003		84.4256
Total	**0.0625**	**0.8655**	**0.5016**	**4.3600e-003**	**0.1935**	**2.0200e-003**	**0.1955**	**0.0524**	**1.9100e-003**	**0.0543**		**460.6425**	**460.6425**	**0.0195**		**461.1303**

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	0.0727	0.3401	0.8664	3.1600e-003	0.3057	2.6100e-003	0.3083	0.0818	2.4300e-003	0.0842		320.2350	320.2350	0.0113		320.5172
Unmitigated	0.0727	0.3401	0.8664	3.1600e-003	0.3057	2.6100e-003	0.3083	0.0818	2.4300e-003	0.0842		320.2350	320.2350	0.0113		320.5172

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.38	4.55	3.35	2,985	2,985
Condo/Townhouse	58.10	56.70	48.40	130,526	130,526
User Defined Residential	0.00	0.00	0.00		
Total	58.48	61.25	51.75	133,511	133,511

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
User Defined Residential	10.80	4.80	5.70	31.00	15.00	54.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Condo/Townhouse	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
User Defined Residential	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

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	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
NaturalGas Unmitigated	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	626.338	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
User Defined Residential	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		**6.7500e-003**	**0.0577**	**0.0246**	**3.7000e-004**		**4.6700e-003**	**4.6700e-003**		**4.6700e-003**	**4.6700e-003**		**73.6868**	**73.6868**	**1.4100e-003**	**1.3500e-003**	**74.1247**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	0.626338	6.7500e-003	0.0577	0.0246	3.7000e-004		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003		73.6868	73.6868	1.4100e-003	1.3500e-003	74.1247
User Defined Residential	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		**6.7500e-003**	**0.0577**	**0.0246**	**3.7000e-004**		**4.6700e-003**	**4.6700e-003**		**4.6700e-003**	**4.6700e-003**		**73.6868**	**73.6868**	**1.4100e-003**	**1.3500e-003**	**74.1247**

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	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155
Unmitigated	5.6489	0.1004	6.2583	0.0105		0.7759	0.7759		0.7759	0.7759	83.7085	38.5444	122.2529	0.1160	5.9200e-003	126.9155

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	0.2308					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.1126	0.0909	5.4336	0.0105		0.7714	0.7714		0.7714	0.7714	83.7085	37.0588	120.7673	0.1146	5.9200e-003	125.3942
Landscaping	0.0248	9.5000e-003	0.8247	4.0000e-005		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003		1.4856	1.4856	1.4300e-003		1.5212
Total	**5.6489**	**0.1004**	**6.2583**	**0.0105**		**0.7759**	**0.7759**		**0.7759**	**0.7759**	**83.7085**	**38.5444**	**122.2529**	**0.1160**	**5.9200e-003**	**126.9154**

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	0.2308					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2808					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	4.1126	0.0909	5.4336	0.0105		0.7714	0.7714		0.7714	0.7714	83.7085	37.0588	120.7673	0.1146	5.9200e-003	125.3942
Landscaping	0.0248	9.5000e-003	0.8247	4.0000e-005		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003		1.4856	1.4856	1.4300e-003		1.5212
Total	**5.6489**	**0.1004**	**6.2583**	**0.0105**		**0.7759**	**0.7759**		**0.7759**	**0.7759**	**83.7085**	**38.5444**	**122.2529**	**0.1160**	**5.9200e-003**	**126.9154**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENT E

LIST OF APPROVED DISPOSAL AND RECYCLING FACILITIES

APPROVED DISPOSAL AND RECYCLING FACILITIES

CLASS I HAZARDOUS WASTE FACILITIES

Stericycle Rancho Cordova Facility (TREATMENT AND STORAGE)
11855 White Rock Road
Rancho Cordova, CA 95742
Note: Does not accept PCB waste.

Chemical Waste Management - Kettleman Hills Facility (LANDFILL, TSDF)
35251 Old Skyline Road
Kettleman City, CA 93239-0471

Chemical Waste Management of the Northwest (LANDFILL, TSDF)
17629 Cedar Springs Lane
Arlington, OR 97812

Clean Harbors Aragonite Incineration Facility (INCINERATOR, TSDF)
11600 North Aptus Road
Aragonite, UT 84029

Clean Harbors Buttonwillow Landfill Facility (LANDFILL, TSDF)
2500 West Lokern Road
Buttonwillow, CA 93206

Clean Harbors Deer Park Incineration Facility (INCINERATOR)
2027 Independence Parkway South
La Porte, TX 77571

Clean Harbors Kimball Incineration Facility (INCINERATOR)
2247 South Highway 71
Kimball, NE 69145

Clean Harbors El Dorado Incineration Facility (INCINERATOR)
309 American Circle
El Dorado, AR 71730

Clean Harbors Grassy Mountain Landfill Facility (LANDFILL)
3 miles east and 7 miles north of Knolls, UT, Exit 41 off I-80
Grantsville, UT 84029

Clean Harbors Westmorland Landfill Facility (LANDFILL, TSDF)
5295 South Garvey Road
Westmorland, CA 92281

Clean Harbors San Jose Facility (TSDF)
1021 Berryessa Road
San Jose, CA 95133
Note: Services include wastewater treatment.

Clean Harbors Wilmington Facility (TSDF)

1737 East Denni Street
Wilmington, CA 90744
Note: Services include fuel blending.

Filter Recycling Services (RECYCLER, TSDF)
180 W. Monte Avenue
Rialto, CA 92376
Note: Services include oil filter recycling. Does not accept RCRA waste.

US Ecology Nevada (LANDFILL, TSDF)
Highway 95 (12 miles South of Beatty, NV)
Beatty, NV 89003

US Ecology Idaho, Inc. (LANDFILL, TSDF)
10.5 miles NW Highway 78, Lemley Road
Grand View, ID 83624

Veolia Environmental Services Phoenix (RECYCLER)
5736 West Jefferson Street
Phoenix, AZ 85043
Note: Services include recycling of e-waste and lamps.

Veolia Environmental Services Port Arthur Facility (INCINERATOR)
Highway 73 (3.5 miles West of Taylors Bayou)
Port Arthur, TX 77640

Veolia Environmental Services Trade Waste Incineration (INCINERATOR)
7 Mobile Avenue
Sauget, IL 62201

Veolia ES Technical Solutions Asuza (RECYCLER)
1704 W 1stStreet
Asuza, CA 91702
Note: Services include solvent recycling and non-PCB (<2 ppm) OFEE oil recycling.

Liquid Environmental Solutions of Arizona (RECYCLER)
5159 W. Van Buren Street
Phoenix, AZ 85043
Note: Services include non-hazardous water and oily water treatment.

Safety Kleen of California (RECYCLER)
6880 Smith Avenue
Newark, CA 94560
Note: Services include oil recycling and non-hazardous water treatment.

Thermo Fluids (RECYCLER)
4301 West Jefferson Street
Phoenix, AZ 85043
Note: Services include oil recycling.

Arizona Waste Oil Services (RECYCLER)
5885 South Mann Avenue
Tucson, AZ 85756
Note: Services include transformer oil recycling.

Environmental Management Systems (RECYCLER)
2132 South 5thAvenue
Phoenix, AZ 85003
Note: Services include transformer oil recycling.

Emerald Transformer (RECYCLER OF TRANSFORMERS)
5756 Alba Street
Los Angeles, CA 90058

Transformer Technologies (RECYCLER OF TRANSFORMERS)
4709 Turner Road SE
Salem, OR 97317
Note: Services include recycling of transformers.

Kinsbursky Brothers (RECYCLER)
1314 North Lemon Street
Anaheim, CA 92801
Note: Services include battery recycling.

Bethlehem Apparatus (MERCURY RECOVERY AND DISPOSAL)
890 Front Street
Hellertown, PA 18055
Note: Services include mercury disposal.

Evoqua Water Technologies (RECYCLER)
(Formerly Siemens Water Technologies Corp.)
5375 South Boyle Avenue
Los Angeles, CA 90058
Note: Services include wastewater treatment.

CLASS II NON-HAZARDOUS WASTE FACILITIES

Recology Hay Road (LANDFILL)
6426 Hay Road
Vacaville, CA 95687
Note: Accepts friable asbestos.

Waste Management - Altamont Landfill and Resource Recovery Facility (LANDFILL)
10840 Altamont Pass Road
Livermore, CA 94551
Note: Accepts friable asbestos.

Waste Management - Anderson Landfill (LANDFILL)
18703 Cambridge Road
Anderson, CA 96007

Waste Management - McKittrick Waste Landfill (LANDFILL)
56533 Highway 58 West
McKittrick, CA 93251

Waste Management - Kirby Canyon Landfill (LANDFILL)
910 Coyote Creek Golf Drive
Morgan Hill, CA 95037

Waste Management - Redwood Landfill (LANDFILL)
8950 Redwood Highway
Novato, CA 94945

Waste Management, Inc. - Butterfield Station (LANDFILL)
40404 South 99thAvenue
Mobile, AZ 85339

Forward Landfill - Landfill (Republic Services) (LANDFILL)
9999 South Austin Road
Manteca, CA 95336
Note: Accepts friable asbestos.

Ox Mountain Sanitary Landfill (Republic Services) (LANDFILL)
12310 San Mateo Road
Half Moon Bay, CA 94019

Newby Island Sanitary Landfill (Republic Services) (LANDFILL)
1601 Dixon Landing Road
Milpitas, CA 95035

Keller Canyon Landfill (Republic Services) (LANDFILL)
901 Bailey Road
Pittsburg, CA 94565

La Paz County Landfill (operated by Republic Services) (LANDFILL)
26999 Hwy 95, Mile Post 128 (four miles south of the Hwy 95/Hwy 72 junction)
Parker, AZ 85344

CLASS III NON-HAZARDOUS WASTE FACILITIES

Waste Management - Guadalupe Landfill (LANDFILL)
15999 Guadalupe Mines Road
San Jose, CA 95120

Waste Management - Lancaster Landfill (LANDFILL)
600 E Ave F
Lancaster, CA 93535

Vasco Road Landfill (Republic Services) (LANDFILL)
4001 North Vasco Road
Livermore, CA 94550

Copper Mountain Landfill (Republic Services) (LANDFILL)
34853 E County 12th St

Wellton, AZ 85356

Marina Landfill - Monterey Regional Waste Management District (LANDFILL)
14201 Del Monte Boulevard
Marina, CA 93908

Recology Ostrom Road Landfill (LANDFILL)
5900 Ostrom Road
Wheatland, CA 95692

Potrero Hills Landfill (LANDFILL)
3675 Potrero Hills Ln
Suisun City, CA 94585
Note: Accepts nonhazardous liquids and wet spoils.

Avenal Landfill (LANDFILL)
1200 Skyline Boulevard
Avenal, CA 93204

Billy Wright Landfill (LANDFILL)
17173 Billy Wright Road
Los Banos, CA 95365

Johnson Canyon Sanitary Landfill (LANDFILL)
31400 Johnson Canyon Road
Gonzales, CA 93926

Santa Maria Regional Landfill (LANDFILL)
2065 East Main Street
Santa Maria, CA 93454

Teapot Dome Disposal Site (LANDFILL)
21063 Avenue 128
Porterville, CA 93257

Yolo County Central Landfill (LANDFILL)
44090 County Road 28H
Woodland, CA 95776

Fairmead Landfill (LANDFILL)
21739 Road 19
Chowchilla, CA 93610

Republic Central Landfill (LANDFILL)
500 Meecham
Petaluma, CA 94952

NON-HAZARDOUS DRY SPOILS FACILITIES

Cedar Avenue Recycling and Transfer Station (RECYLER)
3457 South Cedar Avenue
Fresno, CA 93725

Kroeker Recycling Facility (RECYLER)
4627 S Chestnut Avenue
Fresno, CA 93725

Neal Road Recycling and Waste Facility (LANDFILL AND RECYCLER)
1023 Neal Road
Chico, CA 95928

Southlake Resource Recovery and Compost (RECYLER)
16520 David Avenue
Clearlake, CA 95422

NON-HAZARDOUS WET SPOILS FACILITIES

Potrero Hills Lanfill (LANDFILL)
3675 Potrero Hills Ln
Suisun City, CA 94585

Waste Management - Altamont Landfill and Resource Recovery Facility (LANDFILL)
10840 Altamont Pass Road
Livermore, CA 94551

QUARRIES THAT ACCEPT NON-HAZARDOUS SPOILS FOR IMPORTED FILL

Dumbarton Quarry (QUARRY)
9600 Quarry Road
Fremont, CA 94555
Note: There are stringent testing requirements and stringent acceptance criteria.

ABBREVIATIONS
TSDF Treatment, Storage, and Disposal Facility