

# Laytonville Landfill Cover Remediation and Improvements Project

## Final Initial Study–Mitigated Negative Declaration

SCH Number 2025070371

*prepared for*

**Mendocino County**
Department of Transportation
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**August 2025**

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# Initial Study

## 1. Project Title

Laytonville Landfill Final Cover Remediation and Improvements Project (herein referred to as project or proposed project).

## 2. Lead Agency and Contact

Mendocino County
Department of Transportation
340 Lake Mendocino Drive
Ukiah, California 95482

Contact: Alex Straessle, Engineer II, straessa@mendocinocounty.org, 707-234-2803

## 3. Project Location

The project includes: (i) reconstructing a portion of the final cover on the closed Laytonville Landfill; and (ii) relocation of a landfill gas (LFG) monitoring probe, relocation of a piezometer, and installation of a groundwater monitoring well. The closed landfill occupies approximately 7 acres of an approximately 35.65-acre property, located at 1825 Branscomb Road (Assessor's Parcel Number 014-250-32-00) in unincorporated Mendocino County (County), approximately 1.6 miles west of United States Route 101 (U.S. 101). Access to the project site is provided by a partially paved road, which extends from Branscomb Road south into the landfill. Figure 1 shows the regional location of the project site. Figure 2 shows the limit of refuse, area within the limit of refuse where the final cover would be replaced, and proposed borrow, stockpile, and staging area. Figure 2 also shows the proposed location for the LFG probe, piezometer, and groundwater monitoring well. Because a majority of the project activities would take place within the limit of refuse, this area is referred to as the project site throughout the analysis included in this document.

## 4. Surrounding Land Uses and Setting

The project site is bordered by internal landfill access roads and hillsides to the north, the Laytonville Rancheria—managed by the Cahto Tribe of Laytonville Rancheria—approximately 350 feet east and 30 feet south of the project site, and land used for cattle grazing to the west of the project site. Existing single-family residences are located approximately 750 feet north of the project site.

The areas surrounding the landfill are zoned Public Facilities (PF), Agricultural (AG-40), Rangeland (RL), Rural Residential 1 Acre minimum (RR 1), and Rural Residential 10 Acre minimum (RR 10).

## Figure 1 Regional Location

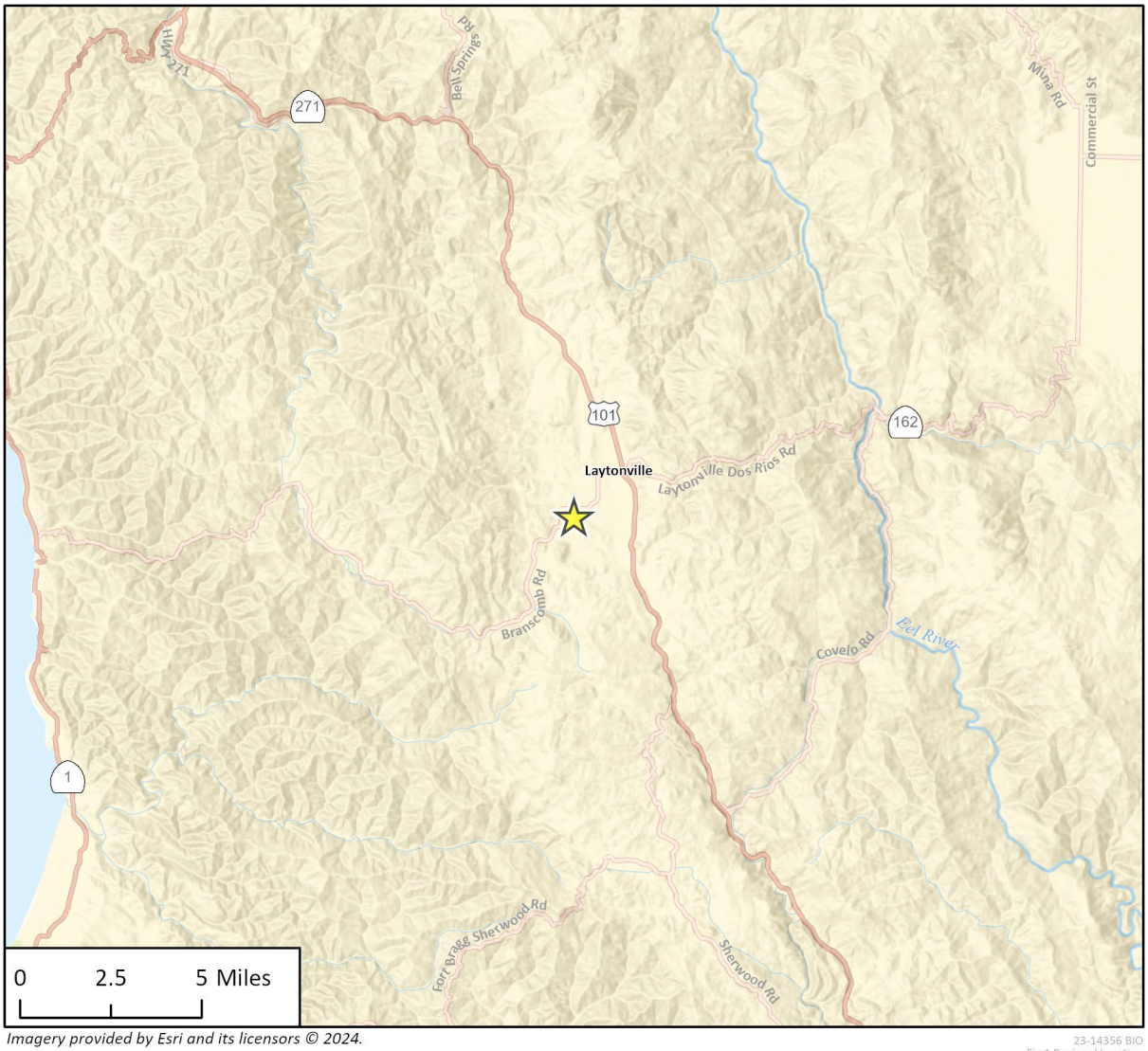
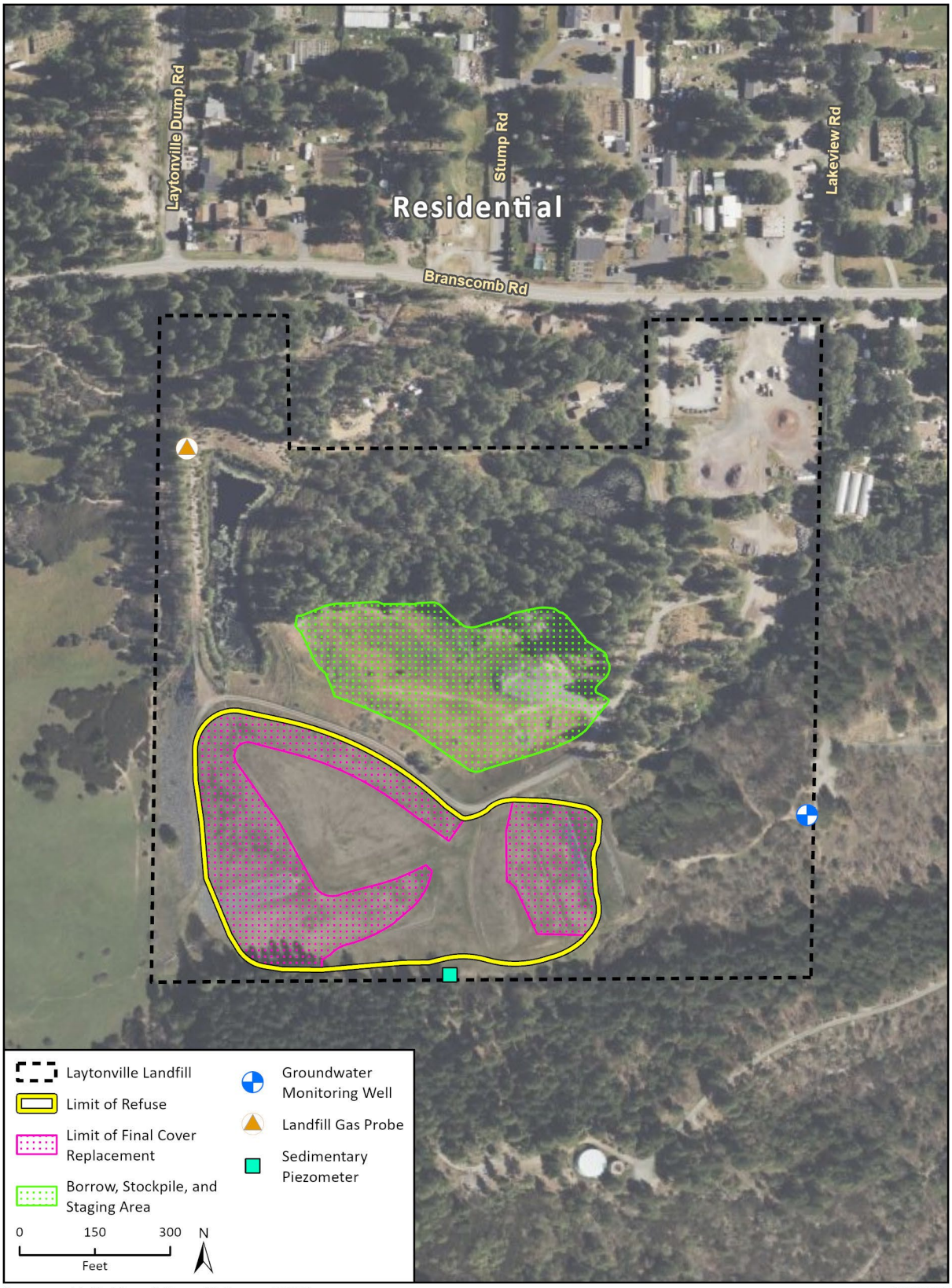


**Figure 2 Project Site Location and Nearby Uses**




*Imagery provided by Microsoft Bing and its licensors © 2025.*

23-14356 EPS
Fig 2 Project Site

# 5. Public Lands General Plan Designation and Zoning

The project site is designated as Public Lands by the County of Mendocino. Solid waste landfills and related waste management facilities are a permitted use under this land use designation.

The project site is zoned PF. Pursuant to Section 20.108.010 of the Mendocino County Municipal Code, "major impact facilities," including landfills, are permitted in the PF zoning district.

# 6. Existing Site Characteristics

The project site contains sloping topography and includes a ridge that separates the northeastern and southwestern slopes on-site. The project site contains existing soil-stability infrastructure, including rock slope protection (RSP) on a portion of the western slope of the landfill. Vegetation on the project site consists of grasses and shrubs. The project site is underlain by Pliocene-Pleistocene continental basin deposits, Holocene alluvium, and Franciscan Formation bedrock. Pliocene-Pleistocene continental basin deposits consist of clayey sand and silty clay. Holocene alluvium consists of unconsolidated sand, gravel, silt and clay units that were deposited along active stream channels. Franciscan Formation bedrock consists predominantly of graywacke sandstone with interbedded shale units. There are no active faults that underlie the project site. The closest active fault to the project site is the Maacama-Garberville fault approximately 1.5 miles southeast. The Laytonville Landfill is in a valley in the Coast Range geomorphic province, where drainage is controlled primarily by geologic structure. The Eel River system is the major drainage system for the area, and the closest named water course is Cahto Creek, which runs northeastward and is adjacent and south of the landfill. The site's ephemeral streams drain into Cahto Creek. An approximately 30-acre unnamed pond is about 0.25 mile northeast of the site. Except for a possible spring feeding the northern pond on the east side of the site, there are no known springs within 1 mile of the landfill (Anderson Consulting Group 1995).

The landfill extends down both sides of a ridgetop. Therefore, the natural topography of the landfill directs surface water flows down both sides of the ridgetop. On-site surface drainage is channeled to several small detention basins located at the perimeter of the project site for eventual discharge off-site via ephemeral streams. Groundwater at the project site occurs at depths between 13 to 62 feet below ground surface. Groundwater flows radially from the project site to surrounding areas. The predominance of fine-grained sandy clay and gravelly clay beneath the site generally results in very low groundwater yields to wells, and migration of the groundwater is limited due to the clayey and fine-grained nature of the soil and bedrock. Although wells within 1 mile of the site are used for domestic or agricultural water supply, the on-site wells generally do not produce adequate amounts of water for domestic, industrial or municipal water supplies (Anderson Consulting Group 1995).

# 7. Project Background

The Laytonville Landfill was a Class III facility with a maximum permitted capacity of 130,000 cubic yards of refuse (California Department of Resources, Recycling, and Recovery [CalRecycle] 2024). The landfill was closed between July 1997 and May 1998 and cover was placed over the landfill. The cover was comprised of a foundation soil layer, a geotextile LFG migration layer, a geosynthetic clay liner (GCL) barrier layer, a geocomposite drainage layer, and a layer of vegetative soil. In 2001, the California Integrated Waste Management Board notified the Mendocino County Solid Waste Division that the final cover construction did not comply with California Code of Regulations (CCR)

Title 27 requirements and did not meet design specifications in the Final Closure Plan for the landfill that was approved by the California Integrated Waste Management Board. A subsequent stability analysis conducted by Geo-Logic Associates in 2002 concluded that the overall stability of the landfill met the stability analysis requirements specified in CCR Title 27. However, the evaluation found that the final cover was designed with a low-safety factor based on the geosynthetic components used to cover the landfill.

Repairs to the final cover, since closure was completed, have included:

- **2006 and 2007 Southwestern and Western Slope Erosion Repairs.** In 2006, a portion of the southwestern slope outside the limits of waste and below the access road was damaged by storm water runoff and erosion. This area was repaired with RSP. In 2007, a small portion of the western slope that was adjacent to Pond 1 above the access road and below the limits of waste was damaged by storm water runoff and erosion. This area was also repaired with RSP.
- **2011 Eastern Slope Repairs.** In 2011, repairs were performed on the eastern, front face of the landfill to mitigate the effects of erosion and sloughing.[1] This work included re-grading the slopes, constructing a rock-lined ditch at the toe of the slope, and installing a half-round corrugated metal pipe (CMP) mid-slope drain below an existing mid-slope drainage structure. As part of this work, the CMP half-rounds that were used as drainage ditches on the upper deck of the landfill were found to be full of sediment and were removed.
- **2015 Southwestern Slope Failure and 2017 Repairs.** On Monday, December 21, 2015, approximately 5,510 square feet of the cover slid on the sloping southwesterly slope during heavy rainfall. According to the County (2015), the slide incorporated the vegetative soil layer and the underlying drainage geocomposite on top of the GCL barrier layer. The GCL barrier layer, underlying LFG geotextile, and underlying foundation layer were not affected by the slide. Repair of the slide was performed between July 10 and August 9, 2017, in accordance with plans that were prepared by the County and approved by the North Coast Regional Water Quality Control Board (NCRWQCB). The repair included construction of a keyway at the toe of the slope; placement of a RSP buttress on the lower (steeper) portion of the slope outside the limits of refuse; and placement of a RSP facing layer between 18 inches and 2 feet in thickness on the upper (less steep) portion of the slope within the limits of the landfill.
- **2016 Eastern Slope Repairs and Subsequent Maintenance.** In 2016, undermining of the lower CMP half-round on the eastern slope created a small blowout on the lower side of the culvert that was repaired by backfilling the area. A 2018 site inspection indicated that the length of the culvert was undermined due to piping in the sand that was used as bedding for the CMP. County observations also suggested that rodent activity may have contributed to the erosion and material loss under the CMP. Since 2018, eastern slope maintenance work has included placing temporary plastic sheeting to route water to the lower half-round culvert, filling rodent burrows, and filling voids below the lower culvert.

In addition to the stability issues and subsequent repair work summarized above, County evaluations of the landfill have identified the following slope grading, settlement, drainage, seepage, and LFG conditions:

[1] Google Earth photographs indicate the slope was covered with plastic sheeting between 2003 and 2011.

- The height between existing stepped areas created on the southwestern slopes of the landfill exceed the 50-foot vertical spacing maximum allowed by CCR Title 27. The height exceedance is no more than 10 feet and occurs in a small area on the southwestern side of the landfill top deck.
- The portion of western slope that was repaired with RSP has performed well since 2017, and evidence of potential instability has not been observed to date in this area.
- Evidence of slope movement, such as shallow, hummocky soil near the toe of the slope and the presence of small tension cracks, has been observed on the west slope adjacent to the 2017 repair.
- Seepage has been observed intermittently on the eastern slope of the landfill. This seepage evaporates or is captured by the French drain at the toe of the slope. The source of the seepage is likely related to the infiltration of precipitation into the vegetative layer of the final cover, although it is possible that landfill leachate (if present) contributes to seepage near the toe of the slope.

# 8. Project Description

The County is proposing the project to improve final cover stability, while also addressing surface water drainage, LFG management, seepage, and long-term maintenance requirements identified at the Laytonville Landfill.

All proposed repair work would be performed within the limits of the existing waste footprint and the final cover. The limits of the final cover repair work are shown in Figure 2. The landfill would remain closed and there would be no significant changes to current monitoring and maintenance procedures. There would be no new operations after project completion. The project would not substantially change the currently existing landfill grades. The small section of slope that exceeds 50 vertical feet would be left in place, because stability analyses incorporated an additional 10 vertical feet and the calculated safety factors demonstrated compliance with Title 27 CCR Section 21750(f)(5) stability requirements. Additionally, design drainage analyses concluded that reducing the slope height by re-grading would have no measurable effect on the amount of surface water runoff to be managed by the surface water drainage system. The drainage analyses also show that the project would have no effect on surface water drainage patterns or amounts compared to current conditions. The project would involve replacing approximately 185,000 square feet of the existing landfill cover and would include the following procedures:

1. Dismantling and removing the existing surface water drainage system.
2. Removing existing side slope final cover to the top of the foundation layer; the rock slope protection and vegetative cover soil would be stockpiled for reuse and the geosynthetic materials would be disposed of off-site.
3. Preparing and compacting existing foundation layer soil to meet compaction requirements in accordance with American Society for Testing and Materials (ASTM) International standard D1557; seep and LFG collectors would be placed on the foundation layer before the overlying barrier, drainage, and protective cover soil is placed.
4. Placing overlying low-density polyethylene, drainage materials, and protective cover soil; the drainage layer placed would discharge to toe drain collectors at the toe of slopes on the landfill site.

5. Reconstructing the surface water drainage system to include berm channel outlets and inlets, subsurface drains, and perimeter rock drainage swales.
6. Installing LFG collectors below the final cover barrier layer and LFG vents and trench collection galleries; the LFG vents would be sealed with a low-density polyethylene layer.
7. Relocating an existing perimeter LFG monitoring probe.
8. Relocating an existing sedimentary piezometer.
9. Hydroseeding final cover and installing fiber rolls and gravel bags for erosion control.
10. Installing a new groundwater monitoring well.

Most of the project activities would occur within the existing limits of refuse. The sedimentary piezometer, LFG monitoring probe, and groundwater monitoring well would be installed outside the existing limit of refuse, as shown in Figure 2.

### Project Construction

Construction of the proposed project would take place for up to 10 hours a day from 7:00 a.m. to 5:00 p.m., five days a week (Monday through Friday) for approximately 16 weeks. Staging construction equipment and construction worker parking would be located at the borrow, stockpile, and staging area north of the project site as shown in Figure 2. The borrow, stockpile, and staging area would include 3.3 acres of disturbed area. Project construction within the limit of refuse, as shown in Figure 2, would disturb 3.86 acres. The maximum depth of ground disturbance over the majority of the project site would be approximately 4 feet. Installation of the LFG probe, piezometer, and groundwater monitoring well would involve minimal ground disturbance. The boreholes for the LFG probe and piezometer would be up to 25 feet deep, and the groundwater monitoring well would be up to 50 feet deep. The boreholes for these features would be a minimum of 4 inches in diameter and a maximum of 10 inches. Relocation of the LFG probe and installation of the new monitoring well and piezometer are expected to be performed concurrently with the cover repair work. No groundwater dewatering is anticipated for construction. Construction activities could require up to 12,500 cubic yards of fill soil which would be sourced from the on-site borrow, stockpile, and staging area. Additionally, the construction contractor would be required to submit a Fire Prevention Plan prior to commencement of project construction activities.

## 9. Required Approvals

The proposed project would require the following approvals and permits:

- Approval by the Mendocino County Board of Supervisors
- Authority to Construct permit from the Mendocino County Air Quality Management District (MCAQMD)
- Construction General Permit from the NCRWQCB

The Mendocino County Department of Transportation is currently coordinating with NCRWQCB on the project. Additional review/approval of the project would be required by the NCRWQCB and CalRecycle.

# 10. California Native American Tribal Consultation

On February 6, 2025, the County of Mendocino Assembly Bill (AB) 52 notification letters were sent via certified mail to Native American tribes who requested notification under AB 52. On April 14, 2025, the County sent a second letter electronically to the Cloverdale Rancheria due to receipt of notice from the United States Postal Service that the original letter sent on February 6, 2025 had not been received by the tribe. Under AB 52, Native American tribes have 30 days to respond and request further project information and request formal consultation. The County did not receive a request for formal consultation under AB 52.

# Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

# Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" 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.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

6/19/25
Date

Howard N. Dashiell
Printed Name

Director of Transportation
Title

# Environmental Checklist

## 1 Aesthetics

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Except as provided in Public Resources Code Section 21099, would the project: | | | | |
| a. Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ■ |
| b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ■ |
| c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a 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? | ☐ | ☐ | ■ | ☐ |
| d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area? | ☐ | ☐ | ☐ | ■ |

### Setting

The project site is located in the eastern area of Laytonville, an area in north-central Mendocino County. The site's surroundings are made up of hillsides to the north, the Laytonville Rancheria managed by the Cahto Tribe of Laytonville Rancheria approximately 350 feet east and 30 feet south of the project site, and land used for cattle grazing to the west of the project site. Single-family residences are located approximately 750 feet north of the project site. The project site is set back several hundred feet from Branscomb Road but is intermittently visible to motorists travelling along stretches of Branscomb Road west and northwest of the site. The landfill site's variable topography is covered by annual grasses and shrubs, drainage pipes and rock lined swales. There are substantial stands of trees that provide visual screening along the north, east, and southern sides of the landfill property.

## Impact Analysis

*a. Would the project have a substantial adverse effect on a scenic vista?*

The project would not result in any visual changes to the existing landfill or surrounding property. The project site is currently a closed landfill and would remain so during and after construction. While construction activities and equipment could be temporarily visible from the western side of the project site, this impact would be temporary in nature and the existing view of the site would be restored following project completion. The Mendocino County General Plan includes a discussion of scenic resources within the county, such as forested areas, state and county parks, and the coast. The project site is not within any of these areas and the project would not involve structures or major changes in topography that would change or block public views through or over the site. The site is approximately 3 miles from the nearest County Park and approximately 10 miles from Admiral William Standley State Recreation Area. The site is not visible from either of these locations and activities on the project site would not have any effect on scenic vistas or resources visible from these parks or other public viewpoints. There would be no impact on scenic vistas.

**NO IMPACT**

*b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

There are no scenic highways or historic buildings within or near the project. The closest designated State Scenic Highway is a portion of State Route 49, which is approximately 131 miles east of the project site (California Department of Transportation [Caltrans] 2018). The nearest eligible designated highway is State Route 1 which is approximately 15 miles west of the project site (Caltrans 2018). The project site is not visible from either of these roadways. There are no scenic resources, such as scenic trees, rock outcroppings, or historic buildings on the site that would be damaged by the project. No impact would occur.

**NO IMPACT**

*c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a 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?*

The project would not result in permanent visual changes to the project site. The project is located in a non-urbanized area.[2] The project would involve temporary construction activities on the site; however, the site is set back from Branscomb Road and is generally only visible from the western side of the site. All other views of the site are screened by trees. Motorists travelling along Branscomb Road could see construction activities and equipment associated with the project; however, the addition of construction equipment would not significantly alter the existing visual character on-site as this would be a temporary change in the views on site and the existing view of the project site would be restored after project completion. No permanent substantial change to the existing visual character or public views of the site and its surroundings would occur as a result of the project. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

The project does not include new night lighting or sources of glare. The landfill would remain closed following project completion and no permanent changes to light and glare conditions would occur on the project site. There would be no impact.

**NO IMPACT**

[2] *CEQA Guidelines* Section 21071 defines an urbanized area as: An incorporated city that has either:
a. A population of at least 100,000 persons, or
b. A population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons.
Or An unincorporated area that is either:
a. Completely surrounded by one or more incorporated cities and both of the following criteria are met:
   i. The population of the unincorporated area and the population of the surrounding incorporated city or cities equals at least 100,000 persons
   ii. The population density of the unincorporated area at least equals the population density of the surrounding city or cities.
b. Located within an urban growth boundary and has an existing residential population of at least 5,000 persons per square mile.
Laytonville is a census-designated place within unincorporated Mendocino County that does not meet either of these definitions and is therefore considered a non-urbanized area.

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# 2 Agriculture and Forestry Resources

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ■ |
| b. Conflict with existing zoning for agricultural use or a Williamson Act contract? | ☐ | ☐ | ☐ | ■ |
| c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | ☐ | ☐ | ☐ | ■ |
| d. Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ■ |
| e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ■ |

## Setting

The project site has a Mendocino General Plan designation of Public Lands and a zoning designation of PF, where landfill operations are permitted. According to the California Department of Conservation (DOC), the project site is on grazing land (DOC 2022); however, it is not currently used for grazing. Additionally, there is no active prime farmland, unique farmland, or farmland of statewide importance directly adjacent to the project site. The site is surrounded by grazing land, urban and built-up land, and land classified as "other" (DOC 2022). Land to the west of the project site classified as grazing land is currently used for cattle grazing.

## Impact Analysis

a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*

c. *Would the project 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))?*

d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

e. *Would the project 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?*

The project would have no impact on agricultural or forest land. The project site has a Mendocino General Plan designation of Public Lands and a zoning designation of PF where landfill operations are permitted. Therefore, the project would not conflict with existing zoning for agricultural use. According to the DOC, there is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on or adjacent to the site (DOC 2022). Furthermore, the site is not enrolled in a current Williamson Act Contract, and there is no timberland or forest land on the site. In addition, since the project would only involve improvements to the final cover stability of a landfill on the project site, no agricultural land, grazing activities, or land under a Williamson Act surrounding the project site would be impacted. Therefore, the project would result in no impact to agriculture, forest land, or forestry resources.

**NO IMPACT**

# 3 Air Quality

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

## Setting

The air quality analysis is based on California Emissions Estimator Modeling (CalEEMod) results obtained by Rincon Consultants Inc. (Rincon) in March 2025. These results are saved in Appendix A of this Initial Study.

### *Overview of Air Pollution*

The federal Clean Air Act (CAA) and California (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[3] nitrogen oxides ($NO_X$), particulate matter with diameters of 10 microns or less ($PM_{10}$) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide ($SO_2$), and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and $NO_X$. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

[3] CARB defines VOCs and ROGs similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOCs are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROGs and VOCs are considered comparable in terms of mass emissions, and the term ROGs is used in this Initial Study-Mitigated Negative Declaration.

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.
- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

### *Air Quality Standards and Attainment*

The project site is located in the Mendocino County Air Basin, which is under the jurisdiction MCAQMD. As the local air quality management agency, the MCAQMD is required to monitor air pollutant levels to ensure that the NAAQS and CAAQS are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the Mendocino County Air Basin is classified as being in "attainment" or "nonattainment." In areas designated as nonattainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts associated with these criteria pollutants, presented in Table 1, are already occurring in that area as part of the environmental baseline condition. Under California law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The Mendocino County Air Basin is designated a nonattainment area for state $PM_{10}$ and national $PM_{2.5}$ standards (MCAQMD 2005, CARB 2024) The nonattainment status of the Mendocino County Air Basin is a result of several factors, such as wildfires, residential wood burning, unpaved roads and construction activities.

**Table 1 Health Effects Associated with Non-Attainment Criteria Pollutants**

| Pollutant | Adverse Effects |
|---|---|
| Suspended particulate matter ($PM_{10}$) | (1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma). |

Source: United States Environmental Protection Agency 2016

### *Air Quality Management*

Because the Mendocino County Air Basin currently exceeds the state $PM_{10}$ standards, MCAQMD is required to implement strategies to reduce pollutant levels to achieve attainment of the NAAQS and CAAQS. MCAQMD adopted the Particulate Matter Attainment Plan in January 2005. The Particulate Matter Attainment Plan includes recommended control measures to reduce emissions of particulate matter.

## Impact Analysis

*a. Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The project would not conflict with an applicable air quality plan. The MCAQMD Particulate Matter Attainment Plan includes recommended control measures to reduce emissions of $PM_{10}$, including Measure 4.A.2 that requires permits for projects that will disturb over 1 acre of land (MCAQMD 2005). The project would be required to comply with this measure and obtain a permit for grading and construction activities. The proposed project would not involve operational changes that would involve emissions of $PM_{10}$ or other pollutants as the landfill would remain closed after project completion. Therefore, the project would not conflict with any air quality plan and impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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

*c. Would the project expose sensitive receptors to substantial pollutant concentrations?*

Table 2 lists the MCAQMD significance thresholds for air pollutants.

**Table 2 MCAQMD Air Quality Significance Thresholds**

| Pollutant | Operation Thresholds (Average Daily Emissions in Pounds per Day) | Construction Thresholds (Average Daily Emissions in Pounds per Day) |
|---|---|---|
| $NO_X$ | 42 | 54 |
| ROG[1] | 180 | 54 |
| $PM_{10}$ | 82 | 82 |
| $PM_{2.5}$ | 54 | 54 |
| $SO_X$ | N/A | N/A |
| CO | 125 TPY | N/A |

$NO_X$= nitrous oxides; ROG = reactive organic gases; $PM_{10}$ = particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with a diameter of 2.5 microns or less; SOx = sulfur oxide; CO = carbon monoxide; TPY = tons per year

[1] ROGs are formed during combustion and evaporation of organic solvents. ROGs are also referred to as VOCs.

Source: Mendocino County Air Quality Management District 2010

Rincon estimated construction and operational emissions associated with the project using project-specific information input into CalEEMod. For modeling, it was assumed that the project would not increase operational emissions of LFGs. The project would install seven new LFG vents to supplement the existing 12 vents; the purpose of these is to prevent condensate buildup by providing a flow path for LFG condensation on the bottom of the geomembrane to migrate downslope to the toe drain collectors, where it would be removed and managed as leachate. The collectors are also designed to provide a pathway for LFG to migrate upward to the collection trench and supplemental at the top of the geomembrane, where it vents through the new passive vents. If the existing system is operating efficiently, the supplemental vents should have no net effect on emissions (Mitchell 2025).

Full air quality modeling results are included in Appendix A. Table 3 summarizes the estimated annual construction and decommissioning emissions by construction phase. Most particulate matter emissions are fugitive emissions.

### Table 3 Maximum Daily Construction and Operational Emissions

| | Emissions (Average Daily Emissions in Pounds per Day) | | | | | |
|---|---|---|---|---|---|---|
| **Phase** | **ROG** | **$NO_X$** | **CO** | **$SO_X$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Construction Emissions | <1 | 3.18 | 3.80 | <1 | <1 | <1 |
| Construction Significance Threshold | 54 | 54 | N/A | N/A | 82 | 54 |
| **Exceed Significance Threshold?** | **No** | **No** | **No** | **N/A** | **No** | **No** |
| Operational Emissions | <1 | 0 | 0 | 0 | 0 | 0 |
| Operational Significance Threshold | 180 | 42 | 125 TPY[1] | N/A | 82 | 54 |
| **Exceed Significance Threshold?** | **No** | **No** | **No** | **N/A** | **No** | **No** |

CO = carbon monoxide; $NO_X$= nitrous oxides; ROG = reactive organic gases; $PM_{10}$ = particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with a diameter of 2.5 microns or less; SOx = sulfur oxide; TPY = tons per year

[1] CO operational threshold is only measured in tons per year.

Notes: Rounded values shown; columns may not total exactly. See Appendix A for calculations. Bold numbers indicate an exceedance of applicable thresholds.

Source: Appendix A, California Emissions Estimator Model Results

As shown in Table 3 and in Appendix A, both construction and operational emissions would not exceed any MCAQMD significance thresholds for criteria air pollutants. The project would also be required to obtain a grading permit from MCAQMD that would ensure fugitive dust emissions during construction are minimized through standard permit requirements. Regarding toxic air contaminants, the project would continue to implement existing environmental landfill controls following project completion such as LFG management through several gas vents installed within the landfill area that would minimize the potential for emissions. The project would not alter the existing state of the landfill as it would remain closed following project completion. As stated above, with the installation of new vents, if the existing system is operating efficiently, the supplemental vents would have no net effect on emissions (Mitchell 2025). Therefore, the project would not violate air quality standards, contribute substantially to existing or projected violations, result in a net increase of a criteria pollutant for which the region is in non-attainment, or expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The MCAQMD does not have adopted thresholds for construction-related odors (MCAQMD 2010). Construction-related odors would be temporary and located several hundred feet from the nearest residences and would therefore not be significant. The project would not involve changes to the operational status of the landfill, as it would remain closed following project construction. As such there would be no change in operational odors on the project site. Overall, impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

# 4 Biological Resources

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

## Setting

The inactive landfill has been closed for approximately 26 years and is monitored and maintained in accordance with current permits and regulations. In December 2024, Rincon performed a desktop literature review to determine the potential presence of sensitive biological resources, including special-status plant and wildlife species, sensitive vegetation communities, potentially jurisdictional wetlands or waters of the U.S. and state, and nesting habitat for native birds. In addition, a field reconnaissance survey was performed in December 2024 to document existing site conditions. The following summarizes the results of the analysis.

### *Existing Conditions*

The project site is situated within a minimally developed area of Laytonville, where low-density residential housing has been constructed approximately 750 feet north of the site and county facilities are located approximately 0.15 mile east-northeast of the project site. The project site is bounded to the west by a large expanse of undeveloped open land dominated by annual grassland interspersed with small patches of forest, and immediately to the south by Douglas fir (*Pseudotsuga menziesii*) forest. The Douglas fir forest continues to the east but becomes less dense, and hardwood species (i.e., *Quercus* sp.) become more prevalent around the eastern boundary of the site. Immediately to the north of the project site is an open area currently being used as a borrow, stockpile, and staging area, dominated by non-native annual grasses and forbs, with some shrubs interspersed sporadically. A large, graveled area with non-native grasses and forbs and soil stockpiles are also present in the proposed borrow, stockpile, and staging area. This area was included in the December 2024 field survey.

The project site is also dominated by non-native annual grasses and forbs, along with very few shrub species. The project site is completely fenced with the borrow, stockpile, and staging area located outside the fence. There is a small sediment pond just outside the southwestern corner of the project site that contains emergent vegetation (i.e., *Typha* sp.), as well as a larger sediment pond just outside the northwest corner of the site that also contains emergent vegetation. A third, smaller sediment pond is situated outside of the eastern boundary of the project site; however, this and the larger pond to the northwest were not accessible at the time of the survey and are outside the project area. A list of plant species observed during the field survey is provided in Table 4 below.

**Table 4 Plant Species Observed During the Field Survey**

| Scientific Name | Common Name |
|---|---|
| *Arctostaphylos* sp. | manzanita |
| **Avena* sp. | wild oat |
| *Baccharis* sp. | coyote brush |
| **Brassica* sp. | mustard |
| **Briza minor* | little quaking grass |
| **Bromus diandrus* | ripgut brome |
| **Carduus pycnocephalus* | Italian thistle |
| **Centaurea solstitialis* | yellow star-thistle |
| **Conium maculatum* | poison hemlock |
| **Elymus caput-medusae* | medusahead |
| **Erodium cicutarium* | common stork's bill |
| **Festuca perennis* | Italian ryegrass |
| *Mentha* sp. | mint |
| **Phalaris aquatica* | Harding grass |
| *Quercus kelloggii* | California black oak |
| *Quercus wislizeni* (shrub) | interior live oak |
| **Rubus armeniacus* | Himalayan blackberry |
| *Rumex* sp. | dock |
| **Taraxacum officinale* | dandelion |

*Denotes non-native species

Although there are relatively intact natural habitats surrounding the project site and the borrow, stockpile, and staging area, the project site itself offers little value for special-status wildlife species. In addition, because the site is fenced, there is a barrier to movement for most terrestrial species that may otherwise move through the site or use it periodically for cover, breeding, or foraging purposes. The project site and borrow, stockpile, and staging area are likely to support several native bird species during the breeding season, mesocarnivores, such as gray foxes (*Urocyon cinereoargenteus*), and other small mammals such as California ground squirrels (*Otospermophilus beecheyi*) and rabbits (*Sylvilagus* sp. and *Lepus* sp.). Wildlife species observed during the field survey are included in Table 5 below.

**Table 5 Wildlife Species Observed During the Field Survey**

| Scientific Name | Common Name |
|---|---|
| *Canis latrans* | coyote (scat) |
| *Cathartes aura* | turkey vulture |
| *Corvus corax* | common raven |

Special-status plant and wildlife species present or potentially present within or adjacent to the project site were initially identified through a desktop literature review using the following sources:

- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation Trust Resource Report (USFWS 2024a)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2024a)
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants (CNPS 2024a)
- United States Department of Agriculture, Natural Resources Conservation Service Web Soil Survey (2024)
- USFWS Critical Habitat Portal (USFWS 2024b)
- USFWS National Wetland Inventory Wetland Mapper (USFWS 2024c)
- CDFW Biogeographic Information and Observation System (CDFW 2024b)
- CDFW Special Animals List (CDFW 2024c)

The California Natural Diversity Database and CNPS database searches included the 7.5-minute USGS *Cahto Peak* quadrangle and surrounding eight quadrangles (referred to as a nine-quad search). The Information for Planning and Consultation search included the project site and a 2-mile buffer surrounding the project site. Following a review of these resources, Rincon also reviewed relevant life history information on those species documented as occurring in the region, including habitat type, soils, and elevation preferences.

The vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Online Edition* (MCV Online; CNPS 2024b).

The potential for wildlife movement corridors was evaluated based on the California Essential Habitat Connectivity Project commissioned by the Caltrans and CDFW (Spencer et al. 2010).

For the purposes of this analysis, special-status species include:

- Species listed as threatened or endangered under the federal Endangered Species Act, including proposed and candidate species
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act
- Species designated as Fully Protected by the California Fish and Game Code, and Species of Special Concern by CDFW
- CNPS California Rare Plant Ranks 1A, 1B, 2A and 2B

No sensitive vegetation communities or special-status plant or wildlife species were observed on the project site during the field survey; however, two man-made, rock-lined upland swales were observed during the field survey. One originates at the top of the hill in roughly the center of the site and serves to collect and funnel water during rain events southwest toward the sediment pond in the southwest corner of the site. The other is located in the northeastern corner of the site and funnels water to the east toward another sediment pond during rain events.

## Impact Analysis

*a. Would the project 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 Wildlife or U.S. Fish and Wildlife Service?*

No special-status plant or wildlife species were observed or audibly detected during the field survey in December 2024. A review of the Mendocino County General Plan did not identify any habitat on site for special-status plant or wildlife species. The desktop literature review identified 24 special-status wildlife species and 58 special-status plant species known to occur within the nine-quad/2-mile search radius of the project site. None of these have a moderate or greater potential to occur within the project site due to a lack of suitable habitat on or adjacent to the site, a lack of documented occurrences in the vicinity of the project site, or the site is outside the species' known range. Although there are documented occurrences of two special-status plant species that overlap the project site, they are from 1902 and 1926, and the high level of disturbance and dense cover of non-native vegetation associated with the existing landfill likely precludes special-status plants from occurring on the site and in the borrow, stockpile, and staging area. Special-status plant and wildlife species identified during the desktop review have a low potential to occur or are not expected to occur; therefore, there would be no substantial adverse effects to these species and impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The landfill site is inactive and would remain inactive after the project is complete. No native or otherwise undisturbed habitats are present on the project site or in the borrow, stockpile, and staging area, including riparian areas or sensitive natural communities, and the site is expected to return to the same condition it was in prior to implementation of the project. The proposed project would not alter the existing footprint of the landfill or involve new development. The proposed project would not result in impacts to riparian habitat or sensitive vegetation communities; therefore, there would be no impact.

**NO IMPACT**

*c. Would the project 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?*

As described above under *Setting*, two man-made, rock-lined, drainage swales were observed in the project site during the field survey. Both of these drainage swales were created during the initial closing and covering of the landfill and do not connect to other creeks, streams, rivers or other drainages. There is no visible bed or bank in either feature, nor is there an ordinary high water mark. They are both vegetated with primarily non-native species. Material from these features may be temporarily removed and stockpiled during construction; however, the material would be replaced after repair of the landfill cover and these features would continue to serve as drainage swales to collect and funnel water to the toe of the slopes and their respective sediment ponds after construction is complete. There are no wetlands on the project site or in the borrow, stockpile, and

staging area. Therefore, the project would not have a substantial adverse effect on state or federally protected wetlands, and the impact would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*d. Would the project 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?*

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. The project site is completely fenced and therefore impedes movement for most wildlife species that may occur in the vicinity of the project. Wildlife species that do use the site are limited to those that are able to either climb the fence, go through the fence, or dig under it, as well as avian species that can fly over it. The borrow, stockpile, and staging area is located outside of the fence, and therefore offers more opportunities for resident wildlife species to move around the project site to access habitats adjacent to the site.

During project activities, wildlife use of the site would be expected to temporarily decrease due to increased levels of human activity, noise, and vibration; however, the present condition of the site would not change substantially after the project is complete, and these species could return to using the site in the same manner as they were prior to implementation of the project. The project site is not considered a native wildlife nursery site or established native resident or migratory wildlife corridor by CDFW or other agency or jurisdiction and is not considered an essential connectivity area under the California Essential Habitat Connectivity Project. Similarly, the project site is mapped as having a "limited connectivity opportunity" by the California Essential Habitat Connectivity Project. Temporary effects due to noise and increased human activity during project construction would not substantially interfere with wildlife movement patterns over time or affect the ability of these species to forage or reproduce. Therefore, impacts to wildlife movement and wildlife nursery sites would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

The landfill site is inactive and would remain inactive after the project is complete. No trees would be removed as part of the project and there are no local ordinances protecting biological resources on the site. Therefore, the proposed project would not conflict with local policies or ordinances protecting biological resources.

**NO IMPACT**

*f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The project site and borrow, stockpile, and staging area are not included in a habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan areas. Therefore, the project would not conflict with the provisions of such plans and no impact would occur.

**NO IMPACT**

# 5 Cultural Resources

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? | ☐ | ☐ | ☐ | ■ |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ■ | ☐ | ☐ |
| c. Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ■ | ☐ |

This section provides an analysis of the project's impacts on cultural resources, including historical and archaeological resources as well as human remains. CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC] Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (*CEQA Guidelines* Section 15064.5[a][1-3]).

A resource is considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]). PRC Section 21083.2(g) defines a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

## Methodology and Results of Cultural Resources Assessment Report

In 2025, Rincon completed a Cultural Resources Assessment (CRA) of the project site, which is included as Appendix B. The CRA included a cultural resources records search of the California Historical Resources Information System at the Northwest Information Center (NWIC) housed at Sonoma State University, a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search, and a desktop archaeological review. Rincon also conducted a pedestrian survey of the project borrow, stockpile, and staging area as part of the study (Appendix B).

The NWIC records search was performed to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the project site and a 0.5-mile radius surrounding it. The records search included a review of available records at the NWIC as well as the National Register of Historic Places, CRHR, California Historical Landmarks list, Built Environment Resources Directory, California State Historic Property Data File, and Archaeological Determinations of Eligibility list. The NWIC records search identified seven cultural resources studies conducted within a 0.5-mile radius of the project site, none of which overlap or are located within the project site. The NWIC search identified three previously recorded cultural resources within 0.5 mile of the project site including two precontact Native American archaeological resources and one multicomponent (precontact Native American and historic-period) archaeological resource. None of the resources are located within or immediately adjacent to the project site. No cultural resources were identified within or immediately adjacent to the project site (Appendix B).

Rincon requested a search of the SLF from the NAHC to identify the potential for cultural resources within the project site and to obtain contact information for Native Americans groups or individuals who may have knowledge of resources within the project site. The SLF search was returned with negative results, which indicates no sacred lands have been reported in the vicinity of the project site.

As part of its AB 52 consultation process, which is further detailed in Section 18, *Tribal Cultural Resources*, the County prepared and sent letters to Cloverdale Rancheria, Manchester-Point Arena Band of Pomo Indians, Pinoleville Pomo Nation, Potter Valley Rancheria, Redwood Valley Little River Band of Pomo Indians (Redwood Valley Rancheria), Sherwood Valley of Pomo Indians, Middletown Rancheria of Pomo Indians and Cahto Tribe on February 6 ,2025, requesting consultation. The County received one response via email from the Middletown Rancheria Tribal Historic Preservation Officer stating that the project is outside the tribe's area of concern. The results of consultation are summarized in Section 18, *Tribal Cultural Resources*. No known sacred sites or tribal cultural resources have been specifically identified within the project site.

Question (a) below in the Impact Analysis broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, the analysis under Question (a) is limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to *CEQA Guidelines* Section 15064.5 and those that may be considered unique archaeological resources pursuant to PRC Section 21083.2, are considered under Question (b).

## Impact Analysis

*a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

No built environment resources were identified within or immediately adjacent to the project site as a result of the NWIC records search and field survey (see Appendix B). Therefore, the project would not cause a substantial adverse change in the significance of a historical resource, and no impact would occur.

**NO IMPACT**

*b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

No prehistoric or historic-period archaeological resources were identified within the project site as a result of the NWIC records search, NAHC SLF search, or field survey (see Appendix B). Based on the existing conditions at the project site and the findings of the CRA, the project site has low to no potential to support intact archaeological deposits due to previous disturbances. As such, the potential for encountering intact archaeological deposits that may qualify as historical resources pursuant to CEQA is low (Appendix B)**.** However, unanticipated discoveries during project implementation remain a possibility. If a previously unknown archaeological resource is encountered during construction, the project would potentially cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5. Implementation of Mitigation Measure CR-1 would be required to reduce impacts to a less-than-significant level.

## Mitigation Measure

### *CR-1 Unexpected Discovery of Archaeological Resources*

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology should be contacted to evaluate the find. If the find is Native American in origin, a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified project, additional work, such as data recovery excavation, may be warranted to mitigate significant impacts to historical resources.

## Significance after Mitigation

Mitigation Measure CR-1 would minimize the potential for impacts related to unexpected discoveries of archaeological resources to occur through the implementation of appropriate procedures for evaluation and treatment, should any discoveries be made during construction. Therefore, implementation of Mitigation Measure CR-1 would reduce impacts to archaeological resources to a less-than-significant level.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

*c. Would the project disturb any human remains, including those interred outside of formal cemeteries?*

No known human remains have been documented within the project site or the immediate vicinity (Appendix B). While the project site is unlikely to contain human remains, the potential for the recovery of human remains during ground-disturbing activities is always a possibility. If human remains are found, existing regulations outlined in California Health and Safety Code Section 7050.5 state no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric or Native American in origin, the Coroner will notify the NAHC, which will determine and notify a most likely descendant. The most likely descendant shall complete the inspection of the site within 48 hours of being granted access and provide recommendations as to the treatment of the remains to the landowner. Therefore, with adherence to existing regulations, impacts to human remains would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

# 6 Energy

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

## Setting

Electricity is primarily consumed in the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as alternative fuel vehicles. The project site currently does not use electricity as it is a closed landfill and there is no electrical utility infrastructure serving the project site.

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being the eighth largest petroleum-producing state in the nation in 2024 (United States Energy Information Administration 2025). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 13,576 million gallons sold in 2023 (California Energy Commission 2024). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 2,316 million gallons sold in 2023 (California Energy Commission 2024).

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the Project's energy consumption are discussed in detail in Section 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, respectively.

## Impact Analysis

*a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

*b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The proposed project consists of landfill cover repairs. Project construction would take place for approximately 16 weeks and would result in a temporary usage of energy by earthmoving equipment. However, earthmoving activities would be required to comply with the provisions of CCR Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. In addition, equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Additionally, because the landfill would remain closed after project construction, there would be no substantial change in operational energy use on the project site. Therefore, the proposed project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources and would not conflict with plans for renewable energy or energy efficiency. This impact would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

# 7 Geology and Soils

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| 1. 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? | ☐ | ☐ | ■ | ☐ |
| 2. Strong seismic ground shaking? | ☐ | ☐ | ■ | ☐ |
| 3. Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ■ | ☐ |
| 4. Landslides? | ☐ | ☐ | ■ | ☐ |
| b. Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ■ | ☐ |
| c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☐ | ■ | ☐ |
| d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | ☐ | ☐ | ■ | ☐ |
| e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | ☐ | ☐ | ☐ | ■ |
| f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☐ | ■ |

## Setting

This analysis is partially based on the Hydrology and Drainage Report prepared by SWT Engineering in January 2025, which is included as Appendix C of this Initial Study.

### *Geology and Soils*

The Laytonville Landfill is located within the northern Coastal Mountain Range geomorphic province. The landfill site and vicinity are underlain by the Cretaceous age (65 to 190 million years Before Present) Franciscan Formation, Plio Pleistocene age (11,000 to 3,000,000 years before present) continental terrace deposits, and by Holocene age (present to 11,000 years Before Present) alluvial deposits (Appendix C). The Franciscan Formation underlies the entire site and consists of a tectonic melange comprised of sandstone, shale and metavolcanic greenstones, and cherts. These rock units are highly sheared and weathered and tend to have very low porosity. Continental terrace deposits overlie the older Franciscan Formation and consist of poorly sorted, moderately to highly consolidated silty conglomerate, clayey sand, sandy clay, and silty clay. Alluvial deposits locally overlie both the Franciscan Formation and continental terrace deposits within drainages on the site and consist of unconsolidated gravel, sand, silt, and clay.

### *Earthquakes*

The project site is approximately 49 miles northeast of the San Andreas Fault. The nearest fault to the project site is the Maacama Fault which is approximately 1.5 miles southeast of the site (DOC 2018).

### *Liquefaction*

Liquefaction is a phenomenon where loose, saturated soils, such as silts, sands, and gravels, undergo a sudden loss of strength during earthquake shaking and change into a fluidlike state. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may suddenly subside and suffer major structural damage and result in loss of life or injury. According to the DOC, the project site is not located in a liquefaction zone (DOC 2018).

### *Landslides and Erosion*

Landslides are generally caused by earthquakes, erosion, and heavy rainfall. Most landslides occur naturally, but can be induced by excessive grading, poor drainage or groundwater withdrawal, or improper construction methods. According to the DOC, the project site is not located in a landslide zone (DOC 2018).

## Impact Analysis

*a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?*

*a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

According to the DOC, the project site is not located in an Alquist-Priolo Earthquake Fault Zone, a liquefaction zone, or a landslide zone (DOC 2018). No new development would occur with the proposed project and the landfill would remain closed following project completion. Furthermore, while the project site could experience strong ground shaking from the nearby Maacama Fault, the final repair cover is designed to be stable under the potential level of ground motion. Additionally, because no habitable structures are on site or proposed to be built on-site, there would be minimal risk of loss, injury, or death from strong ground shaking on the project site Therefore, the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death. Impacts related to fault rupture and seismic ground shaking would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*

*c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

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

As discussed above, the project site is not located within a liquefaction zone (DOC 2018). There would be no new structures developed under the project and the landfill would utilize the same soil currently on site for the proposed repairs. Because the proposed project would not introduce the use of any new soils, and the site is not within a liquefaction zone, the project would not result in impacts related to liquefaction or expansive soils. Additionally, there are no structures currently within the project site, nor are any proposed as part of the project; therefore, there would not be substantial risk to life or property on the project site as a result of the proposed project. Overall, impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*

The project site is not within a landslide zone (DOC 2018). The proposed project would not change the disturbance footprint or result in the development of structures that would exacerbate the risk of landslides or erosion. Stability analyses show the reconstructed final cover would meet the stability requirements in Title 27 CCR and there are no adjacent natural slopes that could affect or be affected by the project. The project would not involve the construction of structures on the project site, so risk of loss, injury, or deaths due to landslides would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*b. Would the project result in substantial soil erosion or the loss of topsoil?*

The proposed project would not change the landfill footprint. The landfill currently includes a system of lined ditches and sediment basins to collect and convey surface runoff to minimize erosion and would continue to be in operation upon completion of landfill cover repairs. The project is subject to the Construction General permit that requires a Stormwater Pollution Prevention Plan that must include erosion and sediment control best management practices to be implemented during construction. Disturbed soil areas would be treated with erosion and sediment control best management practices upon conclusion of construction. Therefore, there would be no change in erosion potential on-site due to the proposed project and impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*e. Would the project 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?*

The project would not involve the use of new septic tanks or alternative wastewater disposal systems. There would be no impact.

**NO IMPACT**

*f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The proposed project would not change the existing disturbance footprint of the landfill. Project construction could result in excavation of previously disturbed soils in the borrow, stockpile, and staging area adjacent to the landfill. Soils that would be disturbed or used as fill as part of the proposed project have been previously disturbed as part of the initial closure of the landfill. Therefore, the project would not damage or destroy previously undiscovered paleontological resources or geologic features. There would be no impact.

**NO IMPACT**

# 8 Greenhouse Gas Emissions

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ■ | ☐ |
| b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☐ | ■ |

## Setting

### *Climate Change and Greenhouse Gases*

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Pursuant to the United Nations Intergovernmental Panel on Climate Change (IPCC; 2014), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (IPCC 2014).

GHGs are gases that absorb and re-emit infrared radiation in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxides ($N_2O$), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFC), and sulfur hexafluoride ($SF_6$). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by natural processes and human activities. Of these gases, $CO_2$ and $CH_4$ are emitted in the greatest quantities from human activities. Emissions of $CO_2$ are largely by-products of fossil fuel combustion, whereas $CH_4$ results from off-gassing associated with agricultural practices

and landfills. Observations of $CO_2$ concentrations, globally averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently observed increases in $CH_4$ and $N_2O$ concentrations are smaller than those assumed in the scenarios in previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Manmade GHGs, many of which have greater heat-absorption potential than $CO_2$, include fluorinated gases and $SF_6$ (California Environmental Protection Agency [CalEPA] 2006). Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas ($CO_2$) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" ($CO_2e$), and is the amount of a GHG emitted multiplied by its GWP. $CO_2$ has a 100-year GWP of one. By contrast, $CH_4$ has a GWP of 25, meaning its global warming effect is 25 times greater than $CO_2$ on a molecule per molecule basis (IPCC 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34°C cooler. However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations (CalEPA 2015).

The vast majority of individual projects do not generate sufficient GHG emissions to influence climate change directly, but physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. *Cumulatively considerable* means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines* §15064[h][1]).

## Impact Analysis

*a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

Since the project is located in the Mendocino County Air Basin, this analysis uses the GHG emissions thresholds contained in the MCAQMD *Adopted Air Quality CEQA Threshold of Significance* (MCAQMD 2010). As discussed therein, there are no adopted construction related GHG thresholds and the operational threshold is 10,000 metric tons/year (MCAQMD 2010). As discussed in Section 3, *Air Quality*, the proposed project would not result in a substantial net increase in the emissions of LFGs, including methane. Therefore, GHG emissions associated with the project would be well below the adopted operational threshold. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Mendocino County does not have an adopted Climate Action Plan. CARB adopted the 2022 Scoping Plan in December 2022 which aims to achieve targets for carbon neutrality and reduce GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279 (CARB 2022). The proposed project would not change the non-operational status of the landfill and therefore would not result in long term operational GHG emissions. The project would therefore not conflict with the 2022 Scoping Plan. There would be no impact.

**NO IMPACT**

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# 9 Hazards and Hazardous Materials

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ■ | ☐ |
| b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ■ | ☐ |
| c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school? | ☐ | ☐ | ☐ | ■ |
| d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ■ | ☐ |
| e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | ☐ | ☐ | ☐ | ■ |
| f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ■ |
| g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? | ☐ | ☐ | ☐ | ■ |

## Setting

The project site is associated with a NCRWQCB Land Disposal Site case (#1B75050OMEN) with an "Open – Closed/With Monitoring" status as of 1997 and a State Response/National Priorities List (NPL) case (#60003790 at 1825 Branscomb Road, Laytonville) with a "Refer: Other Agency" status as of May 2024 (State Water Resources Control Board [SWRCB] 2025a, California Department of Toxic Substances Control [DTSC] 2025a). The adjacent Mendocino County Department of Public Works (MCDPW) Laytonville Road Yard site, located within the Laytonville Landfill is associated with a NCRWQCB Leaking Underground Storage Tank (LUST) Cleanup Site case (#1TMC362 at 1825 Branscomb Road, Laytonville) with a "Completed – Case Closed" status as of 2013 (SWRCB 2025a, 2025b).

The project site is not listed in the USEPA's Superfund Enterprise Management System/Envirofacts database (USEPA 2025). There are no Brownfields, cleanups, Superfund Enterprise Management Systems, or Toxics Release Inventory hazardous materials/wastes sites within 1 mile of the project site (USEPA 2025).

Additionally, the project site is not located within an oil/gas field, and no oil/gas wells are located within 1 mile of the project site (California Geologic Energy Management Division 2025). There are no current landfill, airport, chrome plating, publicly owned treatment works, Department of Defense, or bulk fuel storage terminal/refinery sites with per- and polyfluoroalkyl substances (PFAS) orders located within 1 mile of the project site (SWRCB 2025c).

### *Laytonville Landfill Closure Project Initial Study and Negative Declaration*

A Laytonville Landfill Closure Initial Study and Negative Declaration (report) was completed for the project site in October 1996 by Michael Brandman Associates (Appendix D). The report included analysis of final closure actions including final cover, drainage/erosion controls, and leachate controls for the Laytonville Landfill. The hazards impact analysis of the report did not indicate a risk of accidental explosion or release of hazardous substances, as no traces of methane gas had been detected as of the date of the report during regular monitoring of the project site's five perimeter LFG wells and the historical operation of the Class III landfill accepted only non-hazardous solid waste. The report concluded that the continued operation of the groundwater and surface monitoring systems that would remain in operation following the proposed landfill closure would minimize potential human exposure to hazardous substances.

### *Existing Conditions Field Survey Approach*

Rincon performed a reconnaissance of the project site on December 11, 2024, from public thoroughfares. The purpose of the reconnaissance was to observe existing project site conditions and to obtain information about existing environmental conditions in connection with the project site. As part of this field survey, Rincon attempted to identify if there were any obvious indicators of prior or current existence of hazardous materials and to evaluate the likelihood of the use, store, generate, transport, or disposal of hazardous materials and hazardous waste at the project site and adjacent properties.

The site reconnaissance was conducted according to the following methodology:

- Observing the project site, including the existing landfill cover from public thoroughfares
- Observing the adjacent properties from public thoroughfares
- Walking the project site
- Observing the project site from paved roads and sidewalks

The field survey identified the presence of LFG vent pipes throughout the project site, ponds in the northwestern and southwestern portions, and soil stockpiles along the northern boundary.

## Regulatory Setting

### *Government Code Section 65962.5 (Cortese List)*

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by state, local agencies, and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by DTSC, SWRCB, and CalRecycle.

If any soil is excavated from a site containing hazardous materials, it is considered a hazardous waste if it exceeds specific criteria in Title 22 of the CCR. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

### *Occupational Safety and Health Act*

The Occupational Safety and Health Act (OSHA) of 1970, which is implemented by the federal Occupational Safety and Health Administration, contains provisions with respect to hazardous materials handling. OSHA was created to assure safe and healthful working conditions by setting and enforcing standards and by providing training, outreach, education, and assistance. OSHA provides standards for general industry and construction industry on hazardous waste operations and emergency response. OSHA requirements, as set forth in 29 Code of Federal Regulations (CFR) Section 1910, et seq., are designed to promote worker safety, worker training, and a worker's right–to-know. The U.S. Department of Labor has delegated the authority to administer OSHA regulations to the state of California. The California OSHA program (Cal/OSHA) (codified in CCR Title 8, or 8 CCR generally and in the Labor Code secs. 6300-6719) is administered and enforced by the Division of Occupational Safety and Health. Cal/OSHA is very similar to the OSHA program. Among other provisions, Cal/OSHA requires employers to implement a comprehensive, written Injury and Illness Prevention Program (IIPP) for potential workplace hazards, including those associated with hazardous materials.

In addition, pursuant to OSHA, a developer that undertakes a construction project that involves the handling of contaminated site conditions must prepare and implement a Health and Safety Plan (HASP) that sets forth the measures that would be undertaken to protect those that may be affected by the construction project. While a HASP is prepared and implemented pursuant to OSHA, the HASP is not subject to regulatory review and approval, although a HASP is typically appended to a Soil Management Plan if this document is required by the Certified Unified Program Agency (CUPA), which is the Mendocino County Environmental Health with regard to the proposed project The HASP, if required, would be prepared in accordance with the most current OSHA regulations, including 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and 29 CFR 1926, Construction Industry Standards, as well as other applicable federal, state, and local laws and regulations.

### *State Water Resources Control Board*

The SWRCB is the primary agency in California that regulates water rights and water quality and protection of California's water bodies by setting standards for water quality, monitoring pollution sources, and enforcing regulations to protect public health and the environment. There are nine Regional Water Quality Control Boards. The mission of the Regional Boards is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the state's waters, recognizing local differences in climate, topography, geology and hydrology. The SWRCB GeoTracker database system tracks and archives compliance data related to authorized and unauthorized discharges. As required by Government Code Section 65962.5, the SWRCB and other regulatory agencies compile and annually update a list of hazardous waste sites, which includes sites where water contamination might be an issue.

### *California Department of Resources Recycling and Recovery*

CalRecycle is the primary agency responsible for overseeing the management of solid waste in California, including the regulation of landfills and waste disposal. CalRecycle promotes waste diversion, recycling, and sustainable resource management to reduce the amount of waste sent to landfills and mitigate environmental harm. CalRecycle regulates landfills in California under the Integrated Waste Management Act for landfill operations to protect public health and the environment. The agency establishes rules and guidelines for the design, operation, and closure of landfills, with a focus on reducing the environmental impact of waste disposal. This includes monitoring the emissions of methane, controlling LFG, ensuring proper leachate management, and overseeing the implementation of diversion programs to minimize the need for new landfill space.

### *Department of Toxic Substances Control*

As a department of the California Environmental Protection Agency, the DTSC is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the Resource Conservation and Recovery Act and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law to regulate hazardous wastes. The California Hazardous Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Government Code Section 65962.5 requires the DTSC, State Department of Health Services, SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for a development project as complete, the applicant must consult these lists to determine if the site at issue is included.

### *Certified Unified Program Agency*

In accordance with Chapter 6.11 of the California Health and Safety Code Section 25404, et seq., local regulatory agencies enforce six environmental and emergency response programs through the CUPA program, as listed below:

- Hazardous Materials Release Response Plans and Inventories (Business Plan) Program
- California Accidental Release Prevention Program
- Underground Storage Tank (UST) Program
- AST Program
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements

The state agency partners involved in the Unified Program have the responsibility of setting program element standards, working with CalEPA on ensuring program consistency, and providing technical assistance to the CUPA. The following state agencies are involved with the Unified Program:

- CalEPA is responsible for coordinating the administration of the Unified Program. The Secretary of the CalEPA certifies CUPAs.
- DTSC provides technical assistance and evaluation for the hazardous waste generator program including on-site treatment (tiered permitting).
- The Office of Emergency Services is responsible for providing technical assistance and evaluation of the Business Plan and the California Accidental Release Prevention programs.
- The Office of the State Fire Marshal is responsible for ensuring the implementation of the Hazardous Material Management Plans and the Hazardous Material Inventory Statements. These programs tie in closely with the Business Plan program.
- The SWRCB provides technical assistance and evaluation for the UST program in addition to handling the oversight and enforcement for the AST program.

The Mendocino County Environmental Health Division is the CUPA for the County of Mendocino and is responsible for implementing the federal and state laws and regulations pertaining to the handling of hazardous wastes and hazardous materials.

## Impact Analysis

*a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

*b. Would the project 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?*

The proposed project is not expected to import or export soil. Extra needed soil material would be obtained from the on-site borrow, stockpile, and staging area. However, construction activities may include the temporary transport, storage, use, or disposal of potentially hazardous materials including fuels, lubricating fluids, cleaners, or solvents. If spilled, these substances could pose a risk

to the environment and to human health. However, the transport, storage, use, or disposal of hazardous materials is subject to various federal, state, and local regulations designed to reduce risks associated with hazardous materials, including potential risks associated with upset or accident conditions. Hazardous materials would be required to be transported under United States Department of Transportation (DOT) regulations (DOT Hazardous Materials Transport Act, 49 CFR), which stipulate the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways. In addition, the use, transportation, storage, and disposal of hazardous materials are regulated through the Resource Conservation and Recovery Act. Compliance with existing regulations would reduce the risk of potential release of hazardous materials during construction, reducing temporary impacts to less than significant.

No routine transport, use, or disposal of hazardous materials currently occurs at the landfill. Since there would be no changes to the daily maximum permitted tonnage of waste, number of vehicle trips, environmental controls (e.g., leachate collection and removal system, LFG management), or nuisance controls (fire controls, dust controls, vector controls, etc.), the completed project would not create a significant hazard to the public or the environment. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

There are no schools within 0.25 mile of the project site. The nearest school is Laytonville High School located approximately 1.60 miles northeast of the project site. There would be no impact.

**NO IMPACT**

*d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

According to the SWRCB GeoTracker database, the project site is associated with a Land Disposal Site case for Mendocino County Laytonville Solid Waste Disposal Site (case #1B75050OMEN) with an "Open – Closed/With Monitoring" status as of 1997 and is under the oversight of the NCRWQCB (SWRCB 2025c). According to the Second 2023 Semiannual Monitoring and 2023 Annual Compliance Summary Report available on GeoTracker for this case, no VOCs were detected in the groundwater samples collected other than trace or low concentrations of acetone; methane was detected in the LFG samples collected at low concentrations and below 1 percent by volume; oil and grease were detected in two surface/storm water samples collected at low concentrations; chloroform and chlorotoluene were detected in one leachate sample collected at trace to low concentrations (SWRCB 2025d).

According to the DTSC EnviroStor database, the project site is also associated with a "State Response or NPL" case for Laytonville Landfill Site (site ID 60003790) with a "Refer: Other Agency" status as of May 2024 (DTSC 2025b). According to the DTSC Technical Memorandum available on EnviroStor for this case, DTSC reviewed a 2016 Ahtna Facility Services Inc. report, which reportedly indicated that arsenic, hexavalent chromium, dioxins, furans, and lead were detected in shallow soil and dioxins and furans were detected in groundwater samples collected from groundwater wells east of the Laytonville Landfill site (DTSC 2018). The technical memorandum stated that because the concentrations of metals detected in soil were within the range of naturally occurring metals in the

Laytonville area, DTSC "focused its efforts on the analysis of" dioxins and furans because they can be derived from a man-made source (DTSC 2018). According to the technical memorandum, in 2018 DTSC collected eight shallow soil samples, five groundwater samples, and one leachate sample to evaluate the presence of dioxins and furans at the Laytonville Landfill site (DTSC 2018). DTSC indicated in their report that the concentrations of dioxins and furans detected in the soil samples collected were below the USEPA Region 9 residential soil screening level and "do not pose a current risk at the [Laytonville Landfill] site," and dioxins and furans were not detected in the groundwater samples; concluding that "the landfill does not appear to be the source of dioxins in groundwater east of the [Laytonville Landfill] site" (DTSC 2018). The current regulatory oversight agency of the case is unknown and the case has not received closure by DTSC.

According to the SWRCB GeoTracker database, the adjacent MCDPW Laytonville Road Yard site, located within the Laytonville Landfill site (of which the project site is a part), is associated with a LUST (case #1TMC362) with a "Completed – Case Closed" status as of 2013 (SWRCB 2025a, 2025b). According to the Conceptual Site Models and Workplans report available on GeoTracker for this case, three petroleum USTs were removed from the MCDPW Laytonville Road Yard site in 1997 and petroleum hydrocarbon-impacted soil was over excavated and disposed offsite; methyl tertiary-butyl ether (MTBE) was detected in groundwater samples collected within 100 feet of the former USTs (SWRCB 2013). Based on the distance of the former USTs and MTBE-impacted groundwater from the project site (over 700 feet away), this LUST case is not expected to pose a risk to the project site.

As discussed in Section 9, *Required Approvals*, the proposed project would require an authority to construct permit from the MCAQMD and additional review/approval by the NCRWQCB and/or CalRecycle. The NCRWQCB is providing oversight of the project and would provide required reviews and approvals of the various project documents. Compliance with these requirements would ensure that impacts related to the Land Disposal site case on the project site would be less than significant.

**LESS-THAN-SIGNIFICANT 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?*

The nearest airport is the Willits Municipal Airport located approximately 23 miles south of the project site. The project site is not located within an airport land use planning area (Mendocino County Airport Comprehensive Land Use Plan 1996). Therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area from airport operations. There would be no impact.

**NO IMPACT**

*f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The proposed project would not interfere with an adopted emergency response plan or emergency evacuation plan. No substantial operational changes to access or vehicle trips are proposed, and no public roads would be altered or blocked during construction or operation. Landfill operations would continue to comply with the Mendocino County Multi-Jurisdiction Hazard Mitigation Plan. There would be no impact.

**NO IMPACT**

*g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

As discussed in Section 20, *Wildfire*, the project site is located in a moderate fire hazard severity zone (California Department of Forestry and Fire Protection [CAL FIRE] 2024) and is adjacent to a high fire hazard severity zone in a State Responsibility Area (SRA) which is approximately 130 feet north of the borrow, stockpile, and staging area at its nearest point (CAL FIRE 2024). The proposed project would not involve activities or new development that would directly or indirectly expose people or structures to risk involving wildland fires, as the landfill would remain closed after project completion. Additionally, wildfire risk associated with construction activities would be reduced through the implementation of a Fire Prevention Plan prepared by the construction contractor and submitted to the County prior to construction. There would be no impact.

**NO IMPACT**

# 10 Hydrology and Water Quality

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

## Setting

This analysis is partially based on the Hydrology and Drainage Report prepared by SWT Engineering in January 2025, which is included as Appendix C of this Initial Study.

The project site is located within the Eel River Watershed in the North Coast Hydrologic Region, which is governed by the NCRWQCB.

There is currently a drainage system on-site consisting of four drainage areas that convey stormwater into several sedimentation basins on the project site. The landfill uses corrugated metal flumes, earthen swales, and rock lined ditches to convey water from the top of the landfill down the side slopes and ultimately into sedimentation basins on site (Appendix C). The project site also includes 10 wells and two piezometers (devices used to measure groundwater levels) to monitor groundwater throughout the site.

## Impact Analysis

*a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

The proposed project would involve repairs and improvements to the existing drainage system on site. These improvements would include the construction of berm channel outlets, subsurface drains, and perimeter rock drainage swales. Like the existing drainage system, these improvements would convey stormwater to one of several sedimentation basins on the project site. Additionally, the project would not change the amount of surface water that is routed to the sedimentation basins on-site and would not require changes to the basins or discharge patterns from the site. Furthermore, the project would include the installation of a groundwater monitoring well, which would ensure that the landfill does not violate water quality standards. As discussed in Section 9, *Hazards and Hazardous Materials*, the project site is associated with a Land Disposal Site case, a LUST case, and a State Response or NPL case, all of which indicate the landfill on site could impact groundwater or soils. Since the project is under the oversight of the NCRWQB, the agency would review and approve the various project documents. Compliance with these requirements would ensure potential water quality impacts related to the Land Disposal site case on the project site would be less than significant

**LESS-THAN-SIGNIFICANT IMPACT**

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

The project site is located in the Laytonville Valley Groundwater Basin (California Department of Water Resources [DWR] 2004). The proposed project would not change the disturbance footprint on site or increase impervious surfaces or result in other changes that would interfere with groundwater recharge in the Laytonville Valley Groundwater Subbasin. Additionally, while the project includes installation of a groundwater monitoring well and piezometer, the proposed project does not include operational changes that would increase the use of groundwater resources that could result in a substantial decrease in groundwater supplies. There would be no impact.

**NO IMPACT**

*c.(i) Would the project 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 result in substantial erosion or siltation on- or off-site?*

*c.(ii) Would the project 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

*c.(iii) Would the project 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 that would 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?*

*c.(iv) Would the project 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 impede or redirect flood flows?*

As described above in *Setting*, the landfill has an existing surface water management system consisting of corrugated metal flumes, earthen swales, and rock lined ditches to convey water from the top of the landfill down the side slopes and ultimately into one of several sedimentation basins on site (Appendix C). The proposed project would not change the footprint or increase impervious surfaces on the project site. Additionally, the project would not change the amount of surface water that is routed to the sedimentation basins on-site and would not require changes to the basins or discharge patterns from the site. There would be no substantial alteration of the existing drainage pattern of the site or area and therefore there would be no impact.

**NO IMPACT**

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

The nearest large water body is the Pacific Ocean located approximately 15 miles west of the project site. According to the DOC, the project site is not within a tsunami hazard zone (DOC 2025). The project would not result in an impact related to the risk of release of pollutants due to project inundation.

**NO IMPACT**

*e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The project site is located in the Laytonville Valley Groundwater Basin (DWR 2004). Because this groundwater basin is not considered medium- or high priority by the DWR, a groundwater sustainability plan is not required for the basin. Therefore, the project site is not subject to regulations or policies included in a groundwater sustainability plan (DWR 2024).

The project site is within the jurisdiction of the NCRWQCB. The NCRWQCB adopted a water quality control plan, titled the North Coast Basin Plan, in June 2018. The North Coast Basin Plan is designed to preserve and enhance water quality and protect beneficial uses of all regional waters. Additionally, the plan provides the framework for the development of discharge regulation (NCRWQCB 2018). As discussed above under Question (c), the proposed project would not result in changes to the amount of existing or proposed impervious surfaces on site and associated stormwater runoff rates and volumes from the project site. Additionally, the proposed project would not result in new sources of pollutants. Stormwater would continue to be managed using the existing surface water drainage system on site which drains into on-site sedimentation basins. The project would not conflict with the Basin Plan because it would not result in new sources of pollutants entering waters governed by the Basin Plan. There would be no impact.

**NO IMPACT**

# 11 Land Use and Planning

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a. Physically divide an established community? | ☐ | ☐ | ☐ | ■ |
| 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? | ☐ | ☐ | ☐ | ■ |

## Setting

The project site has a land use designation of Public Lands according to the Mendocino County General Plan and a zoning designation of PF according to the Mendocino County Zoning Ordinance (Mendocino County 2009). The intent of PF zoning designation is to "create and preserve those properties which are properly used for or are proposed to be used for public purposes or for specified public utility purposes" (Mendicino County Municipal Code [MCMC] Section 20.108). Pursuant to MCMC Section 20.108.010, major impact services and utilities such as landfills are permitted in this zoning district.

## Impact Analysis

*a. Would the project physically divide an established community?*

The project would not change the landfill disturbance footprint or use of the site, or result in new development. As a result, the project would not physically divide an established community. There would be no impact.

**NO IMPACT**

*b. Would the project 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?*

The project would not conflict with a land use plan, policy, or regulation. The project site has a land use designation of Public Lands and is zoned PF. The PF zone allows for public utility purposes which include landfill uses. The proposed project would be consistent with the Mendocino County General Plan and zoning designations. Therefore, there would be no conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect and there would be no impact.

**NO IMPACT**

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# 12 Mineral Resources

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

## Setting

The most predominant minerals found in Mendocino County are aggregate resources, primarily sand and gravel. Three sources of aggregate materials are present in Mendocino County: quarries, instream gravel, and terrace gravel deposits (Mendocino County 2020). No mining activities or extraction of mineral resources currently occur at the landfill (DOC 2015).

## Impact Analysis

*a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

*b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

No mining activities or extraction of mineral resources currently occur at the landfill (DOC 2015). The proposed project would not result in new ground disturbance, an expanded development footprint or other activities that would result in loss of availability of a known or locally important mineral resource or mineral resource recovery site. There would be no impacts.

**NO IMPACT**

*This page intentionally left blank.*

# 13 Noise

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project 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? | ☐ | ☐ | ■ | ☐ |
| b. Generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ■ | ☐ |
| c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ■ |

## Overview of Noise and Vibration

The noise analysis is based on Noise and Vibration Modeling completed by Rincon in November 2024. These results are included as Appendix E to this Initial Study.

### *Noise*

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

#### HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

### SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels.

### DESCRIPTORS

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

The $L_{eq}$ is one of the most frequently used noise metrics; it considers both duration and sound power level. The $L_{eq}$ is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The $L_{max}$ is the highest noise level within the sampling period, and the $L_{min}$ is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA $L_{eq}$ range; ambient noise levels greater than 65 dBA $L_{eq}$ can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using CNEL, which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013).

## *Groundborne Vibration*

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

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

High levels of groundborne vibration may cause damage to nearby buildings or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities, such as vibratory compaction or excavation, are based on information contained in the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018). Groundborne vibration levels that could induce potential architectural damage to buildings are identified in Table 6 below. Based on FTA recommendations, limiting vibration levels to below 0.2 in/sec PPV at non-engineered timber and masonry buildings (which would apply to the nearby buildings) would prevent architectural damage.

**Table 6 Groundborne Vibration Architectural Damage Criteria**

| Building Category | PPV (in/sec) |
|---|---|
| I. Reinforced concrete, steel, or timber (no plaster) | 0.5 |
| II. Engineered concrete and masonry (no plaster) | 0.3 |
| III. Nonengineered timber and masonry buildings | 0.2 |
| IV. Buildings extremely susceptible to vibration damage | 0.12 |

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

Source: FTA 2018

## Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. As stated in the County of Mendocino General Plan Development Element (Mendocino 2009), residential land use, where people live, sleep, and study, is generally considered sensitive to noise because noise can disrupt these activities. Additionally, churches, schools and certain kinds of outdoor recreation are also usually considered noise sensitive. The nearest residential use to the project site is the single-family residence located 750 feet north of the project site limit of refuse. The primary source of noise on site is generated by waste trucks and vehicles along Branscomb Road.

### *Regulatory Setting*

The MCMC (2024) Appendix B contains exterior noise standards for sensitive receptors and commercial uses, as shown in Table 7.

**Table 7 Exterior Noise Limit Standard**

| | | Noise Level Standards (dBA)[1,2] | |
|---|---|---|---|
| Receiving Land Use Category[3,4] | Time Period | Rural/Suburban | Urban/Highways[5] |
| One and Two Family | 10:00 p.m. – 7:00 a.m. | 40 | 50 |
| All Residential[6] | 7:00 a.m. – 10:00 p.m. | 50 | 60 |
| Multifamily | 10:00 p.m. – 7:00 a.m. | 45 | 55 |
| Public Spaces | 7:00 a.m. – 10:00 p.m. | 50 | 60 |
| Limited Commercial | 10:00 p.m. – 7:00 a.m. | 55 | 55 |

[1] When an acoustical study demonstrates that the ambient noise level exceeds the noise standard, then the ambient noise level becomes the standard.

[2] Higher noise levels may be permitted for temporary, short-term or intermittent activities when no sensitive or residential uses will be affected

[3] County staff shall recommend which receiving land use category applies to a particular project, based on the mix of uses and community noise levels. Industrial noise limits are intended to be applied at the boundary of industrial zones, rather than within industrial areas

[4] The "rural/suburban" standard should be applied adjacent to noise sensitive uses, such as hospitals or convalescence homes

[5] "Highways" apply to roads and highways where average daily traffic exceeds ten thousand (10,000).

[6] Daytime noise limit applies to one, two and multi-family residential.

Source: Mendicino County Municipal Code Appendix B

While the County does not have specific noise level criteria for assessing construction noise impacts, the FTA has developed guidance for determining if construction of a project would expose various land uses to significant noise levels or if a project would result in a substantial temporary increase in noise levels (FTA 2018). Based on FTA guidance, a significant impact would occur if project-generated construction noise exceeds the daytime eight-hour 80 dBA $L_{eq}$ noise limit at nearby residences.

### *Project Site Noise Environment*

The most common source of noise in the project site vicinity is vehicular traffic from Branscomb Road. Community noise levels are usually closely related to the intensity of human activity. Noise levels are generally considered low when below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the day-night average noise levels ($L_{dn}$) can be below 35 dBA. In small towns or wooded and lightly used residential areas, the $L_{dn}$ is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas, and levels up to 85 dBA occur near major freeways and airports (USEPA 1974, 1978). Although people often accept the higher levels associated with very noisy urban residential and residential commercial zones, they nevertheless are considered to be adverse to public health. The project site is located in a generally rural area and would typically have an ambient noise level of 50-60 dBA $L_{dn}$.

## Impact Analysis

*a. Would the project result in 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?*

### *Construction Noise*

As discussed in Section 2, *Project Description*, project construction would take place from 7:00 am to 5:00 pm Monday through Friday. Over the course of a typical construction day, construction equipment activity would occur as close as 750 feet to the nearest sensitive single-family residential receptor to the north but would typically be located at an average distance further away due to the nature of construction where equipment is mobile throughout the site during the day. Construction noise was estimated using the Federal Highway Administration Roadway Construction Noise Model. Table 8 identifies the estimated noise levels at the closest sensitive receptors from the edge of the specific phase based on the conservatively assumed three loudest pieces of construction equipment during each phase of construction.

**Table 8 Estimated Noise Levels by Construction Phase**

| | $L_{eq}$ dBA | |
|---|---|---|
| **Construction Phase** | **RCNM Reference Noise Level** | **Single-Family Residences to the North 750 feet** |
| Demolition | 81 | 58 |
| Site Preparation | 81 | 58 |
| Grading | 83 | 60 |
| Equipment Installation | 80 | 57 |

RCNM = Roadway Construction Noise Model

Roadway Construction Noise Model reference noise levels are noise levels generated during each construction phase measured from a point 50 feet from the location of the construction phase. These reference noise levels are then used to calculate noise levels from the construction phase at a distance greater than 50 feet from the construction phase.

Source: Roadway Construction Noise Model provided in Appendix E

As shown in Table 8 construction noise could be as high as approximately 60 dBA $L_{eq}$ during grading that would occur as close as 750 feet from the nearest single-family residential sensitive receptor but would typically be located at an average distance further away due to the use of mobile construction equipment. This would be well below the FTA's 80 dBA $L_{eq}$ (eight-hour) daytime construction noise threshold at residences. Construction would occur further away from other sensitive receptors and would therefore be less than 80 dBA $L_{eq}$ (eight-hour) at other sensitive receptors. These estimates also conservatively did not account for the existing topography, trees and buildings that separate the nearest residences from the project site, which would be expected to attenuate noise further. Therefore, impacts would be less than significant.

### *Operational Noise*

The project would involve the repair of the final cover on the closed landfill. Operational noise would generally be the same as the existing condition, with no substantial increase in operational sources or new operational sources added. Therefore, as operational noise would be similar to existing conditions, the project would not exceed the County's Municipal Code exterior noise limit, and impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

### *Groundborne Vibration*

Construction activities have the greatest potential to generate ground-borne vibration affecting nearby receptors, especially during demolition, site preparation and grading of the project site. Construction activities known to generate excessive groundborne vibration, such as pile driving and blasting, would not be needed to construct the proposed project. The greatest vibratory source during construction in the project vicinity would be a large bulldozer used during demolition, site preparation and grading. Construction vibration estimates are based on vibration levels reported by the FTA, shown in Table 6 above. Table 9 shows typical vibration levels for various pieces of construction equipment used in the assessment of construction vibration.

**Table 9 Construction Vibration Levels**

| | in/sec PPV | |
|---|---|---|
| **Equipment** | **Reference Level 25 Feet** | **Single Family Residential to the North 935 Feet** |
| Large Bulldozer | 0.089 | <0.001 |
| Loaded Trucks | 0.076 | <0.001 |
| Small Bulldozer | 0.003 | <0.001 |
| Threshold for Structural Damage to Building | | 0.2 |
| **Threshold Exceeded?** | | **No** |

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

Notes: Vibration analysis worksheets are included in Appendix E

Source: Federal Transit Administration 2018

Based on the recommendations of the FTA, limiting vibration levels to below 0.2 in/sec PPV at residential structures would prevent architectural damage regardless of building construction type. The greatest anticipated source of vibration during project construction activities would be from a large bulldozer, which would be used during demolition, site preparation and grading. Based on the project site plan, it is assumed the large bulldozer may be used within 935 feet[4] of the nearest off-site residential structures to the north of the project site during grading activities. A large bulldozer generates less than 0.001 in/sec PPV at 935 feet, which would not exceed the significance threshold of 0.2 inches per second PPV. Proposed project construction activities would have a less-than-significant impact on the generation or exposure of persons to excessive groundborne vibration.

Construction of the proposed project would not include substantial sources of vibration. The construction of the proposed project would have no impact on exposure to excessive groundborne vibration or groundborne noise levels.

**LESS-THAN-SIGNIFICANT IMPACT**

[4] Distance for groundborne vibration is a further distance as it is analyzed from the project site to the nearest residential building.

*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?*

The project site is not located within 2 miles of an airport or within the vicinity of an airport land use plan. The nearest airport is the Willits Municipal Airport located approximately 23 miles south of the project site. Therefore, no impact related to airport noise would occur.

**NO IMPACT**

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# 14 Population and Housing

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

## Setting

There are no structures and no people residing on the project site.

## Impact Analysis

*a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

The proposed project would not involve the construction of new habitable structures, and the landfill would remain closed after project completion. The project would not involve construction of new residences or other population-generating uses, such as substantial employment growth. The proposed project would not result in direct or indirect population growth and there would be no impact.

**NO IMPACT**

*b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The proposed final cover repairs would occur within the existing landfill site, where previous waste management operations have occurred. There are no residences or other habitable structures located on the site. The proposed project would not displace people or housing. There would be no impact.

**NO IMPACT**

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# 15 Public Services

| | | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|---|
| a. | Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| | 1 Fire protection? | ☐ | ☐ | ☐ | ■ |
| | 2 Police protection? | ☐ | ☐ | ☐ | ■ |
| | 3 Schools? | ☐ | ☐ | ☐ | ■ |
| | 4 Parks? | ☐ | ☐ | ☐ | ■ |
| | 5 Other public facilities? | ☐ | ☐ | ☐ | ■ |

## Setting

Fire protection services are provided to the project area by the Long Valley Fire Department (LVFD). The LVFD provides fire protection, emergency medical services, rescue and extraction, hazardous material response, ambulance service and fire prevention in the project area. The proposed project is serviced by Fire Station 510, located approximately 1.60 miles northeast of the project site at 44950 Willis Avenue in Laytonville (Mendocino LAFCo 2016). LVFD has a target response time of four minutes (Mendocino LAFCo 2016).

Police protection services are provided to Laytonville by the Mendocino County Sheriff's Office.

The Mendocino County Office of Education is responsible for monitoring 12 school districts within Mendocino, and the Mendocino County Library provides services through six branches of libraries (Mendocino County Library 2024). The closest school to the project site is Laytonville High School at 250 Branscomb Road, located approximately 1.50 miles northeast of the site.

## Impact Analysis

*a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

*a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

The proposed landfill cover repairs would not result in operational changes or new development that would require additional services by the LVFD and Mendocino County Sheriff's Office. Therefore, the proposed project would not require the construction of new facilities or the alteration of existing fire and police protection facilities. There would be no impacts.

**NO IMPACT**

*a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

*a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

*a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

As discussed under Section 14, *Population and Housing*, the project does not include residential development or substantial employment growth and would not directly or indirectly induce population growth in Mendicino County. The project would not generate any new students, park users, or people who use public facilities such as libraries. Therefore, the proposed project would not increase demand for schools, parks, or libraries and would have no impacts.

**NO IMPACT**

# 16 Recreation

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ■ |
| b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ■ |

## Setting

There are several state and regional parks near Laytonville. The nearest park to the project site is Harwood Memorial Park, approximately 1.50 miles northeast of the site.

## Impact Analysis

*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?*

The proposed project does not include residential or other uses that would directly or indirectly induce population growth and thus increase the use of parks or other recreational facilities in Mendocino County. Therefore, the project would not increase the use of parks or other recreational facilities such that substantial physical deterioration would occur. There would be no impact.

**NO IMPACT**

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

The proposed project would provide final cover repairs within the existing landfill. The project does not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. There would be no impact.

**NO IMPACT**

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# 17 Transportation

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

## Setting

U.S 101 Redwood Highway provides regional access to the project site via highway entrances at Branscomb Road from a two-lane rural highway that serves eastern Mendocino County and connects multiple cities. The project site can be accessed via Branscomb Road which connects to an internal roadway leading to the area of remediation and improvement. The landfill was closed July 1997 and covered by 1998.

## Impact Analysis

*a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

*c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*

The proposed project would not include new land uses, structures, or habitable buildings that would generate new vehicle trips. Additionally, the landfill has been non-operational as of July 1997. Project construction and repair activities would be temporary in nature and within the limits of the landfill. The proposed project would also not result in changes to site operations.

The project would not change traffic volumes, types of vehicles accessing the site, or road geometries or intersection configurations, and thus would not result in hazardous features for vehicle or pedestrians. As discussed in Section 15, *Population and Housing*, the proposed landfill cover repair would not induce or generate population growth. Therefore, the project would not conflict with a program, plan, ordinance or policy addressing the circulation system or substantially increase hazards due to a geometric design feature or incompatible use. There would be no impact

**NO IMPACT**

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

Section 15064.3 of the *CEQA Guidelines* established new methodology for determining the significance of transportation impacts using vehicle miles traveled as the metric for analyzing transportation impacts. The proposed project would not alter daily traffic volume or result in new land uses or operations at the landfill. Therefore, no impact would occur to vehicle miles traveled.

**NO IMPACT**

*d. Would the project result in inadequate emergency access?*

The proposed project does not involve features that would result in a change of access to and from the site. Therefore, there would be no impact to emergency access.

**NO IMPACT**

# 18 Tribal Cultural Resources

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or 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 in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? | ☐ | ■ | ☐ | ☐ |
| b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ■ | ☐ | ☐ |

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

Tribal cultural resources (TCR) are defined under PRC Section 21074(a)(1) as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either 1) included or determined to be eligible for inclusion in the CRHR, or 2) included in a local register of historical resources. TCRs are those determined to be significant by the lead agency at its discretion and supported by substantial evidence. In making a determination that something is a TCR, the lead agency is required to consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

On February 6, 2025, the County distributed AB 52 consultation letters for the proposed project, including project information, map, and contact information, to nine Native American tribes (see Appendix F). The Native American contacts provided with an AB 52 consultation letters include the following list of recipients:

- Cloverdale Rancheria
- Manchester-Point Arena Band of Pomo Indians
- Pinoleville Pomo Nation
- Potter Valley Rancheria
- Redwood Valley Little River Band of Pomo Indians (Redwood Valley Rancheria)
- Sherwood Valley of Pomo Indians
- Middletown Rancheria of Pomo Indians
- Cahto Tribe

On April 14, 2025, the County sent a second letter electronically to the Cloverdale Rancheria due to receipt of notice from the United States Postal Service that the original letter sent on February 6, 2025, had not arrived to the tribe.

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. Therefore, the consultation request period for all tribes except Cloverdale Rancheria closed on March 8, 2025. The consultation request period for the Cloverdale Rancheria ended on May 14, 2025.

The County received one response from Lena Murphy, on behalf of Michael Rivera, Tribal Council Representative and Tribal Historic Preservation Officer of Middletown Rancheria of Pomo Indians on February 12, 2025, stating the project area is not within an area of concern, and that the tribe has no specific comments regarding the project. The County did not receive any formal requests for consultation.

## Impact Analysis

*a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*

*b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

As discussed under Section 5, *Cultural Resources*, a search of the NAHC SLF was returned with negative results, indicating there are no known tribal cultural resources in the project area. The proposed project site does not contain known Native American or historic period resources. As discussed in *Setting* above, the County of Mendocino mailed AB 52 notification letters to nine tribes on February 6, 2025. Under AB 52, tribes have 30 days from receipt of the letter to respond and request consultation. The County of Mendocino did not receive any formal requests for consultation during the 30-day period. As indicated in Section 5, *Cultural Resources*, the County would be required to comply with existing regulations outlined in California Health and Safety Code Section 7050.5 should human remains be inadvertently discovered during construction. Implementation of Mitigation Measures CR-1 along with regulatory compliance with California Health and Safety Code Section 7050.5 would be required to reduce impacts to tribal cultural resources to a less-than-significant level.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

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# 19 Utilities and Service Systems

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| 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? | ☐ | ☐ | ☐ | ■ |
| b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | ☐ | ☐ | ☐ | ■ |
| c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ■ |
| d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | ☐ | ☐ | ☐ | ■ |
| e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | ☐ | ☐ | ☐ | ■ |

## Setting

The project site is currently a closed landfill. There are no utility lines, natural gas lines, or telecommunication lines within the project site.

## Impact Analysis

*a. Would the project 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?*

The proposed project consists of final cover stability, improvements to surface water drainage, LFG management, seepage, and long-term maintenance requirements but would not result in changes or alterations to the closed landfill or the overall function. The proposed project would not involve activities that would alter the existing drainage pattern on-site. Therefore, the project would not substantially increase stormwater runoff from the proposed project site such that new or expanded stormwater drainage facilities would be required. Furthermore, the proposed project is not served by existing electric power, natural gas, and telecommunication facilities, and there are no such facilities in the project area. Therefore, no impact would occur to utility facilities.

**NO IMPACT**

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

The proposed landfill cover remediation and improvements would not change existing operations or water demand and would not result in the need for additional water facilities. No impact would occur.

**NO IMPACT**

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

The project would not result in new development or land uses that would increase or change wastewater demand or require additional wastewater facilities. No impact would occur.

**NO IMPACT**

*d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

*e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The proposed project would provide final cover repairs and not involve changes to local infrastructure that impair the attainment of solid waste reduction goals. Project construction is not anticipated to generate substantial solid waste as ground disturbance would be limited to the refuse area and soil and fill would be from previous landfill closure and repair activities. The proposed project would not result in an increase in the total waste stream such that it would impair the attainment of solid waste reduction goals.

There are currently no active landfill operations on-site, and no future activity is anticipated after completion of project construction. Therefore, the proposed project would be consistent with state regulations that govern the closed solid waste disposal site, and no impact would occur.

**NO IMPACT**

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# 20 Wildfire

| | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less-than-Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | ☐ | ☐ | ☐ | ■ |
| b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | ☐ | ☐ | ☐ | ■ |
| c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | ☐ | ☐ | ☐ | ■ |
| d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | ☐ | ☐ | ☐ | ■ |

## Setting

According to CAL FIRE, the project site is located in a moderate fire hazard severity zone in a Local Responsibility Area. The project site is located adjacent to a high fire hazard severity zone in an SRA (CAL FIRE 2024).

## Impact Analysis

*a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

*b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

*c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

*d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

According to CAL FIRE, the project site is located in a moderate fire hazard severity zone within a Local Responsibility Area. There is a high fire hazard severity zone SRA approximately 130 feet north of the project site. The nearest very high fire hazard severity zone is approximately 1.1 miles west of the project site (CAL FIRE 2024). The project would not involve the development of new habitable structures or land uses that generate new population, exacerbate fire risk or create an impediment to emergency response. Furthermore, wildfire risk associated with construction activities would be reduced through the implementation of a Fire Prevention Plan prepared by the construction contractor and submitted to the County prior to construction. Therefore, the project would not substantially impair an adopted emergency response plan or evacuation plan; expose people to pollutants or risks from wildfires; or require the installation or maintenance of associated infrastructure that may exacerbate fire risk. There would be no impact.

**NO IMPACT**

# 21 Mandatory Findings of Significance

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

## Impact Analysis

*a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

The project would involve ground disturbance in previously disturbed areas within the boundaries of the closed landfill area and possibly within the designated stockpile area. Based on the information and analysis provided in Section 4, *Biological Resources* and Section 5, *Cultural Resources*, the project would result in less than significant or no impact to fish and wildlife species and a less-than-significant impact to archaeological and historical resources with implementation of

Mitigation Measure CR-1 that provides guidelines for the treatment of unanticipated archaeological discoveries on site. Therefore, implementation of the project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of California history or prehistory. This impact would be less than significant with incorporation of Mitigation Measure CR-1.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

*b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Implementation of the project would result in less-than-significant environmental impacts. There are several development projects within the County of Mendocino. The nearest proposed projects are storm damage repairs on Laytonville-Dios Rios Road which is approximately 7 miles from the project site and the Dutch Charlie Creek Bridge Replacement which is approximately 15 miles from the project site. Cumulative impacts could occur if construction of these projects occurred simultaneously. It is not known whether construction of these projects would overlap with the proposed project; however, impacts associated with the project would be localized at the project site and would not be significant. Given the limited impacts anticipated with project implementation, the project would not result in a considerable contribution to cumulative impacts. This impact would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

*c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Effects on human beings are generally associated with air quality, noise, traffic safety, hazards/hazardous materials, and wildfire. The project would result in a less-than-significant impact or no impact associated with air quality, hazards, noise, and traffic impacts. Therefore, the project would not cause substantial adverse effects on human beings, either directly or indirectly. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

# Comments and Responses to Comments

On July 9, 2025, the County of Mendocino published a Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration for a 30-day comment period to receive input on this IS-MND. The NOI was filed with the State Clearinghouse (SCH Number 2025070371, https://ceqanet.lci.ca.gov/2025070371) and Mendocino County Clerk; published in the Willits News; and transmitted to public agencies (including through the State Clearinghouse), organizations, and individuals considered likely to be interested in the project and its potential impacts. Additionally, the NOI was posted at the entrance gate to the Laytonville Landfill Transfer Center and at the Laytonville Post Office. In accordance with CEQA Guidelines Section 15074 (b), the County's decision makers must consider the IS-MND together with comments received during the public review process prior to approving the project. The County did not receive any comment letters on the Draft IS-MND during the comment period. Therefore, no responses have been prepared and no changes to the IS-MND have been made in response to comments. This document is the Final IS-MND for the project.

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# Appendix A

California Emissions Estimator Model Results

# Laytonville Landfill Cover Repairs Project Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | Laytonville Landfill Cover Repairs Project |
| Construction Start Date | 6/1/2025 |
| Operational Year | 2025 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 1.70 |
| Precipitation (days) | 67.4 |
| Location | 39.67073231125994, -123.50793018556129 |
| County | Mendocino |
| City | Unincorporated |
| Air District | Mendocino County AQMD |
| Air Basin | North Coast |
| TAZ | 247 |
| EDFZ | 2 |
| Electric Utility | Pacific Gas & Electric Company |
| Gas Utility | Pacific Gas & Electric |
| App Version | 2022.1.1.29 |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 7.00 | Acre | 7.00 | 0.00 | 0.00 | — | — | — |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

## 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.58 | 1.56 | 35.3 | 41.1 | 0.07 | 1.41 | 4.15 | 5.56 | 1.26 | 1.50 | 2.77 | — | 8,018 | 8,018 | 0.33 | 0.07 | 0.66 | 8,048 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.14 | 0.14 | 3.18 | 3.80 | 0.01 | 0.14 | 0.31 | 0.45 | 0.12 | 0.12 | 0.24 | — | 699 | 699 | 0.03 | 0.01 | 0.03 | 702 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.03 | 0.03 | 0.58 | 0.69 | < 0.005 | 0.03 | 0.06 | 0.08 | 0.02 | 0.02 | 0.04 | — | 116 | 116 | < 0.005 | < 0.005 | 0.01 | 116 |

## 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 1.58 | 1.56 | 35.3 | 41.1 | 0.07 | 1.41 | 4.15 | 5.56 | 1.26 | 1.50 | 2.77 | — | 8,018 | 8,018 | 0.33 | 0.07 | 0.66 | 8,048 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2025 | 0.14 | 0.14 | 3.18 | 3.80 | 0.01 | 0.14 | 0.31 | 0.45 | 0.12 | 0.12 | 0.24 | — | 699 | 699 | 0.03 | 0.01 | 0.03 | 702 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2025 | 0.03 | 0.03 | 0.58 | 0.69 | < 0.005 | 0.03 | 0.06 | 0.08 | 0.02 | 0.02 | 0.04 | — | 116 | 116 | < 0.005 | < 0.005 | 0.01 | 116 |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.08 | 0.08 | 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 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.08 | 0.08 | 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 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.08 | 0.08 | 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 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.01 | 0.01 | 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 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Area | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Energy | 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 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.08 | 0.08 | 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 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Area | 0.08 | 0.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 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 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.08 | 0.08 | 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 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Area | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Energy | 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 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.08 | 0.08 | 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 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Area | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Energy | 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 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.01 | 0.01 | 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. Construction Emissions Details

## 3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.41 | 0.41 | 10.6 | 13.0 | 0.02 | 0.49 | — | 0.49 | 0.45 | — | 0.45 | — | 2,265 | 2,265 | 0.09 | 0.02 | — | 2,273 |
| Demolition | — | — | — | — | — | — | 0.09 | 0.09 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.58 | 0.71 | < 0.005 | 0.03 | — | 0.03 | 0.02 | — | 0.02 | — | 124 | 124 | 0.01 | < 0.005 | — | 125 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | < 0.005 | < 0.005 | 0.11 | 0.13 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 20.6 | 20.6 | < 0.005 | < 0.005 | — | 20.6 |
| Demolition | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.06 | 0.05 | 0.54 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.02 | 0.02 | — | 76.0 | 76.0 | < 0.005 | < 0.005 | 0.33 | 77.4 |
| Vendor | 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 | 0.00 |
| Hauling | < 0.005 | < 0.005 | 0.10 | 0.02 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.01 | 0.01 | — | 77.7 | 77.7 | < 0.005 | 0.01 | 0.16 | 81.5 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.09 | 4.09 | < 0.005 | < 0.005 | 0.01 | 4.16 |
| Vendor | 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 | 0.00 |
| Hauling | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 4.26 | 4.26 | < 0.005 | < 0.005 | < 0.005 | 4.46 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.68 | 0.68 | < 0.005 | < 0.005 | < 0.005 | 0.69 |
| Vendor | 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 | 0.00 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.70 | 0.70 | < 0.005 | < 0.005 | < 0.005 | 0.74 |

## 3.3. Site Preparation (2025) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.54 | 0.52 | 12.6 | 15.2 | 0.02 | 0.57 | — | 0.57 | 0.52 | — | 0.52 | — | 2,617 | 2,617 | 0.11 | 0.02 | — | 2,626 |
| Dust From Material Movement | — | — | — | — | — | — | 2.56 | 2.56 | — | 1.31 | 1.31 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.34 | 0.42 | < 0.005 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | — | 71.7 | 71.7 | < 0.005 | < 0.005 | — | 72.0 |
| Dust From Material Movement | — | — | — | — | — | — | 0.07 | 0.07 | — | 0.04 | 0.04 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.06 | 0.08 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 11.9 | 11.9 | < 0.005 | < 0.005 | — | 11.9 |
| Dust From Material Movement | — | — | — | — | — | — | 0.01 | 0.01 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.09 | 0.07 | 0.80 | 0.00 | 0.00 | 0.11 | 0.11 | 0.00 | 0.03 | 0.03 | — | 114 | 114 | 0.01 | < 0.005 | 0.49 | 116 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.07 | 3.07 | < 0.005 | < 0.005 | 0.01 | 3.12 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.51 | 0.51 | < 0.005 | < 0.005 | < 0.005 | 0.52 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

## 3.5. Grading (2025) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 1.46 | 1.44 | 35.3 | 40.1 | 0.07 | 1.41 | — | 1.41 | 1.26 | — | 1.26 | — | 7,866 | 7,866 | 0.32 | 0.06 | — | 7,893 |
| Dust From Material Movement | — | — | — | — | — | — | 4.00 | 4.00 | — | 1.47 | 1.47 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.08 | 0.08 | 1.93 | 2.20 | < 0.005 | 0.08 | — | 0.08 | 0.07 | — | 0.07 | — | 431 | 431 | 0.02 | < 0.005 | — | 433 |
| Dust From Material Movement | — | — | — | — | — | — | 0.22 | 0.22 | — | 0.08 | 0.08 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.35 | 0.40 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 71.4 | 71.4 | < 0.005 | < 0.005 | — | 71.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.04 | 0.04 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.11 | 0.09 | 1.07 | 0.00 | 0.00 | 0.14 | 0.14 | 0.00 | 0.03 | 0.03 | — | 152 | 152 | 0.01 | 0.01 | 0.66 | 155 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.06 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 8.18 | 8.18 | < 0.005 | < 0.005 | 0.02 | 8.31 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.35 | 1.35 | < 0.005 | < 0.005 | < 0.005 | 1.38 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

## 3.7. Equipment installation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.14 | 0.14 | 3.70 | 4.48 | 0.01 | 0.21 | — | 0.21 | 0.19 | — | 0.19 | — | 641 | 641 | 0.03 | 0.01 | — | 643 |
| Onsite truck | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.30 | 0.37 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 52.7 | 52.7 | < 0.005 | < 0.005 | — | 52.8 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.06 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.72 | 8.72 | < 0.005 | < 0.005 | — | 8.75 |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 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 | 0.00 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 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 | 0.00 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 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 | 0.00 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | 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 | 0.00 |
| Total | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | 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 | 0.00 |
| Total | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | 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 | 0.00 |
| Total | 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 | 0.00 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 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 |
| Total | 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 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | 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 |
| Total | 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 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | 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 |
| Total | 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 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 0.02 | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.06 | 0.06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Landscape Equipm | 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 |
| Total | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 0.02 | 0.02 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.06 | 0.06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 0.08 | 0.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | < 0.005 | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.01 | 0.01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 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 |
| Total | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Other Non-Asphalt Surfaces | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Demolition | Demolition | 6/1/2025 | 6/29/2025 | 5.00 | 20.0 | — |
| Site Preparation | Site Preparation | 6/30/2025 | 7/11/2025 | 5.00 | 10.0 | — |
| Grading | Grading | 7/12/2025 | 8/8/2025 | 5.00 | 20.0 | — |
| Equipment installation | Building Construction | 8/9/2025 | 9/19/2025 | 5.00 | 30.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Rubber Tired Dozers | Diesel | Tier 3 | 1.00 | 8.00 | 367 | 0.40 |
| Demolition | Excavators | Diesel | Tier 3 | 1.00 | 8.00 | 36.0 | 0.38 |
| Demolition | Rubber Tired Loaders | Diesel | Tier 3 | 1.00 | 8.00 | 150 | 0.36 |
| Demolition | Skid Steer Loaders | Diesel | Tier 3 | 1.00 | 8.00 | 71.0 | 0.37 |
| Site Preparation | Rubber Tired Dozers | Diesel | Tier 3 | 1.00 | 8.00 | 367 | 0.40 |
| Site Preparation | Dumpers/Tenders | Diesel | Average | 1.00 | 8.00 | 16.0 | 0.38 |
| Site Preparation | Excavators | Diesel | Tier 3 | 1.00 | 8.00 | 36.0 | 0.38 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Tier 3 | 1.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation | Rubber Tired Loaders | Diesel | Tier 3 | 1.00 | 8.00 | 150 | 0.36 |
| Site Preparation | Skid Steer Loaders | Diesel | Tier 3 | 1.00 | 8.00 | 71.0 | 0.37 |
| Grading | Excavators | Diesel | Tier 3 | 1.00 | 8.00 | 36.0 | 0.38 |
| Grading | Graders | Diesel | Tier 3 | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Rubber Tired Dozers | Diesel | Tier 3 | 1.00 | 8.00 | 367 | 0.40 |
| Grading | Scrapers | Diesel | Tier 3 | 3.00 | 8.00 | 423 | 0.48 |
| Grading | Plate Compactors | Diesel | Average | 1.00 | 8.00 | 8.00 | 0.43 |
| Grading | Dumpers/Tenders | Diesel | Average | 1.00 | 8.00 | 16.0 | 0.38 |
| Equipment installation | Excavators | Diesel | Tier 3 | 1.00 | 8.00 | 36.0 | 0.38 |
| Equipment installation | Skid Steer Loaders | Diesel | Tier 3 | 1.00 | 8.00 | 71.0 | 0.37 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Equipment installation | Tractors/Loaders/Back | Diesel | Tier 3 | 1.00 | 7.00 | 84.0 | 0.37 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 10.0 | 10.3 | LDA,LDT1,LDT2 |
| Demolition | Vendor | — | 7.10 | HHDT,MHDT |
| Demolition | Hauling | 1.10 | 20.0 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 15.0 | 10.3 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 7.10 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 20.0 | 10.3 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 7.10 | HHDT,MHDT |
| Grading | Hauling | 0.00 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Equipment installation | — | — | — | — |
| Equipment installation | Worker | 0.00 | 10.3 | LDA,LDT1,LDT2 |
| Equipment installation | Vendor | 0.00 | 7.10 | HHDT,MHDT |
| Equipment installation | Hauling | 0.00 | 20.0 | HHDT |
| Equipment installation | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (cy) | Material Exported (cy) | Acres Graded (acres) | Material Demolished (Ton of Debris) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Demolition | 0.00 | 0.00 | 0.00 | 85.1 | — |
| Site Preparation | — | — | 5.00 | 0.00 | — |
| Grading | — | — | 80.0 | 0.00 | — |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|---|---|---|---|
| Water Exposed Area | 2 | 61% | 61% |

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| Other Non-Asphalt Surfaces | 7.00 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2025 | 0.00 | 204 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|
| 0 | 0.00 | 0.00 | 0.00 | 18,295 |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 180 |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Other Non-Asphalt Surfaces | 0.00 | 204 | 0.0330 | 0.0040 | 0.00 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Other Non-Asphalt Surfaces | 0.00 | 0.00 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Other Non-Asphalt Surfaces | 0.00 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|---|---|---|---|---|---|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|---|---|

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 10.3 | annual days of extreme heat |
| Extreme Precipitation | 34.5 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 28.1 | annual hectares burned |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | 0 | 0 | 0 | N/A |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | 0 | 0 | 0 | N/A |
| Flooding | 0 | 0 | 0 | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

## 6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | N/A | N/A | N/A | N/A |
| Extreme Precipitation | 1 | 1 | 1 | 2 |
| Sea Level Rise | N/A | N/A | N/A | N/A |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | 1 | 1 | 1 | 2 |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | N/A | N/A | N/A | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 7.60 |
| AQ-PM | 1.46 |
| AQ-DPM | 2.03 |
| Drinking Water | 39.6 |
| Lead Risk Housing | 30.2 |

| | |
|---|---|
| Pesticides | 23.6 |
| Toxic Releases | 0.00 |
| Traffic | 1.18 |
| Effect Indicators | — |
| CleanUp Sites | 0.00 |
| Groundwater | 91.0 |
| Haz Waste Facilities/Generators | 16.6 |
| Impaired Water Bodies | 58.7 |
| Solid Waste | 98.5 |
| Sensitive Population | — |
| Asthma | 48.0 |
| Cardio-vascular | 28.1 |
| Low Birth Weights | 38.5 |
| Socioeconomic Factor Indicators | — |
| Education | 45.9 |
| Housing | 22.7 |
| Linguistic | 5.64 |
| Poverty | 73.0 |
| Unemployment | 98.3 |

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Economic | — |
| Above Poverty | 25.67688952 |
| Employed | 6.274862056 |
| Median HI | 15.18029 |
| Education | — |

| | |
|---|---|
| Bachelor's or higher | 47.91479533 |
| High school enrollment | 5.286795842 |
| Preschool enrollment | 48.45374054 |
| Transportation | — |
| Auto Access | 36.01950468 |
| Active commuting | 82.62543308 |
| Social | — |
| 2-parent households | 10.4452714 |
| Voting | 48.64622097 |
| Neighborhood | — |
| Alcohol availability | 88.00205312 |
| Park access | 12.12626716 |
| Retail density | 0.962402156 |
| Supermarket access | 20.46708585 |
| Tree canopy | 99.19158219 |
| Housing | — |
| Homeownership | 54.3308097 |
| Housing habitability | 43.44924933 |
| Low-inc homeowner severe housing cost burden | 46.18247145 |
| Low-inc renter severe housing cost burden | 69.97305274 |
| Uncrowded housing | 50.16040036 |
| Health Outcomes | — |
| Insured adults | 22.85384319 |
| Arthritis | 0.0 |
| Asthma ER Admissions | 53.4 |
| High Blood Pressure | 0.0 |
| Cancer (excluding skin) | 0.0 |
| Asthma | 0.0 |

| | |
|---|---|
| Coronary Heart Disease | 0.0 |
| Chronic Obstructive Pulmonary Disease | 0.0 |
| Diagnosed Diabetes | 0.0 |
| Life Expectancy at Birth | 52.1 |
| Cognitively Disabled | 15.2 |
| Physically  Disabled | 7.8 |
| Heart Attack ER Admissions | 73.9 |
| Mental Health Not Good | 0.0 |
| Chronic Kidney Disease | 0.0 |
| Obesity | 0.0 |
| Pedestrian Injuries | 91.4 |
| Physical Health Not Good | 0.0 |
| Stroke | 0.0 |
| Health Risk Behaviors | — |
| Binge Drinking | 0.0 |
| Current Smoker | 0.0 |
| No Leisure Time for Physical Activity | 0.0 |
| Climate Change Exposures | — |
| Wildfire Risk | 17.3 |
| SLR Inundation Area | 74.9 |
| Children | 88.7 |
| Elderly | 12.2 |
| English Speaking | 84.8 |
| Foreign-born | 1.6 |
| Outdoor Workers | 8.4 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 98.9 |
| Traffic Density | 1.6 |

| | |
|---|---|
| Traffic Access | 0.0 |
| Other Indices | — |
| Hardship | 59.3 |
| Other Decision Support | — |
| 2016 Voting | 45.8 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 25.0 |
| Healthy Places Index Score for Project Location (b) | 23.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | Yes |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Construction: Construction Phases | Construction would have a duration of 16 weeks |
| Construction: Off-Road Equipment | Based on applicant provided information |
| Construction: On-Road Fugitive Dust | Access to the project site is provided by a paved road |

# Appendix B

Cultural Resources Assessment

**Rincon Consultants, Inc.**
449 15th Street, Suite 303
Oakland, California 94612
510-834-4455

April 18, 2025
Project No: 23-14356

Mendocino County
Department of Transportation
340 Lake Mendocino Drive
Ukiah, California 95482
Attn: Alex Straessle, Engineer II
Via email: straessa@mendocinocounty.org

**Subject: Cultural Resources Assessment for the Laytonville Landfill Cover Repairs Project 1825 Branscomb Road, unincorporated Mendocino County, California, 95454**

Dear Mr. Straessle:

Geo-Logic Associates retained Rincon Consultants, Inc. (Rincon) to prepare an Initial Study – Mitigated Negative Declaration (IS-MND) for the Laytonville Landfill Cover Repairs Project (project) located at 1825 Branscomb Road (Assessor's Parcel Number 014-250-32-00) in unincorporated Mendocino County. This letter report was prepared in association with the IS-MND and in compliance with the California Environmental Quality Act (CEQA), the Mendocino County Archaeological Commission, and the Mendocino County Archaeological Resources Ordinance (County of Mendocino 2024). Mendocino County (County) is the lead agency for CEQA. This letter report documents the results of the tasks performed by Rincon, specifically a California Historical Resources Information System (CHRIS) records search through the Northwest Information Center (NWIC), a Sacred Lands File (SLF) search through the California Native American Heritage Commission (NAHC), a pedestrian field survey, a review of historical aerial imagery and topographic maps, and a geoarchaeological review.

## Project Location and Description

The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road (Assessor's Parcel Number 014-250-32-00) in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101 (U.S. 101). Specifically, the project encompasses portions of Section 14 of Township 21 North, Range 15 West on the *Cahto Peak*, *California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Attachment 1: Figure 1). Access to the project site is provided by a paved road which extends from Branscomb Road south into the landfill. The project site includes two locations of final cover replacement within the 3.86-acre limit of refuse as well as a 3.3-acre borrow, stockpile, and staging area located to the north (Attachment 1: Figure 2). The project site is bordered by internal landfill access roads and hillsides to the north, the Laytonville Rancheria managed by the Cahto Tribe of Laytonville Rancheria approximately 350 feet to the east and 30 feet to the south, and cattle grazing land to the west.

The Laytonville Landfill, a Class III facility closed in 1998, has faced ongoing structural and environmental challenges, including slope failures, inadequate drainage, and volatile organic compound (VOC) detections, despite multiple repairs and evaluations to address its regulatory and design deficiencies. The project aims to address slope failures through comprehensive repairs and improvements. The project involves replacing approximately 185,000-square feet of the existing landfill cover, which includes dismantling and removing the existing surface water drainage system

and side slope final cover to the foundation layer, stockpiling reusable materials, and disposing of geosynthetic materials off-site. The foundation layer soil will be prepared and compacted per ASTM standard D1557, with seep and landfill gas (LFG) collectors installed before placing a low-density polyethylene barrier, drainage materials, and protective cover soil. A reconstructed drainage system will feature berm channels, subsurface drains, and perimeter swales, while LFG collectors, vents, and trench collection galleries will be installed below the final cover. The existing perimeter landfill gas monitoring probe will be relocated, and sedimentary piezometer, and a new groundwater monitoring well will be installed. Erosion control measures include hydroseeding, fiber rolls, gravel bags, and straw, with long-term stabilization provided by native grasses and shrubs.

The final cover will consist of a two-foot-thick foundation layer, a composite barrier and drainage layer, and a two-foot-thick vegetative soil layer. Ground-disturbing activities such as grading, excavation, and trenching will occur during the removal and replacement of drainage systems and slope covers. The maximum depth of ground disturbance would be approximately four feet, Installation of the LFG probe, piezometer, and groundwater monitoring well would involve minimal ground disturbance. The bore holes for the LFG probe and piezometer would be up to 25 feet deep and the groundwater monitoring well would be up to 50 feet deep. The bore holes for these features would be a minimum of four inches in diameter and a maximum of ten inches. Construction activities could require up to 12,500 cubic yards of fill which would be sourced from the on site borrow, stockpile, and staging area which consists of previously disturbed soil. Overall, the project would replace approximately 185,000 square feet of existing landfill cover. No soil import or export would occur as cut soil and soil from the onsite borrow, stockpile, and staging area would be used as fill. The landfill will remain closed, with no operational changes following project completion.

# Methods

This section presents the methods for each task completed during the preparation of this assessment.

# Background and Archival Research

## California Historical Resources Information System Records Search

On December 16, 2024, Rincon received the California Histoircal Resources Information System (CHRIS) records search results from the Northwest Information Center at Sonoma State University (File No. 24-0767). The Northwest Information Center (NWIC) is the official state repository for cultural resources records and reports for the county in which the proposed project falls. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the project site and a 0.5-mile radius surrounding it. Rincon also reviewed the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historical Landmarks list, and the Built Environment Resources Directory, as well as its predecessor the California State Historic Property Data File. Additionally, Rincon reviewed the Archaeological Determination of Eligibility list. Results of the records search can be found in Attachment 2.

## Sacred Lands File Search

On November 22, 2024, Rincon contacted the NAHC to request a search of the SLF as well as an Assembly Bill 52 (AB 52) specific list of Native American contacts culturally affiliated with the project site (Attachment 3).

## Additional Sources Consulted

Additional sources were consulted in March 2025 to identify known or potential cultural resources in the project site, inform the archaeological sensitivity analysis and develop an understanding of the project site and its context and include the following:

- Historical aerial photographs accessed via Nationwide Environmental Title Research, LLC (NETR) online
- USGS Historical Topographic Map Explorer
- Geologic Map of the Covelo 30- x 60-minute Quadrangle, northern California: U.S. Geological Survey, Miscellaneous Field Studies Map MF-2001 (Jayko et al. 1989)
- USDA Soil Survey
- Geo-Logic Associates (2024) *Design Basis Memorandum Final Cover Remediation and Improvements Plan for the Laytonville Landfill*.

## Field Survey

Under the direction of Rincon Archaeologist and Project Manager, Elaine Foster, MA, RPA, Rincon archaeologist Anita Song, BA, conducted a pedestrian survey of the additional borrow and stockpiling portion of the project site on March 11, 2025. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historical debris (e.g., metal, glass, ceramics). Site characteristics and survey conditions were documented using field records and a digital camera. Copies of the survey notes and digital photographs are maintained at our Rincon Oakland office. Representative photographs of the project site are provided in Attachment 4.

# Findings

This section presents the findings of each task completed during the preparation of this assessment.

## Previous Cultural Resource Studies

The records search results identified seven cultural resources studies that have previously been conducted within 0.5-mile radius of the project site, none of which overlap or are located within the project site. The project site has not been previously surveyed.

## Previously Recorded Cultural Resources

The records search results identified three previously recorded cultural resources within a 0.5-mile radius of the project site (Table 1), including two precontact Native American archaeological resources and one multi-component (precontact Native American and historic-period) archaeological resource. None of the resources are located within or immediately adjacent to the project site. All three resources are 900 feet away or further from the project site.

**Table 1 Previously Recorded Cultural Resources**

| Primary Number | Trinomial | Description | Recorder(s) and Year(s) | NRHP/CRHR Eligibility Status | Distance from Project Site |
|---|---|---|---|---|---|
| P-23-001003 | CA-MEN-1073 | Precontact archaeological resource: lithic scatter of chert debitage and project points | Fredrickson (1976) | Not evaluated | Outside |
| P-23-001226 | CA-MEN-1331 | Precontact archaeological resource: lithic scatter of chert debitage, projectile point, and a biface | Greenway and Kielusiak (1977) | Not evaluated | Outside |
| P-23-001880 | CA-MEN-2124/H | Multi-component archaeological resource: midden deposit with lithic debitage, projectile points, steatite bead, and groundstone, and a historic-period state coach stop | Gary et al. (1987) | Not evaluated | Outside |

Source: Northwest Information Center 2024

## Sacred Lands File Search and Assembly Bill 52 Request

The NAHC responded on December 19, 2024, stating that the SLF results were negative, indicating no sacred lands have been reported within the vicinity of the project site. The NAHC provided a list of tribal representatives and recommended that they be contacted. Rincon assumes the County will conduct AB 52 consultation as the CEQA lead agency. Attachment 3 provides documentation of the NAHC's response and a tribal contacts list.

## Historical Topographic Maps and Aerial Imagery Review

Rincon completed a review of historical topographic maps and aerial imagery to ascertain the development history of the project site. Topographic maps from 1921 through 1963 depict the project site as undeveloped and forested. Cahto Creek is depicted approximately 1,000 feet south of the project site (USGS 1921, NETR 2024). The first available aerial imagery of the project site is from 1964 and depicts the project site and vicinity as overgrown with vegetation (NETR 2024). Aerial imagery from 1968 depicts the project site as cleared of most of its vegetation. Imagery from 1983 depicts significant grading of the project site, including multiple access roads from the east, in its utilization as a landfill (NETR 2024). Aerial imagery indicates that between 1983 and 1993, the area of the landfill was expanded to the north (NETR 2024). Aerial imagery from 2005 and 2010 depicts the project site as covered by seasonal grasses. Between 2012 and 2022, several ground disturbing activities associated with slope stabilization are evident through the project site and immediate vicinity (NETR 2024).

## Geoarchaeological Review

According to published geologic mapping, the project site is underlain by Tertiary to Upper Jurassic Central Franciscan belt deposits (Jayko et al. 1989). There is an inverse relationship between the age of a landform and the potential for subsurface or buried archaeological deposits, meaning that buried archaeological deposits or features cannot be buried within landforms that developed before human occupation of the region. The age of the geologic unit far predates human occupation of the region and is therefore not conducive to the natural burial and preservation of subsurface archaeological deposits.

According to the USDA Soil Survey, the project area is mainly underlain the Pits and Dumps soils (USDA 2024). This classification indicates extensive human disturbance, including excavation and waste deposition, resulting in heterogeneous soils that lack a natural profile. Soils within the stock piling portion to the north include the Xerochrepts-Haploxeralfs-Argixerolls complex (9 to 30 percent slopes) directly north, south, and east of the project site and Haploxeralfs and wet-Argixerolls complex (0 to 5 percent slopes) to the west of the project site. These soil complexes are formed from alluvium derived from rock and are found on terraces with an A Horizon (topsoil) of 2 to 19 inches in depth.

As indicated by Waters (1992), A Horizons form on stable landforms not subject to intensive depositional or erosional processes. Given that A Horizons form on stable landforms, they are the primary horizons wherein archaeological materials would be typically deposited. There are different classes of A Horizons, such as Ab Horizons, which are A Horizons that have been buried by depositional processes. The soils documented within the project site do not contain documented buried A Horizons (Ab Horizon) suggesting a low potential to contain archaeological deposits buried by natural processes.

The "Pits and Dumps" classification within the landfill indicates significant soil modification, which, combined with the steep slopes and prior anthropogenic disturbance in the area, suggests a low potential for the presence of intact subsurface archaeological deposits. The extensive grading, waste deposition, and ongoing maintenance activities in and around the landfill have likely disrupted any pre-existing archaeological context. The archival research indicates the Laytonville Landfill has undergone significant anthropogenic disturbance since its establishment in the late 1960s, including clearing, grading, waste deposition, and repeated repair efforts. Historical imagery and maps confirm that the site remained forested and undeveloped until 1964, after which extensive grading and construction activities were undertaken to support landfill operations. By 1998, the landfill was capped with a multi-layered cover, and subsequent repairs to stabilize slopes were conducted from 2006 to 2017.

Archaeological sites, specifically settlements, tend to be distributed on specific geographic settings, including areas near pre-contact perennial water sources, such as a lake, stream, or springs with generally level topography (Meyer et al. 2010). The historical maps and aerial imagery depict Cahto Creek, a perennial water source, within 1,000 feet south of the project site and the three recorded Native American archaeological resources within the vicinity of the project site are all located within 500 feet of Cahto Creek. The presence of a year-round water source increases the likelihood of buried precontact archaeological deposits or features in the project site.

Although the presence of nearby archaeological resources suggests an overall sensitivity of the area, the extensive past disturbances of the project site from grading, waste deposition, and slope stabilization efforts, have substantially reduced the potential for intact subsurface archaeological deposits within the project area. The project site has low to no potential to support intact archaeological deposits due to previous disturbance associated with the landfill operation.

## Additional Background Research

In addition to background research conducted for this assessment, Rincon utilized background information from a recently conducted *Design Basis Memorandum Final Cover Remediation and Improvements Plan* for the Laytonville Landfill (Geo-Logic Associates 2024). The report indicates the Laytonville Landfill was closed between July 1997 and May 1998. Following the closure, a cover system was installed, consisting of a 24-inch layer of foundation soil, a geotextiles landfill gas migration layer, geosynthetic clay liner barrier layer, a geotextiles filter fabric drainage layer, and a minimum of 18 inches of vegetative soil on the top deck area. On the side slope areas, the cover system was similar except the vegetative soil was of an unspecified thickness. Repairs to the landfill's western slope were completed in 2006 and 2007, with additional repairs on the eastern slope in 2011

to enhance structural stability. In 2015, heavy rainfall caused approximately 5,510 square feet of the vegetative soil and filter fabric drainage layer to slide down the southwestern slope, though the underlying landfill gas migration layer, clay liner barrier, and foundation soil remained intact. Repairs for this event were completed in 2017 utilizing up to 2 feet of rock as a buttress. However, a subsequent slope failure occurred the same year on the landfill's western slope and was also repaired using an unspecified thickness of rock.

### Field Survey

Ground visibility was considered poor (approximately 10 percent). The project site was obscured by dense seasonal grasses, asphalt millings, imported gravels, and existing stockpiles of fill soils, asphalt, and gravels (Attachment 4: Photograph 1 through Photograph 4). Exposed soils from boot scrapes and tire tracks consisted of a light brown silty loam with gravel. Vegetation consisted of seasonal grasses and bushes throughout, mixed with conifers and madrone along the tree line at the northern boundary. The area has been heavily disturbed due to its existing use of a borrow area for the adjacent landfill. Tire tracks, stockpiles, graded surfaces, asphalt debris and millings, and a paved parking area have resulted in substantial ground disturbance of the project site. No precontact or historic-period archaeological resources were identified during the field survey.

## Conclusions and Recommendations

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form:

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?
b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Threshold A broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, we have chosen to limit analysis under Threshold A to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold B.

### Historical Built Environment Resources (Threshold A)

The current assessment did not identify any historic-period built environmental resources within the project site. Therefore, the project site contains no historical resources as defined by CEQA Section 15064.5(a) and the project would not result in the substantial adverse change in the significance of a historical resource. Rincon recommends a finding of **no impact** pursuant to CEQA.

### Historical and Unique Archaeological Resources (Threshold B)

While three archaeological resources were identified between 900 and 2,400 feet of the project site, the cultural resources records search did not identify any previously recorded archaeological resources within the project site. Further, the SLF search conducted by the NAHC and the pedestrian field survey returned negative results, and the geoarchaeological review concluded that the potential for encountering intact subsurface archaeological deposits is low. However, there is always the potential

for unanticipated archaeological discoveries during ground disturbing activities. Therefore, Rincon recommends the following Unanticipated Discovery of Cultural Resources. Implementation of this measure required to reduce impacts to historical and unique archaeological resources to a **less-than-significant level pursuant to CEQA.**

### Recommended Mitigation

*Unanticipated Discovery of Cultural Resources*

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and the Qualified Archaeologist should be contacted immediately to evaluate the find. If the find is Native American in origin, a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

## Human Remains (Threshold C)

No human remains are known to be present within the project site. However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, Rincon recommends a finding of **less than significant impact to human remains** under CEQA.

Should you have any questions concerning this study, please do not hesitate to contact the undersigned at 510-379-7006 or efoster@rinconconsultants.com.

Sincerely,
**Rincon Consultants, Inc.**

Lucas Nichols, BA
Archaeologist

Catherine Johnson, PhD, RPA
Archaeologist

Elaine Foster, MA, RPA
Archaeologist/Project Manager

Candace Ehringer, MA.RPA
Cultural Resources Principal

## Attachments

Attachment 1 Figures

Attachment 2 California Historical Resources Information System Records Search Results

Attachment 3 Sacred Lands File Search Results

Attachment 4 Site Photographs

# References

County of Mendocino

2024 Mendocino County Code of Ordinances Supplement 70. Available at: https://library.municode.com/ca/mendocino_county/codes/code_of_ordinances (Accessed March 2025).

Geo-Login Associates

2024 *Design Basis Memorandum Final Cover Remediation and Improvements Plan, Laytonville Landfill, Mendocino County, California.* Prepared for the County of Mendocino, Department of Transportation.

Jayko, A.S., M.C. Blake Jr., R.J. McLaughlin, H. N. Ohlin, S.D. Ellen, and Harvey Kelsey

1989 Reconnaissance Geologic Map of the Covelo 30- by 60-Minute Quadrangle, Northern California. Electronic resource, accessed December2024. https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=163

Meyer, Jack, D. Craig Young, and Jeffery S. Rosenthal

2010 Volume 1: A Geoarchaeological Overview and Assessment of Caltrans Districts 6 and 9. Far Western Anthropological Research Group, Inc. Davis, California.

National Park Service

1983 Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. Electronic document, accessed December 2024. https://www.nps.gov/articles/sec-standards-prof-quals.htm.

NETR Online

2024 Historic aerial imagery for the years 1948, 1964, 1968, 1983, 1993, 2005, 2009, 2012, 2012, 2016, 2018, 2020, 2022 and topographic maps for the years 1953, 1963, 1968, 1967, 1977, 1994. Electronic resource, accessed December 2024. https://www.historicaerials.com/viewer

USDA (United States Department of Agriculture)

2024 Web Soil Survey. Electronic resource, accessed December 2024. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

USGS (United States Geological Survey)

1921 *Branscomb, CA*. 1:62,500 topographic map. Accessed December 2024. https://ngmdb.usgs.gov/topoview/viewer/#16/39.6729/-123.5071

1938 *Branscomb, CA*. 1:62,500 topographic map. Accessed December 2024. https://ngmdb.usgs.gov/ht-bin/tv_browse.pl?id=5fc197b5860bf69dae48530a3a2a431f

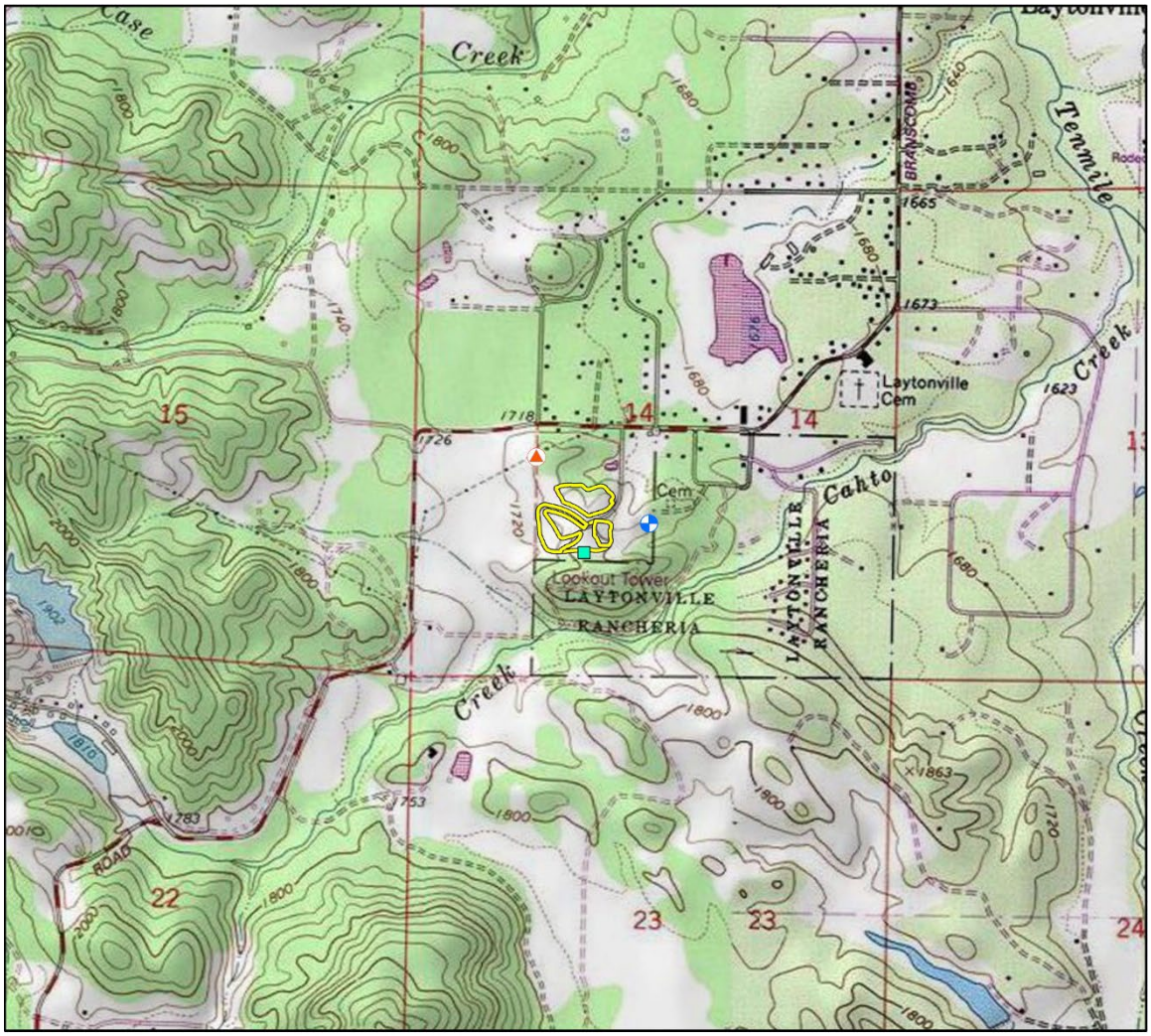
Waters, Michael R.

1992 Principles of Geoarchaeology. Tucson: The University of Arizona Press.

# Attachment 1

Figures

## Figure 1 Regional Location




*Basemap provided by National Geographic Society, Esri and their licensors © 2025. Cahto Peak Quadrangle. T21N R15W S14. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.*

Project Location
Groundwater Monitoring Well
Landfill Gas Probe
Sedimentary Piezometer

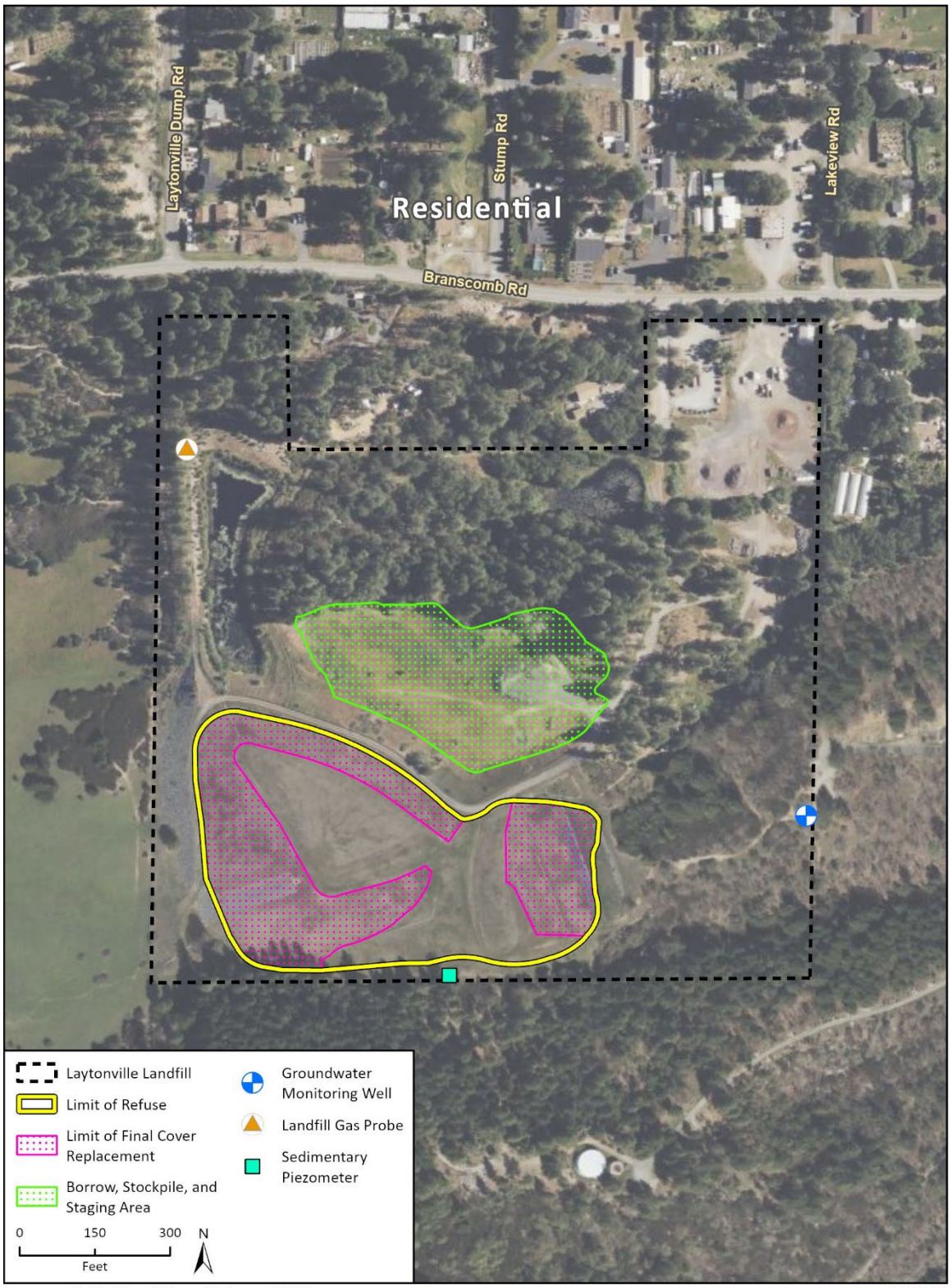
0 1,000 2,000 Feet

N




23-14356 CR
CRFig 1 Proj Locn Map

## Figure 2 Project Location



# Attachment 2

California Historical Resources Information System Records Search Results

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

**Northwest Information Center**
Sonoma State University
1400 Valley House Drive, Suite 210
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
https://nwic.sonoma.edu

12/16/2024 NWIC File No.: 24-0767

Elaine Foster
Rincon Consultants, Inc.
180 N. Ashwood Avenue
Ventura, CA 93003

Re: 23-14356 Geo-Logic Laytonville Landfill Project

The Northwest Information Center received your record search request for the project area referenced above, located on the Cahto Peak and Laytonville USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a ½ mile radius:

| | |
|---|---|
| Resources within project area: | 0 |
| Resources within ½ mi. radius: | 3: P-23-001003, P-23-001226, P-23-001880 |
| Reports within project area: | 0 |
| Reports within ½ mi. radius: | 7: See page 3 |

| | | | |
|---|---|---|---|
| **Resource Database Printout (list):** | ☒ enclosed | ☐ not requested | ☐ nothing listed |
| **Resource Database Printout (details):** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Resource Digital Database Records:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Report Database Printout (list):** | ☒ enclosed | ☐ not requested | ☐ nothing listed |
| **Report Database Printout (details):** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Report Digital Database Records:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Resource Record Copies:** | ☒ enclosed | ☐ not requested | ☐ nothing listed |
| **Report Copies:** | ☐ enclosed | ☐ not requested | ☒ nothing listed |
| **OHP Built Environment Resources Directory:** | ☐ enclosed | ☐ not requested | ☒ nothing listed |
| **Archaeological Determinations of Eligibility:** | ☐ enclosed | ☐ not requested | ☒ nothing listed |
| **CA Inventory of Historic Resources (1976):** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Caltrans Bridge Survey:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Ethnographic Information:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Historical Literature:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Historical Maps:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Local Inventories:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **GLO and/or Rancho Plat Maps:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |
| **Shipwreck Inventory:** | ☐ enclosed | ☒ not requested | ☐ nothing listed |

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Soil Survey: http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA

Shipwreck Inventory: http://www.slc.ca.gov/Info/Shipwrecks.html

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Lindsey Willoughby

Lindsey Willoughby
Researcher

| Reports within ½ mi. radius |
|---|
| 249 |
| 945 |
| 13240 |
| 34883 |
| 35167 |
| 48194 |
| 50057 |

# Report List

| Report No. | Other IDs | Year | Author(s) | Title | Affiliation | Resources |
|---|---|---|---|---|---|---|
| S-000249 | | 1976 | David A. Fredrickson | An Archaeological Survey of a Proposed Development Area at Laytonville Rancheria, Mendocino County, California | Sonoma State College | 23-001003 |
| S-000945 | OHP PRN - BIA990211A; Voided - ASC #151 | 1978 | Gregory Greenway | An Archaeological Survey and Cultural Resource Evaluation of Six Northern California Rancherias (Susanville, Cortina, Colusa, Rumsey, Laytonville, and Sherwood Valley Rancherias) | Archeological Study Center, California State University, Sacramento | 06-000078, 06-000079, 06-000080, 23-001003, 23-001226, 23-001227, 23-001228, 23-001229, 23-001230, 23-001231, 23-001232, 23-001233, 23-001234, 23-001235, 57-000103 |
| S-013240 | | 1991 | Jay M. Flaherty | Cultural Resources Reconnaissance of 50 Acres near Laytonville, Mendocino County, California | Archaeological Services, Inc. | |
| S-034883 | | 2008 | Vicki R. Beard | A Cultural Resources Survey of the Parcel at 44200 Stump Road, Laytonville, Mendocino County, California | Tom Origer & Associates | |
| S-035167 | | 2008 | Janine M. Loyd and Thomas M. Origer | A Cultural Resources Survey for the Community Water Storage Tank Project, Laytonville Rancheria, Mendocino County, California | Tom Origer & Associates | |
| S-048194 | Submitter - 13FY23-0002 | 2013 | Robert McCann | Cultural Resources Survey Report for NRCS Project 13FY23-0002: Proposed Fuel Break, Forest Stand Improvement, and Erosion Control n Cahto Tribe Lands, Mendocino County, California | NRCS | |
| S-050057 | NRCS - 15FY23-0012 | 2015 | Robert McCann | Cultural Resources Survey Report for NRCS Project 15FY23-0012: Cahto Tribe of Laytonville Rancheria Forest Stand Improvement Project, Mendocino County, California | Natural Resource Conservation Service | |

## Resource List

| Primary No. | Trinomial | Other IDs | Type | Age | Attribute codes | Recorded by | Reports |
|---|---|---|---|---|---|---|---|
| P-23-001003 | CA-MEN-001073 | Resource Name - Cahto Bluff | Site | Prehistoric | AP02; AP15 | 1976 (David A. Fredrickson, Sonoma State College) | S-000249, S-000945 |
| P-23-001226 | CA-MEN-001331 | Resource Name - L1 | Site | Prehistoric | AP02 | 1977 (Gregory Greenway, Carol Kielusiak, Archeological Study Center, CSU Sacramento) | S-000945 |
| P-23-001880 | CA-MEN-002124/H | Resource Name - Cahto Creek Site | Site | Prehistoric, Historic | AH16; AP02; AP15 | 1987 (Mark Gary / Dr. Thomas Layton, Deborah McLear, Dwight Simond, San Jose State University and Mendocino County Arch. Comm.) | |

# Attachment 3

Sacred Lands File Search Results

# NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
**Reginald Pagaling**
*Chumash*

VICE-CHAIRPERSON
**Buffy McQuillen**
*Yokayo Pomo, Yuki, Nomlaki*

SECRETARY
**Sara Dutschke**
*Miwok*

PARLIAMENTARIAN
**Wayne Nelson**
*Luiseño*

COMMISSIONER
**Isaac Bojorquez**
*Ohlone-Costanoan*

COMMISSIONER
**Stanley Rodriguez**
*Kumeyaay*

COMMISSIONER
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COMMISSIONER
**Reid Milanovich**
*Cahuilla*

COMMISSIONER
**Bennae Calac**
*Pauma-Yuima Band of Luiseño Indians*

ACTING EXECUTIVE SECRETARY
**STEVEN QUINN**

**NAHC HEADQUARTERS**
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

December 19, 2024

Rachel Bilchak
Rincon Consultants

***Via Email to: rbilchak@rinconconsultants.com***

**Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Laytonville Landfill Cover Repairs (23-14356) Project, Mendocino County**

To Whom it May Concern:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

*Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.*

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

  All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Mathew.Lin@nahc.ca.gov

Sincerely,

Mathew Lin

Mathew Lin
*Cultural Resources Analyst*

Attachment

**Native American Heritage Commission**
**Native American Contact List**
**Mendocino County**
**12/19/2024**

| County | Tribe Name | Fed (F) Non-Fed (N) | Contact Person | Contact Address | Phone # | Fax # | Email Address | Cultural Affiliation | Counties | Last Updated |
|---|---|---|---|---|---|---|---|---|---|---|
| Mendocino | Cahto Tribe | F | Tasheena Sloan, Vice Chairperson | P.O. Box 1239<br>Laytonville, CA, 95454 | (707) 984-6197 | | vicechair@cahtotribe-nsn.gov | Cahto<br>Pomo | Colusa,Glenn,Lake,Mendocino,Sonoma | 3/20/2023 |
| | Cahto Tribe | F | Kendra Campbell, Secretary-Treasurer | P.O. Box 1239<br>Laytonville, CA, 95454 | (707) 984-6197 | (707) 984-6201 | secretary_treasurer@cahtotribe-nsn.gov | Cahto<br>Pomo | Colusa,Glenn,Lake,Mendocino,Sonoma | 3/20/2023 |
| | Cahto Tribe | F | Mary Norris, Chairperson | P.O. Box 1239<br>Laytonville, CA, 95454 | (707) 984-6197 | (707) 984-6201 | chair@cahtotribe-nsn.gov | Cahto<br>Pomo | Colusa,Glenn,Lake,Mendocino,Sonoma | 3/20/2023 |
| | Guidiville Rancheria of California | F | Bunny Tarin, Tribal Administrator | PO Box 339<br>Talmage, CA, 95481 | (707) 462-3682 | | admin@guidiville.net | Pomo | Alameda,Contra Costa,Lake,Marin,Mendocino,Napa,Sacramento,San Joaquin,Solano,Sonoma | 6/21/2023 |
| | Guidiville Rancheria of California | F | Michael Derry, Historian | PO Box 339<br>Talmage, CA, 95481 | (707) 391-1665 | | historian@guidiville.net | Pomo | Alameda,Contra Costa,Lake,Marin,Mendocino,Napa,Sacramento,San Joaquin,Solano,Sonoma | 6/21/2023 |
| | Noyo River Indian Community | N | , | P. O. Box 91<br>Fort Bragg, CA, 95437 | | | | Pomo<br>Yuki | Colusa,Glenn,Lake,Mendocino,Sonoma,Tehama,Trinity | 6/7/2018 |
| | Pinoleville Pomo Nation | F | Leona Willams, Chairperson | 500 B Pinoleville Drive<br>Ukiah, CA, 95482 | (707) 463-1454 | (707) 463-6601 | | Pomo | Lake,Mendocino,Napa,Sonoma | |
| | Pinoleville Pomo Nation | F | Erica Carson, Tribal Historic Preservation Officer | 500 B Pinoleville Drive<br>Ukiah, CA, 95482 | (707) 463-1454 | (707) 463-6601 | | Pomo | Lake,Mendocino,Napa,Sonoma | |
| | Round Valley Reservation/ Covelo Indian Community | F | James Russ, President | 77826 Covelo Road<br>Covelo, CA, 95428 | (707) 983-6126 | (707) 983-6128 | tribalcouncil@rvit.org | ConCow<br>Nomlaki<br>Pit River<br>Pomo<br>Wailaki<br>Wintun<br>Yuki | Butte,Colusa,Glenn,Humboldt,Lake,Lassen,Mendocino,Modoc,Plumas,Shasta,Siskiyou,Sonoma,Sutter,Tehama,Trinity,Yuba | |

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and 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 Laytonville Landfill Cover Repairs (23-14356) Project, Mendocino County.

Record: PROJ-2024-006540
Report Type: List of Tribes
Counties: Mendocino
NAHC Group: All

# Attachment 4

Site Photographs

## Photograph 1 Overview of Project Site from the East, Facing West



## Photograph 2 Overview of Project Site from the Eastern Boundary, Facing Southeast



**Photograph 3 Asphalt Stockpile, Facing East**



**Photograph 4 Stockpiles along Northeastern Boundary, Facing East**



# Appendix C

Hydrology and Drainage Plan



# HYDROLOGY AND DRAINAGE PLAN FOR THE LAYTONVILLE LANDFILL

Prepared For:
**Mendocino County Department of Transportation**
**Solid Waste Division**
340 Lake Mendocino Drive
Ukiah, CA 95482

Presented by:
**SWT Engineering**
800-C South Rochester Avenue
Ontario, CA 91761

JANUARY 2025

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Figure 1 Hydrology Map

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APPENDIX A RAINFALL DATA

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- Area A Rational Method Hydrology
- Area B Rational Method Hydrology
- Area C Rational Method Hydrology
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# 1. INTRODUCTION/BACKGROUND

## 1.1 Purpose

The purpose for the Hydrology and Drainage Study is to support remedial final cover repair design for the Laytonville Landfill, a closed landfill site owned and maintained by the Mendocino County Department of Transportation, Solid Waste Division (herein County). Both existing and proposed conditions were modeled and analyzed as part of the study. The enclosed Hydrology and Drainage Plan was prepared in accordance with California Code of Regulations Title 27 (CCR 27).

## 1.2 Background and Site Location

The Laytonville Landfill has been owned and operated by the County since opening in 1967. The Mendocino County Board of Supervisors voted to have the landfill closed earlier than the original scheduled closure date, even though the landfill had not yet reached its permitted capacity. The landfill accepted municipal solid waste (MSW) generated from the surrounding service area for on-site disposal. The MSW refuse disposed at the landfill primarily consisted of 90 percent residential wastes, 5 percent commercial wastes and 5 percent demolition wastes. No designated or hazardous wastes (i.e., special wastes, liquids, sludges or slurries) were accepted for on-site disposal. The landfill was closed in 1997.

The Site is located approximately 1.5 miles southwest of the community of Laytonville, on the south side of Branscomb Road. Access to the landfill site from Laytonville is along westbound Branscomb Road to a southbound service road located immediately west of the Mendocino County Public Works Maintenance Yard. The landfill area encompasses approximately 7 acres of the 34.7 acre parcel.

## 1.3 Geology

The landfill is situated on the eastern side of the San Andreas Fault, within the northern Coastal Mountain Range geomorphic province. The landfill site and vicinity are underlain by the Cretaceous age (65 to 190 million years before present) Franciscan Formation, Plio-Pleistocene age (11,000 to 3,000,000 years before present) continental terrace deposits, and by Holocene age (present to 11,000 years before present) alluvial deposits.

Three geologic units underlie the landfill site. The Franciscan Formation underlies the entire site and consists of a tectonic melange comprised of sandstone, shale and metavolcanic greenstones, and cherts. These rock units are highly sheared and weathered, and tend to have very low porosity. The Franciscan Formation is generally considered to be a poor aquifer with the exception of localized zones of high porosity and permeability that have been faulted and/or fractured by past tectonic activity. Continental terrace deposits overlie the older Franciscan Formation and consist of poorly sorted, moderately to highly consolidated, silty conglomerate, clayey sand, sandy clay, and silty clay. Alluvial deposits locally overlie both the Franciscan Formation and continental terrace deposits within drainages on the site and consist of unconsolidated grave'1 sand, silt, and clay.

# 2. HYDROLOGY AND DRAINAGE ANALYSIS

## 2.1 Hydrology and Drainage

SWT Engineering (SWT) has prepared an analysis of the hydrology and drainage for the Laytonville Landfill. The primary objective for this hydrology study is to have knowledge of the final conditions at the site as it pertains to runoff watershed during a storm event for the identified areas of the subject property. Offsite tributaries the run onto the landfill were analyzed as part of this study.

## 2.2 Site Description/Tributaries

Analyzed areas are described below

Tributary Area A

Area A drainage originates outside of the approximate limit of refuse north of the landfill area. The largest of the tributaries is characterized by the old soil borrow deck (Subarea A1) and relatively well vegetated native slopes/open area (Subareas A2/A3). Drainage is conveyed by sheet flowing across the old borrow area and concentrates at earthen swales on its way to the 'frog pond'. Though the largest area, historically this tributary has performed well during storm events and conveyance structure improvements are not expected with the remedial cover repair design. In total Area A area is approximately 12.1 acres, developed from nodes 1.00 through 1.15.

Tributary Area B

Area B drainage originates at the top of the south-southeastern mound and encompasses the sloped area north and east of the mound. Subareas B1 and B2 runoff drains northerly into 1/2-round corrugated metal flumes which convey the flow north to the main access road/earthen open swale flowing towards Sedimentation Basin #3. Subarea B1 & B2 drain to a confluence point at Node 2.10. Subareas B3 & B4 drain from the southeasterly edges of the landfill and will be conveyed via a new AC downdrain and/or CMP downdrain to the north-northwest towards the Node 2.10 confluence point. The flow from Subareas B1 through B4 drain from the confluence point at Node 2.10 to the Sedimentation Basin #3 at Node 2.25 where the flow confluences with runoff from Subarea B5. Flow at Node 2.25 then drains to the Unnumbered/Unnamed Sediment Basin at Node 2.30 where it confluences with runoff from Subarea B6. In total Area B area is approximately 4.5 acres, developed from nodes 2.00 through 2.30.

Tributary Area C

Area C drainage originates on the top deck of the landfill. The runoff is directed by grade and the top deck berm control to various pipe or open metal flume style inlets. The inlets are then conveyed down the slope via 1/2-round corrugated metal flumes or full corrugated metal pipe (CMP) downdrains to a compacted base channel on the inside of the northerly perimeter access road. The graded road channel collects runoff from the slope above and below the confluence point and will then convey the runoff northerly along the inside of the perimeter road to an existing 24" CMP inlet/downdrain. The runoff will then be directed to a riprap dissipater and then to Sedimentation Basin #2. In total Area C area is approximately 4.4 acres, developed from nodes 3.00 through 3.10.

Tributary Area D

Area D drainage area originates south of the top deck berm and included the south and southwest facing waste slopes and the open earthen swale at the southern portion of this tributary. A majority of the runoff is then directed down the slope via via sheet flow to either the earthen swale and/or a rock-lined ditch or directly to Sedimentation Basin #1. Ultimately will be dissipated by rock slope protection into an existing basin. In total Area D area is approximately 3.7 acres, developed from nodes 4.00 through 4.10.

## 2.3 Basis for Hydrology Calculations

Input data required for hydrologic analysis was compiled for the site as well as the latest topography of the landfill area was obtained from the Laytonville Landfill. Additional data necessary for hydrologic modeling included the existing and proposed stormwater conveyance network, retention basin configuration, aerial images, soils data, and precipitation data from the National Oceanic and Atmospheric Administration (NOAA).

100 Year Average Recurrence Interval Intensities

| Duration (minutes) | Intensity (inches/hour) |
|---|---|
| 5 | 5.64 |
| 10 | 4.04 |
| 15 | 3.26 |
| 30 | 2.23 |
| 60 | 1.57 |
| 120 | 1.27 |
| 180 | 1.13 |

Before creating the hydrology model, the watershed area, land use, soil type, flow path lengths and type, and average slope were identified and used as input data for the hydrology modeling, most of which can be seen on Figure 1.

A hydrology study was performed for the combined existing and proposed conditions based on the most current aerial topo and the (preliminary) remedial cover repair design. The Laytonville Landfill hydrology study was conducted for the 100-year, 24-hour storm event, the design return period for a class III MSW facility. All soils were classified as being type C (mid-high runoff potential) soils with a low infiltration rate of 0.20-0.25 inches per hour and having Antecedent Moisture Condition III (saturated). Flow path length, type, and slope were obtained from the appropriate existing or proposed grading design presented in Figure 1.

## 2.4 Hydrology Analysis and Modeling

The Rational Method Hydrology Computer Program by Advanced Engineering Software (AES) was used to determine peak runoff flows. The Rational Method relates rainfall intensity, a runoff coefficient, and drainage area size to the peak runoff from the drainage area. The mathematical relationship for the Rational Method equation is:

$$Q = CIA$$

Where: Q = the peak discharge (cubic feet per second or CFS);

C = a runoff coefficient representing the ratio of runoff depth to rainfall depth (dimensionless);

I = the time-averaged rainfall intensity for a storm duration equal to the time of concentration (inches/hour); and

A = drainage area (acres).

Drainage area and nodal information were input into the software program to calculate the tributary runoff for the purpose of confirming adequacy of existing features and sizing drainage conveyance features that will need to be constructed during remedial cover repair. The tributary areas for the hydrology analyses were divided into drainage subareas based on existing and proposed improvements/topography. The rainfall intensity data for the Laytonville Landfill area was input into the program, based on the rainfall intensity data obtained from the NOAA. A copy of the data and conversion calculations is included in Appendix C.

Runoff flows were determined based on a subarea's tributary area, the selected runoff coefficients, time of concentration, and land use type.

## 3. RESULTS

The 100-year, 24-hour storm runoff for the Laytonville Landfill areas was determined using the rational method. All AES Rational Method Hydrology Program output files are included Appendix B. The abbreviated table of results summarizes the critical peak discharge calculations for the Laytonville Landfill. The Hydrology Map (Figure 1) includes the study points of interest (nodes), size, and boundaries of specific study areas, drainage structures, contours and elevations which correspond to the hydrology study input and output data. The following is a discussion of the results for sizing proposed features or confirming adequacy or existing features.

| **100-YEAR, 24-HOUR RUNOFF SUMMARY TABLE** | | | | | | |
|---|---|---|---|---|---|---|
| **LAYTONVILLE LANDFILL DEVELOPED CONDITION TRIBUTARY AREA** | | | | | | |
| SUBAREA NO. | NODE NO. | SUBAREA AREA (AC) | SUBAREA RUNOFF (CFS) | ∑ AREA (AC) | PEAK RUNOFF (CFS) | COMMENTS |
| A1 | 1.00 - 1.05 | 4.3 | 12.7 | 4.3 | 12.7 | INITIAL AREA |
| A2 | 1.05 - 1.10 | 4.0 | 11.2 | 8.4 | 23.0 | ADD AREA |
| A3 | 1.10 - 1.15 | 3.8 | 9.9 | 12.1 | 31.8 | ADD AREA |
| | **1.15** | | | 12.1 | 31.8 | CONFLUENCE |
| | | | | | | |
| B1 | 2.00 - 2.05 | 0.6 | 1.9 | 0.6 | 1.9 | INITIAL AREA |
| B2 | 2.05 - 2.10 | 1.3 | 3.8 | 1.9 | 5.6 | ADD AREA |
| | 2.10 | | | 1.9 | 5.6 | CONFLUENCE |
| B3 | 2.15-2.20 | 0.3 | 0.9 | 0.3 | 0.9 | ADD AREA |
| B4 | 2.20-2.10 | 0.3 | 0.8 | 0.5 | 1.7 | ADD AREA |
| | **2.10** | | | 2.4 | 7.2 | CONFLUENCE |
| B5 | 2.10 - 2.25 | 0.6 | 1.7 | 3.0 | 8.6 | ADD AREA |
| B5 | 2.25-2.30 | 1.8 | 5.0 | 4.8 | 13.4 | ADD AREA |
| | | | | | | |
| C1 | 3.00 - 3.05 | 2.4 | 7.3 | 2.4 | 7.3 | INITIAL AREA |
| C2 | 3.05 - 3.10 | 2.0 | 5.8 | 4.4 | 12.9 | DOWNDRAIN |
| | **3.10** | | | 4.4 | 12.9 | CONFLUENCE |
| | | | | | | |
| D1 | 4.00 - 4.05 | 2.2 | 6.2 | 2.2 | 6.2 | INITIAL AREA |
| D2 | 4.10 - 4.05 | 1.5 | 6.0 | 3.7 | 6.0 | ADD AREA |
| | **4.05** | | | 3.7 | 11.0 | CONFLUENCE |
| | | | | | | |

## 3.1 Hydrology Analysis

Tributary Area A: This area includes approximately 12.1 acres and has an approximate peak runoff of 31.7 cfs with an associated time of concentration of approximately 16.5 minutes (See Figure 1 and Appendix A). The drainage area outfalls into the existing Frog Pond at nodal point 1.15.

Tributary Area B: This area includes approximately 4.8 acres and has an approximate peak runoff of 13.4 cfs with an associated time of concentration of approximately 11 minutes (See Figure 1 and Appendix A). The drainage area outfalls into the existing Sedimentation Basin #3 at nodal point 2.30.

Tributary Area C: This area includes approximately 4.4 acres and has an approximate peak runoff of 12.85 cfs with an associated time of concentration of approximately 13.3 minutes (See Figure 1 and Appendix A). The drainage area outfalls into the existing Sedimentation Basin #2 at nodal point 3.10.

Tributary Area D: This area includes approximately 3.7 acres and has an approximate peak runoff of 11.0 cfs with an associated time of concentration of approximately 8.1 minutes (See Figure 1 and Appendix A). The drainage area outfalls into the existing Sedimentation Basin #1 at nodal point 4.05.

## 3.2 Hydraulics

The drainage control structures, existing and proposed, have been designed or confirmed adequate to convey the runoff from a 100-year, 24-hour storm event using normal depth hydraulic calculations for open channel flows. Calculations were made using Manning's Equation for open channel flow. Rock slope protection size, thickness/depth, and width were selected using calculated flow rates and velocities per Caltrans Standard Specifications (2018 version). The following is a summary of results for sizing proposed features or confirming adequacy of existing features:

**100-YEAR, 24-HOUR HYDRAULICS SUMMARY TABLE**

LAYTONVILLE LANDFILL

| SUBAREA NO. | DRAINAGE NODE | PEAK FLOW (CFS)* | VELOCITY (FPS) | DRAINAGE TYPE | b (ft) | D (ft) | Z (r) | Z (l) | n (ft) | S (ft/ft) | dn (ft) | FB (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | 1.00 - 1.05 | 12.7 | 6.5 | Sheet Flow Deck | | | | | | 0.025 | | |
| A2 | 1.05 - 1.10 | 23.0 | 6.5 | Native Slopes | | | | | | 0.081 | | |
| A3 | 1.10 - 1.15 | 31.8 | 3.1 | Native Slopes | | | | | | 0.025 | | |
| | | | | | | | | | | | | |
| B1 | 2.00 - 2.05 | 1.9 | 7.0 | AC or RSP Downdrain | | | | | | 0.021 | | |
| B2 | 2.05 - 2.10 | 5.6 | 7.0 | AC or RSP Downdrain | | | | | | 0.154 | | |
| B3 | 2.15-2.20 | 0.9 | 3.9 | AC or RSP Downdrain | | | | | | 0.030 | | |
| B4 | 2.20-2.10 | 1.7 | 3.9 | RSP Downdrain | | | | | | 0.133 | | |
| B5 | 2.10-2.25 | 8.6 | 6.7 | Native or RSP Downdrain | | | | | | 0.056 | | |
| B6 | 2.25-2.30 | 13.4 | 8.5 | Native or RSP Downdrain | | | | | | 0.073 | | |
| | | | | | | | | | | | | |
| C1 | 3.00 - 3.05 | 7.3 | 6.6 | Base Road Ditch | | | | | | 0.012 | | |
| C1 | 3.00 - 3.05 | 7.3 | 6.6 | CMP Downdrain(s)-E | | | | | | 0.226 | | |
| C1 | 3.00 - 3.05 | 7.3 | 6.6 | CMP Downdrain(s)-NW | | | | | | 0.226 | | |
| C2 | 3.05 - 3.10 | 12.9 | 6.6 | CMP Downdrain to Basin | | | | | | 0.095 | | |
| | | | | | | | | | | | | |
| D1 | 4.00 - 4.05 | 6.2 | 5.0 | Native or RSP Downdrain | | | | | | 0.036 | | |
| D2 | 4.10 - 4.05 | 6.0 | 5.0 | Native or RSP Downdrain | | | | | | 0.290 | | |
| D2 | 4.10 - 4.05 | 6.0 | 5.0 | Base Road Ditch | | | | | | 0.100 | | |
| | | | | | | | | | | | | |

Notes:

1. This Table will be updated (velocities, feature configurations, etc.) with the design plans for sizing conveyance features/structures.
2. b=base width, D=depth, Z=side slope change in elevation (ft.) per foot, n=coefficient of roughness, S=slope (ft/ft), dn=normal depth, FB=freeboard

## 4. CONCLUSION, CLOSURE, AND LIMITATIONS

This study was conducted to facilitate the design of remedial final cover repairs for the Laytonville Landfill, a closed landfill site under the ownership and maintenance of the Mendocino County Department of Transportation, Solid Waste Division. The study focused on determining peak flow rates and velocities for existing or modified stormwater conveyance features, as well as for new ones.

While typical conveyance features were analyzed during this study, it's important to note that the final design of these features will be completed as part of the Closure Cover Remediation work. This report will serve as a critical resource for sizing and selecting materials for the remediation efforts.

This report is based on the available plans and information obtained from the County for the Laytonville Landfill. Our firm should be notified of any pertinent change in the project plans or if conditions are found that differ from those described in this report, since this may require a re-evaluation of the conclusions and recommendations presented herein.

This report has not been prepared for use by parties or projects other than those named or described above. It may not contain sufficient information for other parties or other purposes. This report has been prepared in accordance with generally accepted engineering practices and makes no other warranties, either expressed or implied, as to the professional advice or data included herein.

These documents have been prepared under the supervision of Michael A. Cullinane, P.E., and Brian M. Reyes, P.E., whose seals as Registered Professional Engineers in the State of California are affixed below. We appreciate this opportunity to be of service. If you have any questions regarding this report, please do not hesitate to contact the undersigned.

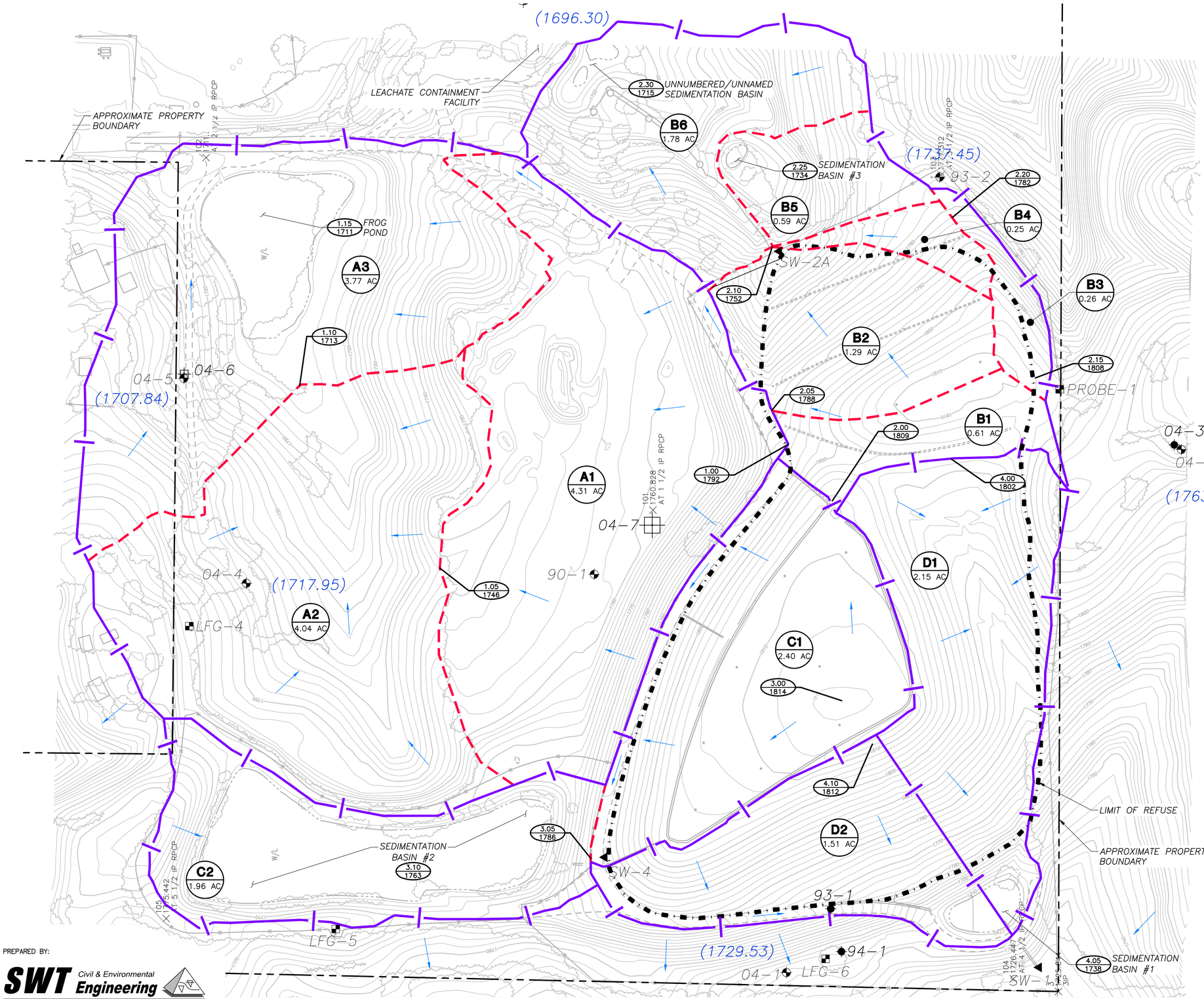
Michael A. Cullinane, P.E.
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Brian. M. Reyes, P.E.
RCE 89895

# 5. REFERENCES


- *Advanced Engineering Software (AES, Hydrosoft, 2016) http://www.advancedengineeringsoftware.com/*
- *Orange County Hydrology Manual, Rational Method Analysis (Orange County, 1986)*

# FIGURE 1
# HYDROLOGY MAP




## LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- LIMIT OF REFUSE
- 1780 EXISTING CONTOUR
- HYDROLOGY STUDY BOUNDARY
- HYDROLOGY SUBAREA BOUNDARY
- 1.00 / 430 NODE NUMBER / ELEVATION AT NODE
- A / 0.0 AC SUBAREA NUMBER / SUBAREA AREA (ACRES)
- FLOW DIRECTION
- FRANCISCAN WELL
- SEDIMENTARY WELL
- SEDIMENTARY PIECOMETER
- SURFACE WATER MONITORING STATION
- GAS MONITORING PROBE

60 30 0 60 120 180
SCALE: 1"=60'

**100-YEAR, 24-HOUR RUNOFF SUMMARY TABLE**
**LAYTONVILLE LANDFILL DEVELOPED CONDITION TRIBUTARY AREA**

| SUBAREA NO. | NODE NO. | SUBAREA AREA (AC) | SUBAREA RUNOFF (CFS) | Σ AREA (AC) | PEAK RUNOFF (CFS) | COMMENTS |
|---|---|---|---|---|---|---|
| A1 | 1.00 - 1.05 | 4.3 | 12.7 | 4.3 | 12.7 | INITIAL AREA |
| A2 | 1.05 - 1.10 | 4.0 | 11.2 | 8.4 | 23.0 | ADD AREA |
| A3 | 1.10 - 1.15 | 3.8 | 9.9 | 12.1 | 31.8 | ADD AREA |
| | **1.15** | | | 12.1 | 31.8 | CONFLUENCE |
| | | | | | | |
| B1 | 2.00 - 2.05 | 0.6 | 1.9 | 0.6 | 1.9 | INITIAL AREA |
| B2 | 2.05 - 2.10 | 1.3 | 3.8 | 1.9 | 5.6 | ADD AREA |
| | 2.10 | | | 1.9 | 5.6 | CONFLUENCE |
| B3 | 2.15-2.20 | 0.3 | 0.9 | 0.3 | 0.9 | ADD AREA |
| B4 | 2.20-2.10 | 0.3 | 0.8 | 0.5 | 1.7 | ADD AREA |
| | **2.10** | | | 2.4 | 7.2 | CONFLUENCE |
| B5 | 2.10 - 2.25 | 0.6 | 1.7 | 3.0 | 8.6 | ADD AREA |
| B5 | 2.25-2.30 | 1.8 | 5.0 | 4.8 | 13.4 | ADD AREA |
| | | | | | | |
| C1 | 3.00 - 3.05 | 2.4 | 7.3 | 2.4 | 7.3 | INITIAL AREA |
| C2 | 3.05 - 3.10 | 2.0 | 5.8 | 4.4 | 12.9 | DOWNDRAIN |
| | **3.10** | | | 4.4 | 12.9 | CONFLUENCE |
| | | | | | | |
| D1 | 4.00 - 4.05 | 2.2 | 6.2 | 2.2 | 6.2 | INITIAL AREA |
| D2 | 4.10 - 4.05 | 1.5 | 6.0 | 3.7 | 6.0 | ADD AREA |
| | **4.05** | | | 3.7 | 11.0 | CONFLUENCE |


PREPARED BY:
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ONTARIO, CALIFORNIA. 91761


DATE OF AERIAL TOPOGRAPHY: APRIL 17, 2019

LAYTONVILLE LANDFILL

**REMEDIAL COVER REPAIR OPTIONS**

# SITE HYDROLOGY MAP

JANUARY 2025

Z:\PROJECTS\MENDOCINO COUNTY\LAYTONVILLE LANDFILL\COVER REPAIR\ACAD\EXHIBITS\EX-HYDROLOGY ANALYSIS

# APPENDICES

# APPENDIX A
# RAINFALL DATA

**NOAA Atlas 14, Volume 6, Version 2**
**Location name: Laytonville, California, USA***
**Latitude: 39.6731°, Longitude: -123.5051°**
**Elevation: m/ft****
* source: ESRI Maps
** source: USGS

**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

## PF tabular

**PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]**

| Duration | Average recurrence interval (years) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 5 | 10 | 25 | 50 | 100 | 200 | 500 | 1000 |
| 5-min | **2.08** (1.84-2.36) | **2.56** (2.26-2.92) | **3.19** (2.81-3.66) | **3.72** (3.24-4.31) | **4.46** (3.73-5.38) | **5.04** (4.12-6.23) | **5.64** (4.48-7.18) | **6.28** (4.81-8.26) | **7.15** (5.23-9.88) | **7.85** (5.52-11.3) |
| 10-min | **1.49** (1.31-1.70) | **1.83** (1.61-2.09) | **2.29** (2.01-2.62) | **2.66** (2.33-3.09) | **3.20** (2.68-3.85) | **3.61** (2.95-4.46) | **4.04** (3.21-5.14) | **4.49** (3.45-5.92) | **5.12** (3.75-7.08) | **5.63** (3.95-8.09) |
| 15-min | **1.20** (1.06-1.37) | **1.47** (1.30-1.68) | **1.84** (1.62-2.12) | **2.15** (1.88-2.49) | **2.58** (2.16-3.11) | **2.91** (2.38-3.60) | **3.26** (2.59-4.15) | **3.62** (2.78-4.77) | **4.13** (3.02-5.71) | **4.54** (3.19-6.52) |
| 30-min | **0.820** (0.726-0.936) | **1.01** (0.892-1.15) | **1.26** (1.11-1.45) | **1.47** (1.28-1.70) | **1.76** (1.48-2.13) | **1.99** (1.63-2.46) | **2.23** (1.77-2.84) | **2.48** (1.91-3.26) | **2.83** (2.07-3.91) | **3.10** (2.18-4.46) |
| 60-min | **0.575** (0.509-0.657) | **0.708** (0.625-0.810) | **0.885** (0.780-1.02) | **1.03** (0.901-1.20) | **1.24** (1.04-1.49) | **1.40** (1.14-1.73) | **1.57** (1.24-1.99) | **1.74** (1.34-2.29) | **1.98** (1.45-2.74) | **2.18** (1.53-3.13) |
| 2-hr | **0.467** (0.413-0.533) | **0.576** (0.509-0.659) | **0.721** (0.635-0.827) | **0.841** (0.733-0.974) | **1.01** (0.842-1.21) | **1.13** (0.927-1.40) | **1.27** (1.01-1.61) | **1.41** (1.08-1.85) | **1.60** (1.17-2.20) | **1.75** (1.23-2.51) |
| 3-hr | **0.420** (0.372-0.480) | **0.518** (0.457-0.592) | **0.647** (0.570-0.742) | **0.753** (0.657-0.873) | **0.899** (0.753-1.08) | **1.01** (0.828-1.25) | **1.13** (0.897-1.44) | **1.25** (0.961-1.65) | **1.42** (1.04-1.96) | **1.55** (1.09-2.23) |
| 6-hr | **0.328** (0.290-0.375) | **0.404** (0.357-0.462) | **0.504** (0.443-0.578) | **0.586** (0.511-0.679) | **0.698** (0.585-0.842) | **0.785** (0.641-0.971) | **0.874** (0.694-1.11) | **0.967** (0.742-1.27) | **1.09** (0.800-1.51) | **1.19** (0.838-1.72) |
| 12-hr | **0.244** (0.216-0.279) | **0.303** (0.268-0.346) | **0.381** (0.335-0.437) | **0.445** (0.388-0.515) | **0.533** (0.446-0.643) | **0.601** (0.491-0.744) | **0.672** (0.533-0.855) | **0.745** (0.572-0.980) | **0.846** (0.618-1.17) | **0.925** (0.650-1.33) |
| 24-hr | **0.191** (0.172-0.217) | **0.240** (0.215-0.274) | **0.306** (0.273-0.349) | **0.359** (0.319-0.413) | **0.433** (0.372-0.513) | **0.490** (0.413-0.592) | **0.548** (0.452-0.678) | **0.609** (0.490-0.774) | **0.693** (0.536-0.915) | **0.759** (0.568-1.04) |
| 2-day | **0.124** (0.111-0.141) | **0.158** (0.142-0.180) | **0.202** (0.181-0.231) | **0.238** (0.211-0.274) | **0.286** (0.246-0.339) | **0.323** (0.272-0.390) | **0.360** (0.297-0.445) | **0.397** (0.319-0.505) | **0.448** (0.347-0.592) | **0.488** (0.365-0.665) |
| 3-day | **0.096** (0.086-0.109) | **0.123** (0.110-0.140) | **0.157** (0.141-0.180) | **0.185** (0.164-0.213) | **0.222** (0.191-0.263) | **0.250** (0.211-0.302) | **0.278** (0.229-0.344) | **0.306** (0.246-0.389) | **0.344** (0.266-0.454) | **0.372** (0.279-0.508) |
| 4-day | **0.081** (0.073-0.092) | **0.104** (0.094-0.119) | **0.134** (0.120-0.153) | **0.158** (0.140-0.181) | **0.189** (0.163-0.224) | **0.212** (0.179-0.257) | **0.236** (0.195-0.292) | **0.260** (0.209-0.330) | **0.291** (0.225-0.384) | **0.315** (0.235-0.429) |
| 7-day | **0.057** (0.051-0.065) | **0.073** (0.066-0.084) | **0.094** (0.084-0.107) | **0.110** (0.098-0.127) | **0.132** (0.113-0.156) | **0.148** (0.125-0.179) | **0.164** (0.135-0.203) | **0.180** (0.145-0.229) | **0.202** (0.156-0.266) | **0.218** (0.163-0.297) |
| 10-day | **0.047** (0.042-0.053) | **0.060** (0.053-0.068) | **0.076** (0.068-0.087) | **0.089** (0.079-0.103) | **0.106** (0.091-0.126) | **0.119** (0.101-0.144) | **0.132** (0.109-0.164) | **0.145** (0.117-0.184) | **0.162** (0.125-0.214) | **0.175** (0.131-0.239) |
| 20-day | **0.030** (0.027-0.035) | **0.039** (0.034-0.044) | **0.049** (0.044-0.056) | **0.057** (0.051-0.066) | **0.068** (0.058-0.081) | **0.076** (0.064-0.092) | **0.084** (0.069-0.104) | **0.092** (0.074-0.117) | **0.103** (0.079-0.135) | **0.110** (0.083-0.151) |
| 30-day | **0.025** (0.022-0.028) | **0.031** (0.028-0.035) | **0.039** (0.035-0.045) | **0.046** (0.040-0.053) | **0.054** (0.046-0.064) | **0.060** (0.051-0.073) | **0.066** (0.055-0.082) | **0.073** (0.058-0.092) | **0.081** (0.062-0.107) | **0.087** (0.065-0.118) |
| 45-day | **0.021** (0.019-0.024) | **0.026** (0.023-0.030) | **0.032** (0.029-0.037) | **0.038** (0.033-0.043) | **0.044** (0.038-0.053) | **0.049** (0.041-0.060) | **0.054** (0.044-0.067) | **0.059** (0.047-0.075) | **0.065** (0.050-0.086) | **0.070** (0.052-0.095) |
| 60-day | **0.018** (0.016-0.020) | **0.022** (0.020-0.025) | **0.027** (0.025-0.031) | **0.032** (0.028-0.036) | **0.037** (0.032-0.044) | **0.041** (0.035-0.050) | **0.045** (0.037-0.056) | **0.049** (0.039-0.062) | **0.054** (0.042-0.071) | **0.058** (0.043-0.079) |

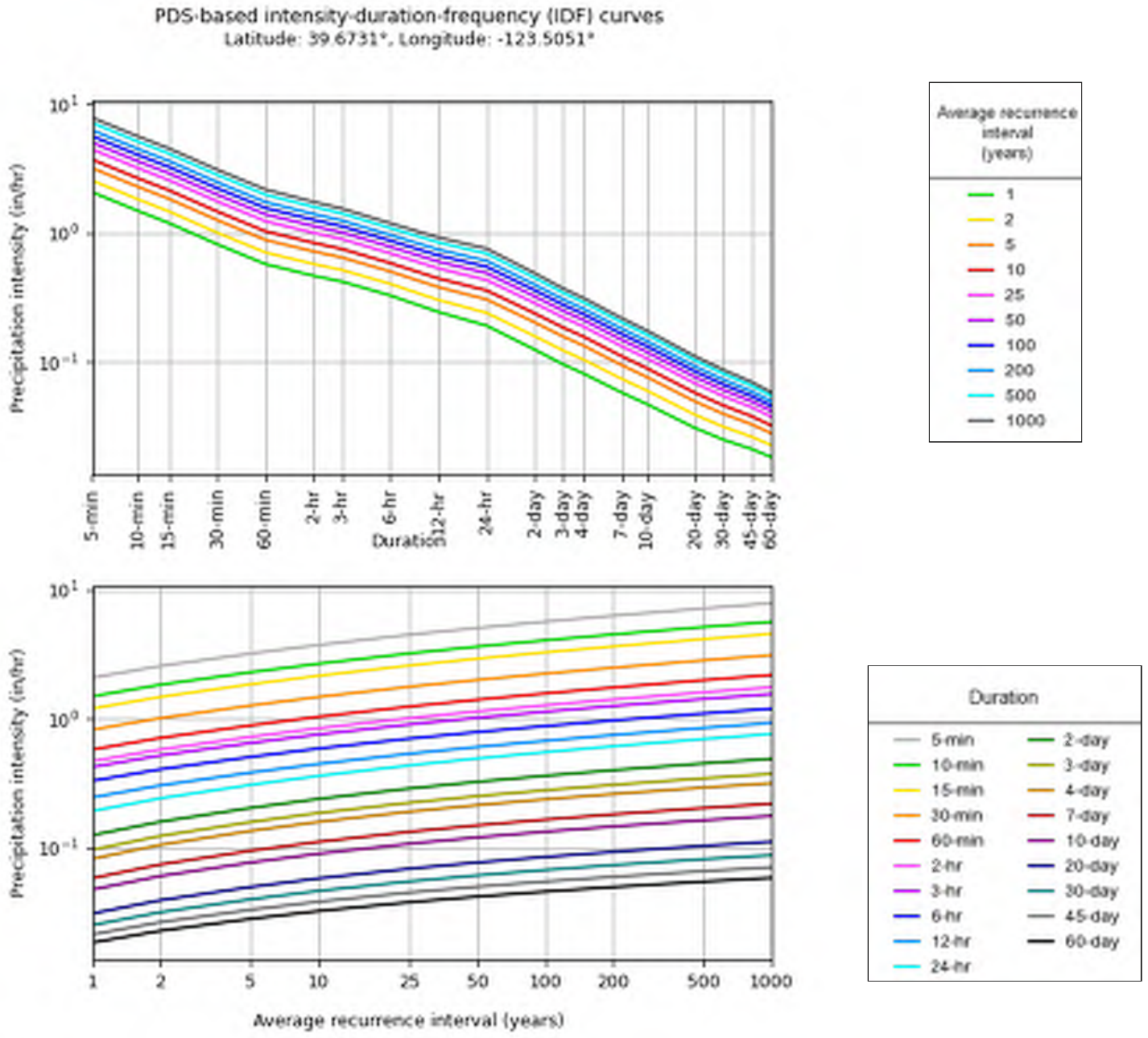
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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## PF graphical



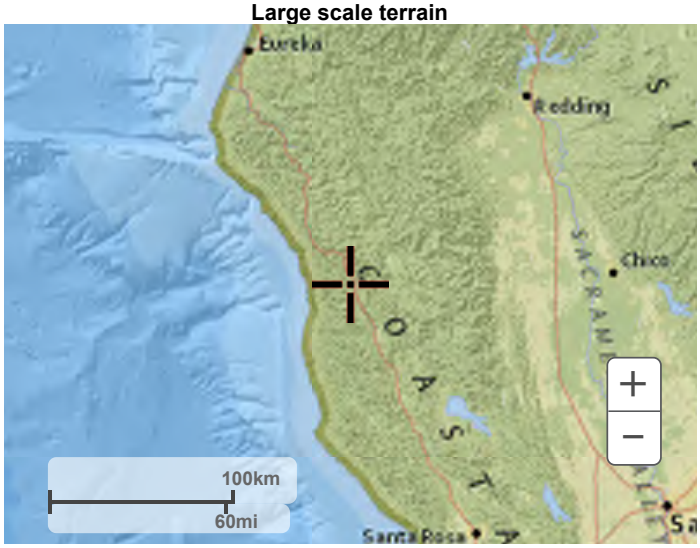

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## Maps & aerials

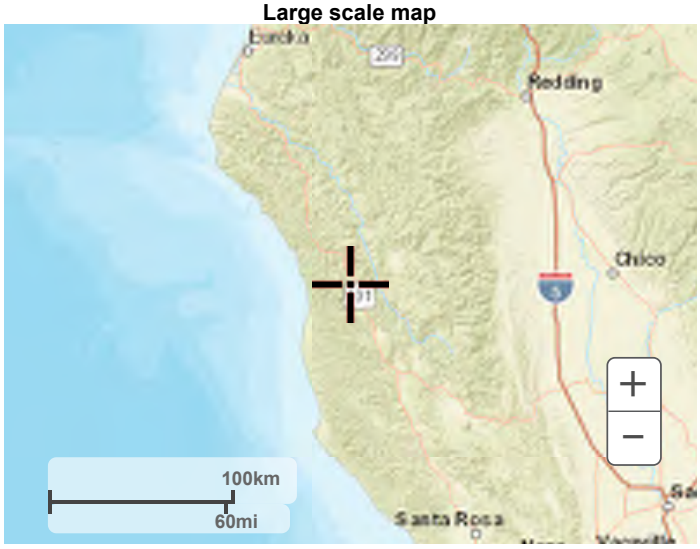
**Small scale terrain**




**Large scale terrain**




**Large scale map**




**Large scale aerial**




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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

# APPENDIX B
# AES HYDROLOGY MODELS

Area A Rational Method Hydrology

Area B Rational Method Hydrology

Area C Rational Method Hydrology

Area D Rational Method Hydrology

# TRIBUTARY AREA A RATIONAL METHOD HYDROLOGY

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**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
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                          Analysis prepared by:

                           SWT Engineering, INC.
                         800-C South Rochester Ave
                            Ontario, CA 91761


 ************************* DESCRIPTION OF STUDY ************************
* LAYTONVILLE LANDFILL                                                  *
* AREA A RATIONAL METHOD ANALYSIS                                       *
* 100-YEAR, 24-HR STORM EVENT                                           *
 ***********************************************************************

  FILE NAME: LAY100A.DAT
  TIME/DATE OF STUDY: 13:53 02/16/2024
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  *USER-DEFINED TABLED RAINFALL USED*
  NUMBER OF [TIME,INTENSITY] DATA PAIRS =  7
   1)    5.00;  5.640
   2)   10.00;  4.040
   3)   15.00;  3.260
   4)   30.00;  2.230
   5)   60.00;  1.570
   6)  120.00;  1.270
   7)  180.00;  1.130
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
```

```
      as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE      1.00 TO NODE      1.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   483.00
  ELEVATION DATA: UPSTREAM(FEET) =   1792.00  DOWNSTREAM(FEET) =   1746.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   13.385
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.512
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "GRASS"                    C        4.31      0.25     1.000    93   13.39
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =     12.65
  TOTAL AREA(ACRES) =      4.31   PEAK FLOW RATE(CFS) =     12.65

****************************************************************************
  FLOW PROCESS FROM NODE      1.05 TO NODE      1.10 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1746.00  DOWNSTREAM(FEET) =   1713.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   489.00   CHANNEL SLOPE =  0.0675
  GIVEN CHANNEL BASE(FEET) =    3.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.040
  *ESTIMATED CHANNEL HEIGHT(FEET) =   1.26
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.316
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                    C        4.04      0.25     1.000    93
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      18.23
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.48
  AVERAGE FLOW DEPTH(FEET) =   0.75   TRAVEL TIME(MIN.) =   1.26
```

```
  Tc(MIN.) =   14.64
  SUBAREA AREA(ACRES) =     4.04       SUBAREA RUNOFF(CFS) =   11.15
  EFFECTIVE AREA(ACRES) =      8.35     AREA-AVERAGED Fm(INCH/HR) =   0.25
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   1.00
  TOTAL AREA(ACRES) =        8.4         PEAK FLOW RATE(CFS) =      23.04
  GIVEN CHANNEL BASE(FEET) =    3.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.040
  *ESTIMATED CHANNEL HEIGHT(FEET) =   1.36

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.86   FLOW VELOCITY(FEET/SEC.) =   6.95
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE      1.10 =     972.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      1.10 TO NODE      1.15 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1713.00  DOWNSTREAM(FEET) =   1711.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   334.00   CHANNEL SLOPE =  0.0060
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.040
  *ESTIMATED CHANNEL HEIGHT(FEET) =   2.68
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.161
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                     C        3.77      0.25     1.000    93
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      27.98
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   3.09
  AVERAGE FLOW DEPTH(FEET) =   2.17   TRAVEL TIME(MIN.) =   1.80
  Tc(MIN.) =   16.45
  SUBAREA AREA(ACRES) =     3.77       SUBAREA RUNOFF(CFS) =    9.88
  EFFECTIVE AREA(ACRES) =     12.12     AREA-AVERAGED Fm(INCH/HR) =   0.25
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   1.00
  TOTAL AREA(ACRES) =       12.1         PEAK FLOW RATE(CFS) =      31.75
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.040
  *ESTIMATED CHANNEL HEIGHT(FEET) =   2.81

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  2.31   FLOW VELOCITY(FEET/SEC.) =   3.19
  LONGEST FLOWPATH FROM NODE      1.00 TO NODE      1.15 =    1306.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       12.1  TC(MIN.) =     16.45
```

```
  EFFECTIVE AREA(ACRES) =     12.12  AREA-AVERAGED Fm(INCH/HR)=  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap = 1.000
  PEAK FLOW RATE(CFS)   =      31.75
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

# TRIBUTARY AREA B RATIONAL METHOD HYDROLOGY

```
**************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
           (Reference: 1986 ORANGE COUNTY HYDROLOGY CRITERION)
         (c) Copyright 1983-2016 Advanced Engineering Software (aes)
            Ver. 23.0  Release Date: 07/01/2016  License ID 1615

                          Analysis prepared by:

                          SWT Engineering, INC.
                        800-C South Rochester Ave
                           Ontario, CA 91761


 ************************* DESCRIPTION OF STUDY *************************
* LAYTONVILLE LANDFILL                                                  *
* AREA B RATIONAL METHOD ANALYSIS                                       *
* 100-YR, 24-HR STORM EVENT                                            *
 **************************************************************************

  FILE NAME: LAY1000B.DAT
  TIME/DATE OF STUDY: 14:39 03/13/2024
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  *USER-DEFINED TABLED RAINFALL USED*
  NUMBER OF [TIME,INTENSITY] DATA PAIRS =  7
   1)    5.00;  5.640
   2)   10.00;  4.040
   3)   15.00;  3.260
   4)   30.00;  2.230
   5)   60.00;  1.570
   6)  120.00;  1.270
   7)  180.00;  1.130
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
```

```
      as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE      2.00 TO NODE      2.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   305.00
  ELEVATION DATA: UPSTREAM(FEET) =   1809.00  DOWNSTREAM(FEET) =   1792.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   12.396
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.666
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "GRASS"                    C        0.61      0.25     1.000    93   12.40
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =      1.88
  TOTAL AREA(ACRES) =      0.61   PEAK FLOW RATE(CFS) =      1.88

****************************************************************************
  FLOW PROCESS FROM NODE      2.05 TO NODE      2.10 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1792.00  DOWNSTREAM(FEET) =   1752.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   288.00   CHANNEL SLOPE =  0.1389
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   2.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   0.75
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.548
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                    C        1.29      0.25     1.000    93
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       3.79
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.33
  AVERAGE FLOW DEPTH(FEET) =   0.24   TRAVEL TIME(MIN.) =   0.76
```

```
  Tc(MIN.) =   13.16
  SUBAREA AREA(ACRES) =     1.29       SUBAREA RUNOFF(CFS) =    3.83
  EFFECTIVE AREA(ACRES) =      1.90     AREA-AVERAGED Fm(INCH/HR) =   0.25
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   1.00
  TOTAL AREA(ACRES) =        1.9         PEAK FLOW RATE(CFS) =       5.64
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   2.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   0.81

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.31   FLOW VELOCITY(FEET/SEC.) =   7.00
  LONGEST FLOWPATH FROM NODE      2.00 TO NODE      2.10 =     593.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      2.10 TO NODE      2.10 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   13.16
  RAINFALL INTENSITY(INCH/HR) =   3.55
  AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  1.00
  EFFECTIVE STREAM AREA(ACRES) =       1.90
  TOTAL STREAM AREA(ACRES) =       1.90
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       5.64

****************************************************************************
  FLOW PROCESS FROM NODE      2.15 TO NODE      2.20 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   237.00
  ELEVATION DATA: UPSTREAM(FEET) =   1808.00  DOWNSTREAM(FEET) =   1782.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.787
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.108
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "GRASS"                     C        0.26      0.25     1.000    93    9.79
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =      0.90
  TOTAL AREA(ACRES) =      0.26   PEAK FLOW RATE(CFS) =      0.90
```

```
****************************************************************************
  FLOW PROCESS FROM NODE      2.20 TO NODE      2.10 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1782.00  DOWNSTREAM(FEET) =   1752.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   224.00   CHANNEL SLOPE =  0.1339
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   2.000   MANNING'S FACTOR = 0.039
  *ESTIMATED CHANNEL HEIGHT(FEET) =   0.66
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.914
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                     C        0.25      0.25     1.000    93
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       1.32
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   3.66
  AVERAGE FLOW DEPTH(FEET) =   0.16   TRAVEL TIME(MIN.) =   1.02
  Tc(MIN.) =   10.81
  SUBAREA AREA(ACRES) =     0.25       SUBAREA RUNOFF(CFS) =    0.82
  EFFECTIVE AREA(ACRES) =      0.51     AREA-AVERAGED Fm(INCH/HR) =   0.25
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   1.00
  TOTAL AREA(ACRES) =        0.5         PEAK FLOW RATE(CFS) =       1.68
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   2.000   MANNING'S FACTOR = 0.039
  *ESTIMATED CHANNEL HEIGHT(FEET) =   0.68

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.18   FLOW VELOCITY(FEET/SEC.) =   3.95
  LONGEST FLOWPATH FROM NODE      2.15 TO NODE      2.10 =     461.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      2.10 TO NODE      2.10 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   10.81
  RAINFALL INTENSITY(INCH/HR) =   3.91
  AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  1.00
  EFFECTIVE STREAM AREA(ACRES) =       0.51
```

```
  TOTAL STREAM AREA(ACRES) =       0.51
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       1.68

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        5.64   13.16    3.548  0.25( 0.25) 1.00       1.9       2.00
      2        1.68   10.81    3.914  0.25( 0.25) 1.00       0.5       2.15

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        6.83   10.81    3.914  0.25( 0.25) 1.00       2.1       2.15
      2        7.15   13.16    3.548  0.25( 0.25) 1.00       2.4       2.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       7.15    Tc(MIN.) =    13.16
  EFFECTIVE AREA(ACRES) =       2.41   AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap =  1.00
  TOTAL AREA(ACRES) =        2.4
  LONGEST FLOWPATH FROM NODE      2.00 TO NODE      2.10 =     593.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE      2.10 TO NODE      2.25 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1752.00  DOWNSTREAM(FEET) =   1734.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   266.00   CHANNEL SLOPE =  0.0677
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.030
  *ESTIMATED CHANNEL HEIGHT(FEET) =   0.99
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.442
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                     C        0.59      0.25     1.000    93
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =       8.00
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.54
  AVERAGE FLOW DEPTH(FEET) =   0.49   TRAVEL TIME(MIN.) =   0.68
  Tc(MIN.) =   13.83
  SUBAREA AREA(ACRES) =     0.59       SUBAREA RUNOFF(CFS) =    1.69
  EFFECTIVE AREA(ACRES) =      3.00     AREA-AVERAGED Fm(INCH/HR) =   0.25
```

```
 AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   1.00
 TOTAL AREA(ACRES) =        3.0          PEAK FLOW RATE(CFS) =       8.62
 GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
 "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.030
 *ESTIMATED CHANNEL HEIGHT(FEET) =   1.01

 END OF SUBAREA CHANNEL FLOW HYDRAULICS:
 DEPTH(FEET) =  0.51   FLOW VELOCITY(FEET/SEC.) =   6.67
 LONGEST FLOWPATH FROM NODE      2.00 TO NODE      2.25 =     859.00 FEET.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
     1        8.52   11.49    3.807  0.25( 0.25) 1.00       2.7       2.15
     2        8.62   13.83    3.442  0.25( 0.25) 1.00       3.0       2.00
 NEW PEAK FLOW DATA ARE:
 PEAK FLOW RATE(CFS) =       8.62  Tc(MIN.) =   13.83
 AREA-AVERAGED Fm(INCH/HR) =  0.25  AREA-AVERAGED Fp(INCH/HR) =  0.25
 AREA-AVERAGED Ap =  1.00  EFFECTIVE AREA(ACRES) =       3.00

****************************************************************************
 FLOW PROCESS FROM NODE      2.25 TO NODE      2.30 IS CODE =  56
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   1734.00  DOWNSTREAM(FEET) =   1715.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =   207.00   CHANNEL SLOPE =  0.0918
 GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
 "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.030
 *ESTIMATED CHANNEL HEIGHT(FEET) =   1.05
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.375
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 NATURAL FAIR COVER
 "GRASS"                     C        1.78      0.25     1.000    93
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      11.12
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   8.03
 AVERAGE FLOW DEPTH(FEET) =   0.54   TRAVEL TIME(MIN.) =   0.43
 Tc(MIN.) =   14.26
 SUBAREA AREA(ACRES) =     1.78       SUBAREA RUNOFF(CFS) =    5.01
 EFFECTIVE AREA(ACRES) =      4.78     AREA-AVERAGED Fm(INCH/HR) =   0.25
 AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   1.00
 TOTAL AREA(ACRES) =        4.8          PEAK FLOW RATE(CFS) =      13.44
 GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
 "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.030
 *ESTIMATED CHANNEL HEIGHT(FEET) =   1.11
```

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  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.61   FLOW VELOCITY(FEET/SEC.) =   8.49
  LONGEST FLOWPATH FROM NODE      2.00 TO NODE      2.30 =    1066.00 FEET.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       13.95   11.92    3.740  0.25( 0.25) 1.00       4.4       2.15
      2       13.44   14.26    3.375  0.25( 0.25) 1.00       4.8       2.00
  NEW PEAK FLOW DATA ARE:
  PEAK FLOW RATE(CFS) =      13.95  Tc(MIN.) =   11.92
  AREA-AVERAGED Fm(INCH/HR) =  0.25  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  1.00  EFFECTIVE AREA(ACRES) =       4.44
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        4.8  TC(MIN.) =     11.92
  EFFECTIVE AREA(ACRES) =      4.44  AREA-AVERAGED Fm(INCH/HR)=  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap = 1.000
  PEAK FLOW RATE(CFS)   =      13.95

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       13.95   11.92    3.740  0.25( 0.25) 1.00       4.4       2.15
      2       13.44   14.26    3.375  0.25( 0.25) 1.00       4.8       2.00
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```



# TRIBUTARY AREA C RATIONAL METHOD HYDROLOGY

```
**************************************************************************
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                          Analysis prepared by:

                           SWT Engineering, INC.
                         800-C South Rochester Ave
                            Ontario, CA 91761


 ************************* DESCRIPTION OF STUDY ************************
* LAYTONVILLE LANDFILL                                                  *
* AREA C RATIONAL METHOD ANALYSIS                                       *
* 100-YEAR, 24-HR STORM EVENT                                           *
 ************************************************************************

  FILE NAME: LAY100C.DAT
  TIME/DATE OF STUDY: 14:22 02/16/2024
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  *USER-DEFINED TABLED RAINFALL USED*
  NUMBER OF [TIME,INTENSITY] DATA PAIRS =  7
   1)    5.00;  5.640
   2)   10.00;  4.040
   3)   15.00;  3.260
   4)   30.00;  2.230
   5)   60.00;  1.570
   6)  120.00;  1.270
   7)  180.00;  1.130
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
```

```
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE      3.00 TO NODE      3.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   377.00
  ELEVATION DATA: UPSTREAM(FEET) =   1814.00  DOWNSTREAM(FEET) =   1786.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   12.740
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.613
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "GRASS"                    C        2.40      0.25     1.000    93   12.74
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =      7.26
  TOTAL AREA(ACRES) =      2.40   PEAK FLOW RATE(CFS) =      7.26

****************************************************************************
  FLOW PROCESS FROM NODE      3.05 TO NODE      3.10 IS CODE =  56
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1786.00  DOWNSTREAM(FEET) =   1763.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   226.00   CHANNEL SLOPE =  0.1018
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.040
  *ESTIMATED CHANNEL HEIGHT(FEET) =   1.09
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.524
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL FAIR COVER
  "GRASS"                    C        1.96      0.25     1.000    93
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      10.15
  TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =   6.61
  AVERAGE FLOW DEPTH(FEET) =   0.59   TRAVEL TIME(MIN.) =   0.57
```

```
  Tc(MIN.) =   13.31
  SUBAREA AREA(ACRES) =     1.96       SUBAREA RUNOFF(CFS) =    5.77
  EFFECTIVE AREA(ACRES) =      4.36     AREA-AVERAGED Fm(INCH/HR) =   0.25
  AREA-AVERAGED Fp(INCH/HR) =   0.25  AREA-AVERAGED Ap =   1.00
  TOTAL AREA(ACRES) =        4.4          PEAK FLOW RATE(CFS) =      12.85
  GIVEN CHANNEL BASE(FEET) =    2.00   CHANNEL FREEBOARD(FEET) =  0.5
  "Z" FACTOR =   1.000   MANNING'S FACTOR = 0.040
  *ESTIMATED CHANNEL HEIGHT(FEET) =   1.18

  END OF SUBAREA CHANNEL FLOW HYDRAULICS:
  DEPTH(FEET) =  0.68   FLOW VELOCITY(FEET/SEC.) =   7.10
  LONGEST FLOWPATH FROM NODE      3.00 TO NODE      3.10 =     603.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        4.4  TC(MIN.) =     13.31
  EFFECTIVE AREA(ACRES) =      4.36  AREA-AVERAGED Fm(INCH/HR)=  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap = 1.000
  PEAK FLOW RATE(CFS)   =      12.85
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```



# TRIBUTARY AREA D RATIONAL METHOD HYDROLOGY

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                          Analysis prepared by:

                           SWT Engineering, INC.
                         800-C South Rochester Ave
                            Ontario, CA 91761


 ************************* DESCRIPTION OF STUDY *************************
* LAYTONVILLE LANDFILL                                                  *
* AREA D RATIONAL METHOD ANALYSIS                                       *
* 100-YEAR, 24-HR STORM EVENT                                           *
 ************************************************************************

  FILE NAME: LAY100D.DAT
  TIME/DATE OF STUDY: 14:28 02/16/2024
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  18.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90
  *USER-DEFINED TABLED RAINFALL USED*
  NUMBER OF [TIME,INTENSITY] DATA PAIRS =  7
   1)    5.00;  5.640
   2)   10.00;  4.040
   3)   15.00;  3.260
   4)   30.00;  2.230
   5)   60.00;  1.570
   6)  120.00;  1.270
   7)  180.00;  1.130
  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
```

```
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

****************************************************************************
  FLOW PROCESS FROM NODE      4.00 TO NODE      4.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   562.00
  ELEVATION DATA: UPSTREAM(FEET) =   1802.00  DOWNSTREAM(FEET) =   1738.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   13.722
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.459
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "GRASS"                    C        2.15      0.25     1.000    93   13.72
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =      6.21
  TOTAL AREA(ACRES) =      2.15   PEAK FLOW RATE(CFS) =      6.21

****************************************************************************
  FLOW PROCESS FROM NODE      4.05 TO NODE      4.05 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   13.72
  RAINFALL INTENSITY(INCH/HR) =   3.46
  AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  1.00
  EFFECTIVE STREAM AREA(ACRES) =       2.15
  TOTAL STREAM AREA(ACRES) =       2.15
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       6.21

****************************************************************************
  FLOW PROCESS FROM NODE      4.10 TO NODE      4.05 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
```

```
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   245.00
  ELEVATION DATA: UPSTREAM(FEET) =   1812.00  DOWNSTREAM(FEET) =   1738.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.099
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.648
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  NATURAL FAIR COVER
  "GRASS"                     C        1.51      0.25     1.000    93    8.10
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.25
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.000
  SUBAREA RUNOFF(CFS) =      5.98
  TOTAL AREA(ACRES) =      1.51   PEAK FLOW RATE(CFS) =      5.98

****************************************************************************
  FLOW PROCESS FROM NODE      4.05 TO NODE      4.05 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    8.10
  RAINFALL INTENSITY(INCH/HR) =   4.65
  AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25
  AREA-AVERAGED Ap =  1.00
  EFFECTIVE STREAM AREA(ACRES) =       1.51
  TOTAL STREAM AREA(ACRES) =       1.51
  PEAK FLOW RATE(CFS) AT CONFLUENCE =       5.98

  ** CONFLUENCE DATA **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1        6.21   13.72    3.459  0.25( 0.25) 1.00       2.2       4.00
      2        5.98    8.10    4.648  0.25( 0.25) 1.00       1.5       4.10

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       11.00    8.10    4.648  0.25( 0.25) 1.00       2.8       4.10
      2       10.57   13.72    3.459  0.25( 0.25) 1.00       3.7       4.00

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      11.00    Tc(MIN.) =     8.10
```

```
  EFFECTIVE AREA(ACRES) =       2.78   AREA-AVERAGED Fm(INCH/HR) =  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap =  1.00
  TOTAL AREA(ACRES) =        3.7
  LONGEST FLOWPATH FROM NODE      4.00 TO NODE      4.05 =     562.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        3.7  TC(MIN.) =      8.10
  EFFECTIVE AREA(ACRES) =      2.78  AREA-AVERAGED Fm(INCH/HR)=  0.25
  AREA-AVERAGED Fp(INCH/HR) =  0.25  AREA-AVERAGED Ap = 1.000
  PEAK FLOW RATE(CFS)   =      11.00

  ** PEAK FLOW RATE TABLE **
   STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
   NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)         (ACRES)    NODE
      1       11.00    8.10    4.648  0.25( 0.25) 1.00       2.8       4.10
      2       10.57   13.72    3.459  0.25( 0.25) 1.00       3.7       4.00
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```



# Appendix D

Laytonville Landfill Closure Initial Study and Negative Declaration

# Notice of Completion

**Form A**

*Mail to:* State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

*See NOTE below*
**SCH #** 96122038

9/1996

**Project Title:** Laytonville Landfill Closure Project
Lead Agency: Mendocino County Solid Waste Division **Contact Person:** Paul Cayler
Street Address: 559 Low Gap Road **Phone:** 707/463-4078
City: Ukiah, CA **Zip:** 95482 **County:** Mendocino

**Project Location**
County: Mendocino **City/Nearest Community:** Laytonville, CA
Cross Streets: Stump Road & Branscomb Road **Zip Code:** 95454 **Total Acres:** 34.75
Assessor's Parcel No. 014-250-32 **Section:** 14 **Twp.** 21N **Range:** 15W **Base:** Mt. Diablo
Within 2 Miles: **State Hwy #:** U.S.101 **Waterways:** Cahto Creek
**Airports:** N/A **Railways:** N/A **Schools:** N/A

**Document Type**
CEQA: ☐ NOP ☐ Supplement/Subsequent ☐ EIR (Prior SCH No.) ☒ Neg Dec ☐ Other ☐ Draft EIR
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other

RECEIVED OCT 10 1996 STATE CLEARINGHOUSE

**Local Action Type**
☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☑ Land Division (Subdivision, Parcel Map, Tract Map, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other Landfill Closure Project

**Development Type**
☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational ____
☐ Recreational ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ Watts ____
☐ Waste Treatment: Type ____
☐ Hazardous Waste: Type ____
☒ Other: Landfill Closure Project 7.0 acres

**Project Issues Discussed in Document**
☐ Aesthetic/Visual ☐ Agricultural Land ☐ Air Quality ☒ Archeological/Historical ☐ Coastal Zone ☐ Drainage/Absorption ☐ Economic/Jobs ☐ Fiscal
☐ Flood Plain/Flooding ☐ Forest Land/Fire Hazard ☐ Geologic/Seismic ☐ Minerals ☐ Noise ☐ Population/Housing Balance ☐ Public Services/Facilities ☐ Recreation/Parks
☐ Schools/Universities ☐ Septic Systems ☐ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☐ Solid Waste ☐ Toxic/Hazardous ☐ Traffic/Circulation ☐ Vegetation
☒ Water Quality ☐ Water Supply/Groundwater ☐ Wetland/Riparian ☐ Wildlife ☐ Growth Inducing ☐ Landuse ☐ Cumulative Effects ☐ Other

**Present Land Use/Zoning/General Plan Use**
Zoning: PF (Public Facilities) General Plan: PS (Public Services)

**Project Description** The proposed project consists of final closure action for the Laytonville Landfill, including installation of final cover, drainage/erosion controls, and leachate controls.

State Clearinghouse Contact: Ms. Angel Howell (916) 445-0613
State Review Began: 10-10-96
Dept. Review to Agency 11-1
Agency Rev to SCH 11-6
SCH COMPLIANCE 11-8

**Please note SCH Number on all Comments**

961 [illegible]

**Please forward late comments directly to the Lead Agency**

AQMD/APCD 17 (Resources: 0162)

961 [illegible]

**Project Sent to the following State Agencies**

- X Resources
- ____ Boating
- X Coastal Comm
- ____ Coastal Consv
- ____ Colorado Rvr Bd
- X Conservation
- X Fish & Game # 3
- ____ Delta Protection Commission
- ____ Forestry
- ____ Parks & Rec/OHP
- ____ Reclamation
- ____ BCDC
- ____ DWR
- ____ OES
- **Bus Transp Hous**
- ____ Aeronautics
- ____ CHP
- X Caltrans # 1
- ____ Trans Planning
- ____ Housing & Devel
- **Health & Welfare**
- ____ Dept. of Health
- ____ Medical Waste

**State/Consumer Svcs**
- ____ General Services
- **Cal/EPA**
- ____ ARB
- X CA Waste Mgmt Bd
- ____ SWRCB: Grants
- ____ SWRCB: Delta
- X SWRCB: Wtr Quality
- ____ SWRCB: Wtr Rights
- X Reg. WQCB # 1
- ____ DTSC/CTC

**Yth/Adlt Corrections**
- ____ Corrections
- **Independent Comm**
- ____ Energy Comm
- X NAHC
- ____ PUC
- ____ Santa Mn Mtns
- X State Lands Comm
- ____ Tahoe Rgl Plan
- ____ Other

96102038

WATER QUALITY
CONTROL BOARD
REGION 1

OCT 15 '96

☐ BK ___ ☐ RK ___
☐ CJ ___ ☐ LR ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ___
☐ ___ ☐ REPLY
☐ ALL STAFF ☐ FILE

# LAYTONVILLE LANDFILL CLOSURE PROJECT

MENDOCINO COUNTY

Initial Study and Negative Declaration

September 1996

Michael Brandman Associates



# LAYTONVILLE LANDFILL CLOSURE PROJECT

MENDOCINO COUNTY

## Initial Study and Negative Declaration

Prepared for:

County of Mendocino
559 Low Gap Road
Ukiah, California 95482

Contact:
Paul Cayler
Director of Solid Waste Division
(707) 463-4078

Prepared by:

Michael Brandman Associates
10423 Old Placerville Road, Suite 100
Sacramento, California 95827

Contact:
Douglas K. Brown
(916) 362-3606

JN: 11840003

September 30, 1996



# NOTICE OF PROPOSED NEGATIVE DECLARATION

For review by interested agencies and the public in accordance with Mendocino County Environmental Review Guidelines and the California Environmental Quality Act, an analysis has been made of possible environmental impacts of the following project:

**Applicant:** Mendocino County
559 Low Gap Road
Ukiah, CA 95482

Project Title and Description: The proposed project is the Laytonville Landfill Closure. The proposed project consists of the final closure actions proposed for the landfill, including final cover, drainage/ erosion controls, and leachate controls. The proposed actions are described in the Final Closure and Postclosure Maintenance Plan for the Laytonville Solid Waste Disposal Site. This report is hereby incorporated by reference into this negative declaration.

Project Location: The Laytonville Landfill is located in northern Mendocino County approximately 1.5 miles southwest of Laytonville in the southwest quarter of Section 14, Township 21 north, Range 15 west, Mount Diablo Base and Meridian. A location map is included in Section 1 of the attached Initial Study.

Findings Which Support A Negative Declaration: After conducting an Initial Study, the Lead Agency has determined that the project will not have a significant effect on the environment for the following reasons:

1. The proposed project consists of the final closure actions proposed for the landfill, including final cover, drainage/erosion controls and leachate controls. The actions would not degrade the quality of the environment, reduce wildlife habitat and/or population, reduce numbers of rare or endangered species, or eliminate examples of history.

2. The short-term construction activities would not adversely affect the long-term productivity of the surrounding environment. The site would be reclaimed through revegation of the landfill after installation of the final cover.

3. The proposed project would not contribute to cumulative adverse impacts. Following installation of final cover on the landfill, activities at the landfill would be limited to site monitoring activities.

4. Although temporary significant adverse impacts associated with construction activities would be anticipated with the proposed project, mitigation measures to reduce these impacts to less-than-significant levels have been identified in the attached Initial Study. In addition, the proposed landfill closure actions are designed to prevent the occurrence of adverse environmental effects, including the prevention of leachate generation, and the monitoring and control of potential landfill gases.

Attached hereto is a copy of the Initial Study which documents reasons to support the above findings. Also attached are mitigation measures proposed to avoid potentially significant effects.

Paul Cayler

Paul Cayler,
Director of Solid Waste
Mendocino County Solid Waste Division

Oct. 9, 1996

Date

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EXHIBIT

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# PREFACE

This document is an Initial Study and Negative Declaration (IS/ND) for the Laytonville Landfill Closure Project proposed by the County of Mendocino. An initial study is a preliminary analysis prepared by the County to determine whether an environmental impact report (EIR) or negative declaration of environmental impact ("negative declaration" hereafter) must be prepared for compliance with the California Environmental Quality Act (CEQA) and guidelines (§15365). It is intended to determine if the project may have a significant effect on the environment (§15036). A negative declaration is a written statement by the County briefly describing the reasons why a proposed project will not have a significant effect on the environment, and therefore does not require the preparation of an EIR (§15371).

According to the State CEQA Guidelines (§15070), a proposed negative declaration shall be prepared for a project subject to CEQA when either:

(a) The initial study shows that there is no substantial evidence that the project may have a significant effect on the environment, or

(b) The initial study identified potentially significant effects, but:

  (1) Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

  (2) There is no substantial evidence before the County that the project as revised may have a significant effect on the environment.

This IS/ND is being circulated for public review and comment. The County shall consider the proposed IS/ND along with any comments received during the public review process prior to taking action on the proposed project (§15074). There is no requirement in CEQA or the State CEQA Guidelines to prepare responses to public comments on the proposed IS/ND.

This report has been prepared under the direction of Paul Cayler, Director, and Randall Forbes, Engineer IV, of the Mendocino County Solid Waste Division. The report preparers are Douglas Brown, Chris Franchetti, and Brian Hoffmann of Michael Brandman Associates.

# SECTION 1

## 1.1 INTRODUCTION

The County of Mendocino is proposing the final closure of the Laytonville Solid Waste Disposal Facility (landfill). The closure would be implemented upon the Mendocino County Board of Supervisor's adoption of the Final Closure and Postclosure Maintenance Plan (Final Closure Plan).

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq.*, and the State CEQA Guidelines, California Code of Regulations §15000 *et seq.* The following analysis was performed to determine whether implementation of the proposed Final Closure Plan would have significant effects on the environment.

The Initial Study is divided into three sections:

- Section 1 provides a description of the project setting and characteristics;
- Section 2 includes an environmental evaluation/checklist which identifies the potential environmental impacts associated with implementation of the Final Closure Plan; and
- Section 3 includes a discussion of checklist responses and findings.

Much of the project description information for the Initial Study was derived from the Final Closure Plan for the landfill, prepared by Anderson Consulting Group for Mendocino County in March 1996. The Final Closure Plan is hereby incorporated by reference into this Initial Study.

## 1.2 PROJECT BACKGROUND

The landfill has been owned and operated by Mendocino County since its opening in 1967, with operations overseen by the Solid Waste Division of the County Administrative Office. In September 1993, the Mendocino County Board of Supervisors voted to close the landfill prior to its originally scheduled closure date. The landfill has since discontinued disposal operations and is awaiting final closure pending approval of the Final Closure Plan, which is the focus of this Initial Study.

The landfill operated under a solid waste facility permit issued by the California Integrated Waste Management Board (CIWMB), and a Class II-2 solid waste disposal permit issued by the Regional Water Quality Control Board (RWQCB) - North Coast Region. In accordance with Title 23 of the California Code of Regulations (CCR), Chapter 15, the landfill qualified for a Class III site designation and accepted nonhazardous solid waste (e.g., household garbage, rubbish, paper, cloth, trees, and brush). Hazardous, designated, and liquid wastes were not accepted at the landfill.

## 1.3 ENVIRONMENTAL SETTING

The landfill site encompasses 34.75 acres in northern Mendocino County approximately 1.5 miles southwest of Laytonville in the southwest 1/4 of Section 14, Township 21 north, Range 15 west, Mount Diablo Base and Meridian. Branscomb Road provides primary access to the site by way of U.S. Highway 101 (U.S. 101). The site is generally bounded to the north by a residential area and Branscomb Road, to the west by a parcel currently preserved for agricultural use, and to the south and east by the Laytonville Rancheria. Exhibits 1 and 2 depict the regional location of the site. The landfill is designated Public Service for Solid Waste in the Mendocino County General Plan and is zoned as a Public Facility in the County zoning ordinance. Upon closure of the landfill the site will be revegetated to non-irrigated open space.

Exhibit 3 depicts the existing features of the landfill property. The landfill access road originates at Branscomb Road west of a maintenance yard in the northeastern corner of the site. (This yard is used for storage of County vehicles and equipment and will not be affected by final closure). A pond encompassing approximately 0.5 acre is located to the southwest of the maintenance yard on the west side of the access road. The access road extends south from Branscomb Road for approximately 1,000 feet to the landfill area. The 7-acre fill area is located in the southern half of the site.

The fill area is unlined and contains approximately 311,000 cubic yards of waste. Prior to discontinuing disposal operations, the landfill accepted an average of 920 tons of nonhazardous municipal solid waste (MSW) from the Laytonville service area per year. The majority of accepted waste was from residential sources (90%). The remaining waste came from either commercial (5%) or construction demolition (5%) sources. Waste was deposited into individual debris cells constructed through the layering, shaping, compacting, and covering of refuse. All cover material used in cell construction was excavated from onsite borrow locations. During the last years of landfill operation, a drop-off recycling center was maintained onsite for glass, cans, newspaper and cardboard. Also included were wood waste, yard waste and scrip metal diversion (Mendocino County Department of Public Works 1989).

The natural ground surface of the project site ranges in elevation from approximately 1,810 feet above mean sea level (MSL) in the southwestern corner to approximately 1,690 MSL in the northeastern corner. The maximum fill-slope height of the landfill is approximately 80 feet above the natural ground surface.

Offsite surface drainage is directed away from the landfill by the local topography. The site was characterized by east- and west-draining swales prior to construction of the landfill in 1967. Onsite surface drainage is now channeled into four sedimentation basins located near the site perimeter (Exhibit 3). Drainage is directed offsite via ephemeral streams to Cahto Creek, which runs northeastward approximately 700 feet to the south of the landfill.

Conifer forest is the dominant undisturbed vegetation community present both onsite and in the project vicinity. Disturbed portions of the landfill are covered primarily with seeded rye grass. No waste handling areas, buildings, or equipment cleaning facilities are located on the project site (except for those located within the maintenance yard, which would not be involved in final closure).

Groundwater monitoring, surface water monitoring, and perimeter landfill gas monitoring are currently conducted at the site. These monitoring systems include 5 groundwater monitoring wells, 5 perimeter landfill gas monitoring wells, 1 leachate extraction well, leachate collection equipment, and annual surface water monitoring from the discharge culverts of onsite sedimentation ponds (refer to Exhibit 3 for locations of operating onsite wells). The existing leachate control and removal system (LCRS) is not in use and would be decommissioned with implementation of the Final Closure Plan. The County currently monitors any leachate seeps observed on the intermediate cover, which occur primarily during wet winter months.

## 1.4 GROUNDWATER CHARACTERISTICS

Groundwater quality is currently monitored through five onsite monitoring wells (see Exhibit 3 for locations). One well (93-1), located in the southwestern corner of the site adjacent to the fill area, has exhibited evidence of increased mineralization (well 94-1 was installed downgradient of this well to further monitor this situation). Such mineralization is common to landfill sites and sometimes occurs with signs of other types of contamination. Also, leachate sampling of seeps that occurred along the eastern landfill face during the winter of 1992 detected elevated levels of some volatile organic compounds. However, none of the compounds detected in the leachate were detected in surface water samples. Also, the eastern landfill face was covered with a two foot foundation layer to reduce water infiltration. No other evidence of groundwater or surface water contamination onsite or associated with the landfill has been detected to date.

The Final Closure Plan includes the placement of a final cover system that would significantly reduce or eliminate the occurrence of leachate seeps by substantially decreasing the amount of rainwater infiltrating buried waste. The County would continue to monitor the landfill for leachate seeps following closure and would notify the appropriate agencies if any seeps were discovered. The County would then submit a corrective action plan to the governing regulatory agencies for review and approval. The proposed Postclosure Maintenance Plan would also ensure that the landfill's environmental monitoring programs (including the groundwater and surface water monitoring systems) would continue to operate effectively following landfill closure.

## 1.5 PROJECT CHARACTERISTICS

The proposed project consists of the following final closure actions proposed for the landfill: final cover of the fill area; construction of drainage/erosion controls; maintenance of existing groundwater and perimeter gas monitoring systems; decommissioning of the former leachate extraction and collection system; continued monitoring for the presence of leachate seeps and potential groundwater contamination; and implementation of a site security system. The proposed actions are described in detail in the Final Closure and Postclosure Maintenance Plan, Sections 3.0 and 4.0, prepared by Anderson Consulting Group. The characteristics of each action are summarized below.

### Final Cover System

#### Proposed Final Cover System

An "engineered alternative" final cover system is proposed for the landfill in accordance with Code of Federal Regulations (CFR) Subtitle D regulations and CCR Title 14 and 23 requirements for an unlined Class III landfill. Installation of an all-clay cover was considered but found to be an inferior final-cover alternative (see discussion below). The following list describes each layer of the proposed cover profile from top to bottom:

- **Vegetative Soil Layer.** This layer would consist of clayey to silty loam which would allow the growth of shallow rooted, drought-resistant native plant species. The 18-inch layer would be constructed from soil excavated from the onsite borrow areas, located in the central and western portions of the site north of the fill area.

- **Drainage Layer.** This layer would remove water that infiltrated through the vegetative cover layer. The rapid removal of infiltrated rainwater would decrease landfill leachate generation and increase the stability of the final cover on steeper side slope areas. On the top deck area, the drainage layer would consist of a minimum 12-ounce-per-square-yard non-woven geotextile filter fabric. On the side slope areas, it would consist of a geonet with minimum 8-ounce-per-square-yard non-woven geotextile filter fabric bonded to both the top and bottom geonet surfaces.

- **Hydraulic Barrier Layer.** This layer would further inhibit leachate generation by minimizing surface water infiltration into the landfill. The hydraulic barrier layer would consist of a geosynthetic clay liner (GCL). The factory-prepared GCL would consist of a low-permeability bentonite clay layer bonded between two geotextile fabrics or glued to a flexible geomembrane liner. The GCL component of the hydraulic barrier layer constitutes the "engineered alternative" final-cover system for the landfill.

- **Gas Migration Layer.** This layer would convey landfill gas migrating to the surface toward passive vents installed through the final cover system. The layer material would consist of 12-

ounce-per-square-yard non-woven geotextile filter fabric. The vents would be constructed with 6-inch diameter PVC pipe.

- **Foundation Soil Layer.** This layer would bridge the surface irregularities of underlying refuse materials, provide a firm substrate for installation of the hydraulic barrier layer, and minimize the effects of any minor differential settlement of underlying refuse materials. The foundation soil layer would be constructed from existing in-place intermediate soil cover and would adhere to the design requirements delineated in Section 3.4.1 of the Final Closure Report. This layer would have a minimum thickness of 24 inches.

All cover soil used in construction of the final cover system would be excavated from onsite borrow areas.

**Other Final Cover Systems Considered**

An all-clay final cover system was considered for use in final cover construction but was found to be inferior to the engineered alternative. Anderson Consulting Group investigated the feasibility of an all-clay system in its 1994 Final Cover Investigation Report (which is included in Appendix D of the Final Closure Plan). This report includes an evaluation of the capability of onsite borrow soil to meet CFR Subtitle D and CCR Titles 14 and 23 final cover soil requirements. A number of onsite soil characteristics were analyzed, including particle size gradation, compaction, and permeability. Results indicated that the soil's degree of permeability exceeded the maximum $1.0 \times 10^{-6}$ centimeters per second (cm/s) allowed under CCR Titles 14 and 23, and would therefore be inadequate in its natural state for use as cover material. Compaction test results showed that artificial compaction of the soil to the required permeability levels would be both difficult and costly, as would admixing (blending the soil with imported clay material) to decrease its permeability. For these reasons, the County investigated alternative final cover types to the all-clay system.

ACG identified two potential engineered-alternative final-cover systems that could be implemented in place of an all-clay system: a system involving the installation of a geomembrane liner and a system utilizing a GCL (as described above). Both alternatives were evaluated for practical and financial feasibility. The GCL alternative was ultimately chosen as the preferred alternative method.

Final Grading

The proposed final cover grades for the landfill are designed to accommodate minor amounts of subsidence and differential settlement, minimize erosion by surface water runoff, and provide a stable landfill configuration. Finished grade slopes on the fill area would range from 3% on the top deck to

a maximum of 33.33% (3:1, or 3 units horizontal distance to 1 unit vertical distance) on the side slopes. Final slopes in the borrow area(s) would average 20% or less.

Surface Water Drainage Controls

The proposed surface water drainage control system consists of a network of berms, ditches (V-shaped and half-round), downdrains, and culverts and four onsite sedimentation ponds: one in the southwest corner of the site, one in the northwest corner of the site, one to the northeast of the fill area, and one west of the main access road identified as an onsite pond in Exhibit 3. Runoff from the landfill's top deck would be directed along berms and through drainage ditches into overside downdrains. These drains would carry the runoff down the sideslopes and release it into a perimeter ditch at the landfill base. Rain falling directly onto the sideslopes would travel by sheet flow into the perimeter ditch, where it would be transported to one of the sedimentation basins which empty into the natural drainage network southwest and northeast of the landfill site.

Slope Protection and Erosion Controls

Under the proposed Final Closure Plan, erosion control methods would be integrated with the surface water controls described above. The design of the slope protection and erosion control system includes lined drainage ditches, corrugated metal pipe (CMP) in overside drains and culverts, grade controls, and vegetation planting. The following specific features would be incorporated into the erosion control design:

- V-ditches constructed on the landfill mass would be lined with high density polyethylene (HDPE).
- Half-round ditches constructed on the landfill mass would be lined with CMP.
- The perimeter ditch would be grass-lined in areas underlain with native soil, as necessary.
- All overside downdrains and any culverts constructed beneath access roads would be constructed with adequate diameter (12-inch-diameter minimum) to reduce the potential for associated slope failure.
- Energy dissipators would be installed in overside drains at all pipe discharge points.
- Vegetation would be established on the final cover of the top deck and side slope areas.
- Grade controls would include maintenance of a 3% top deck slope and the installation of lined ditches with a 1% slope (Final Closure and Postclosure Maintenance Plan Laytonville Landfill, March 1996).

These methods are intended to minimize the potential for slope failure and soil erosion associated with the proposed closure activities.

Groundwater Monitoring Network

The five existing onsite groundwater monitoring wells would remain operational throughout the closure and postclosure maintenance periods. However, the elevation of some of the wellheads could change, including wells GWM 93-1 and GWM 90-1, due to anticipated grading and excavation activities. The County would continue to conduct quarterly groundwater sampling in accordance with the Article 5 Monitoring Program prepared by EMCON Associates and approved by the North Coast Regional Water Quality Control Board. No additional groundwater monitoring wells are proposed for the site at this time.

Perimeter Gas Monitoring Network

The five existing onsite perimeter gas monitoring wells would also remain intact and operational throughout the closure and postclosure maintenance periods. The elevation of some of the wellheads could change, including well LFGW No. 6, due to anticipated grading and excavation activities. No methane gas has been detected in the wells since their installation in June 1994 and no gas collection or extraction system is currently required. The County would implement a quarterly monitoring schedule for these wells upon final closure. The results of this monitoring would be submitted to the California Integrated Waste Management Board (CIWMB).

Leachate Control and Monitoring Program

The placement of the final cover would eliminate the need for a leachate extraction and collection system by prohibiting the infiltration of substantial amounts of runoff into the disposed refuse material in the landfill. As discussed above, a formerly operational leachate extraction well and leachate collection equipment are currently in place on the project site. With implementation of the proposed Final Closure Plan, this leachate control system would be decommissioned in-place as part of final closure. Decommissioning would involve the removal and disposal of all above-ground leachate-control equipment from the project site.

As discussed above, the County would continue to monitor for possible leachate seeps following placement of the final cover system. If seeps are discovered at that time, the County will notify the appropriate governing agencies and submit a corrective action plan for the agencies' approval. Upon approval, the corrective action plan would be implemented in accordance with a set implementation schedule.

Surface Water Monitoring Program

The County currently collects and analyzes surface water samples from the landfill on an annual basis. Samples are extracted from discharge culverts located at the southwestern and northeastern detention basins. With implementation of the proposed Final Closure Plan, the County would continue these regular surface water monitoring activities.

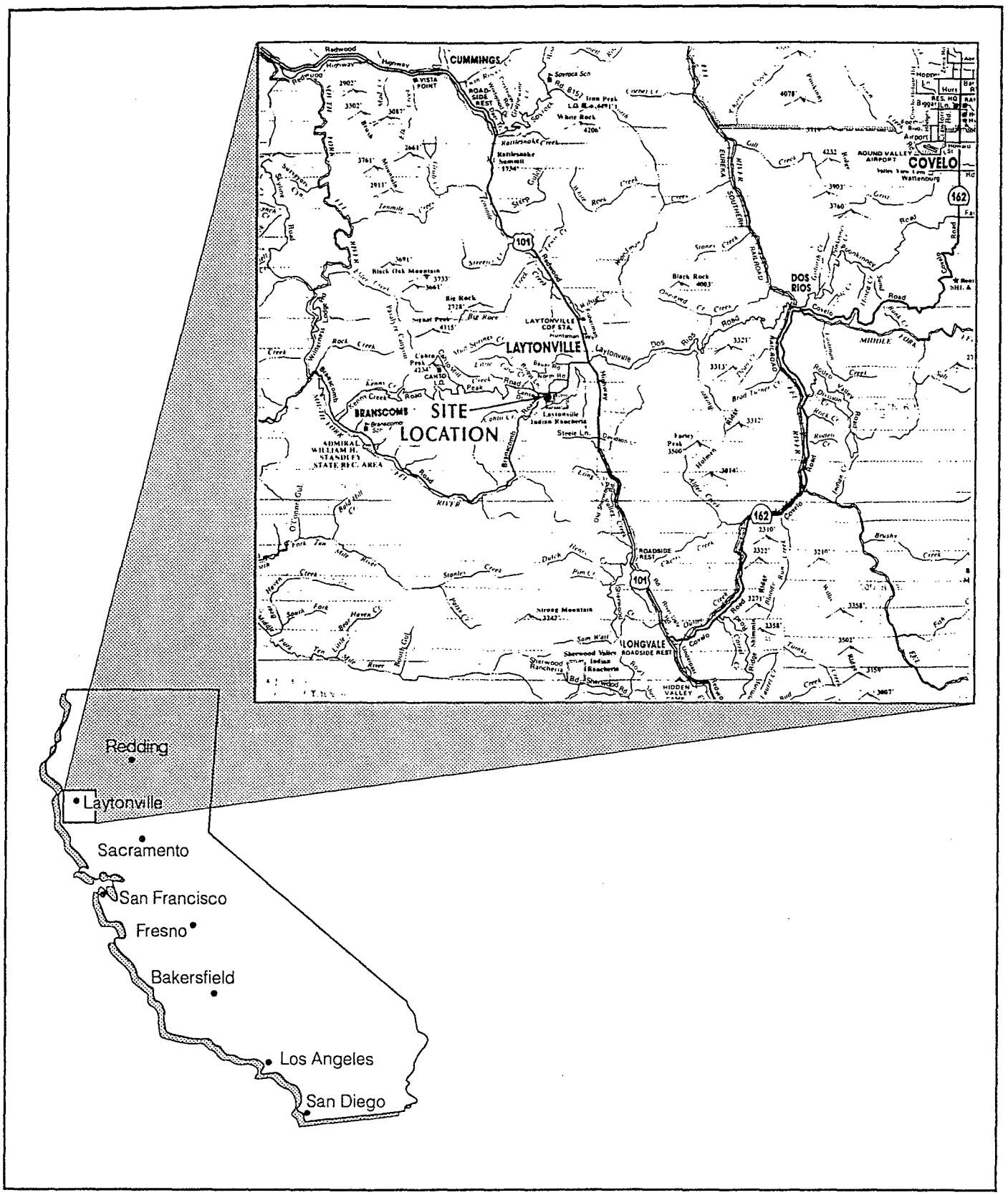
Site Security System

The Final Closure Plan includes implementation of a site security system involving the construction of a 6-foot-high chain link fence around the landfill footprint. Locking gates would be installed at all entrance locations. The main entrance gate to the landfill at Branscomb Road would remain in its current location.

## 1.6 PROJECT APPROVAL ACTIONS

Approval of the final closure procedures for the landfill requires actions by Mendocino County and other agencies involved in the regulation of solid waste disposal. These actions include the following:

- Approval of all closure-related plans by the Mendocino County Board of Supervisors.
- Approval of the closure plan and post-closure maintenance plan by the Mendocino County Department of Public Health (Local Enforcement Agency [LEA]), North Coast Regional Water Quality Control Board (RWQCB), and the California Integrated Waste Management Board (CIWMB).




Source: Mendocino County Convention and Visitors Bureau Map, 1991.

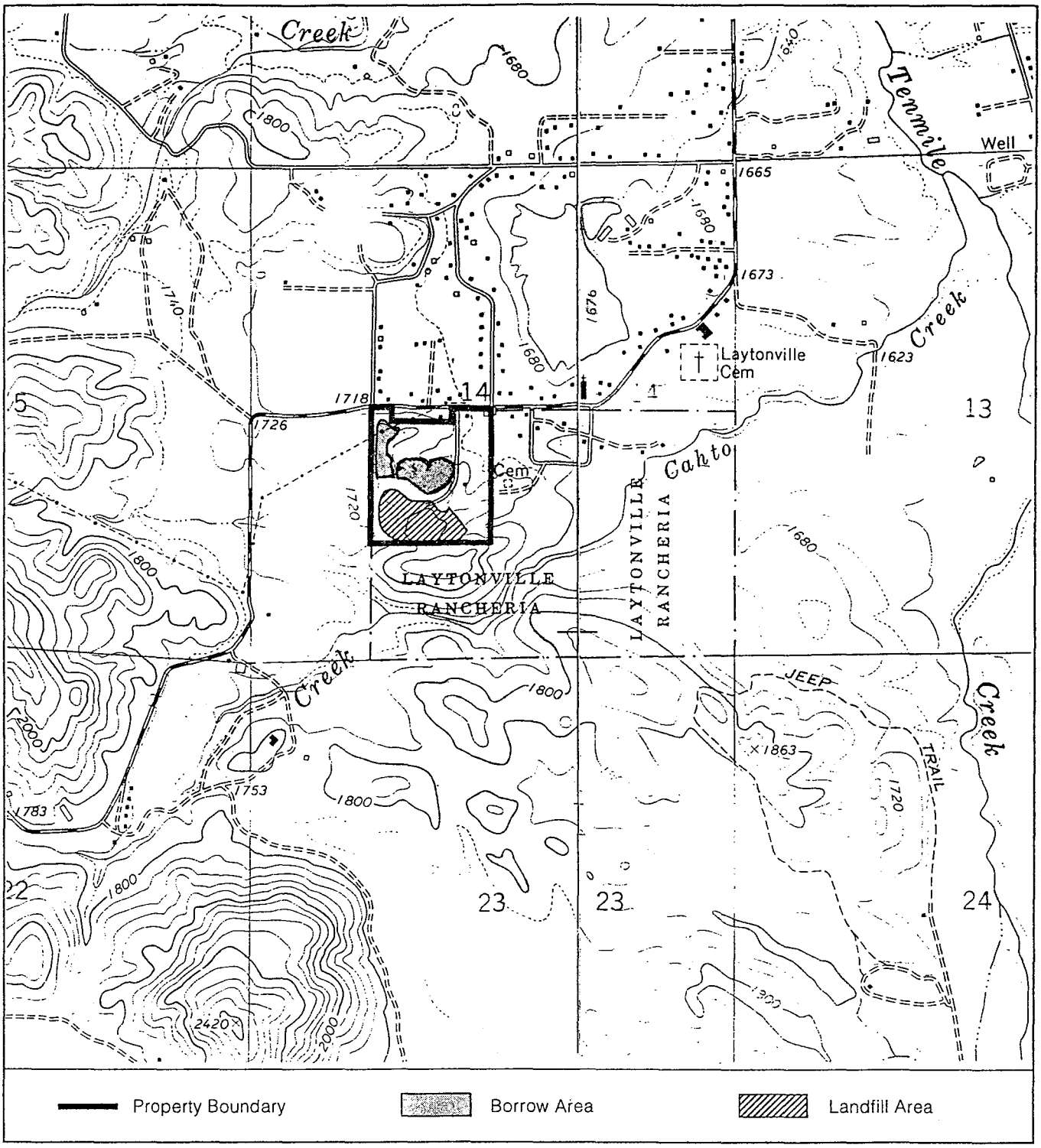
# Regional Location Map

EXHIBIT 1

**LAYTONVILLE LANDFILL CLOSURE PROJECT**
MENDOCINO COUNTY

0 1 2 4 MILES

NORTH




Source: Cahto Peak and Laytonville, California U.S.G.S. Topographic Quadrangle Maps.

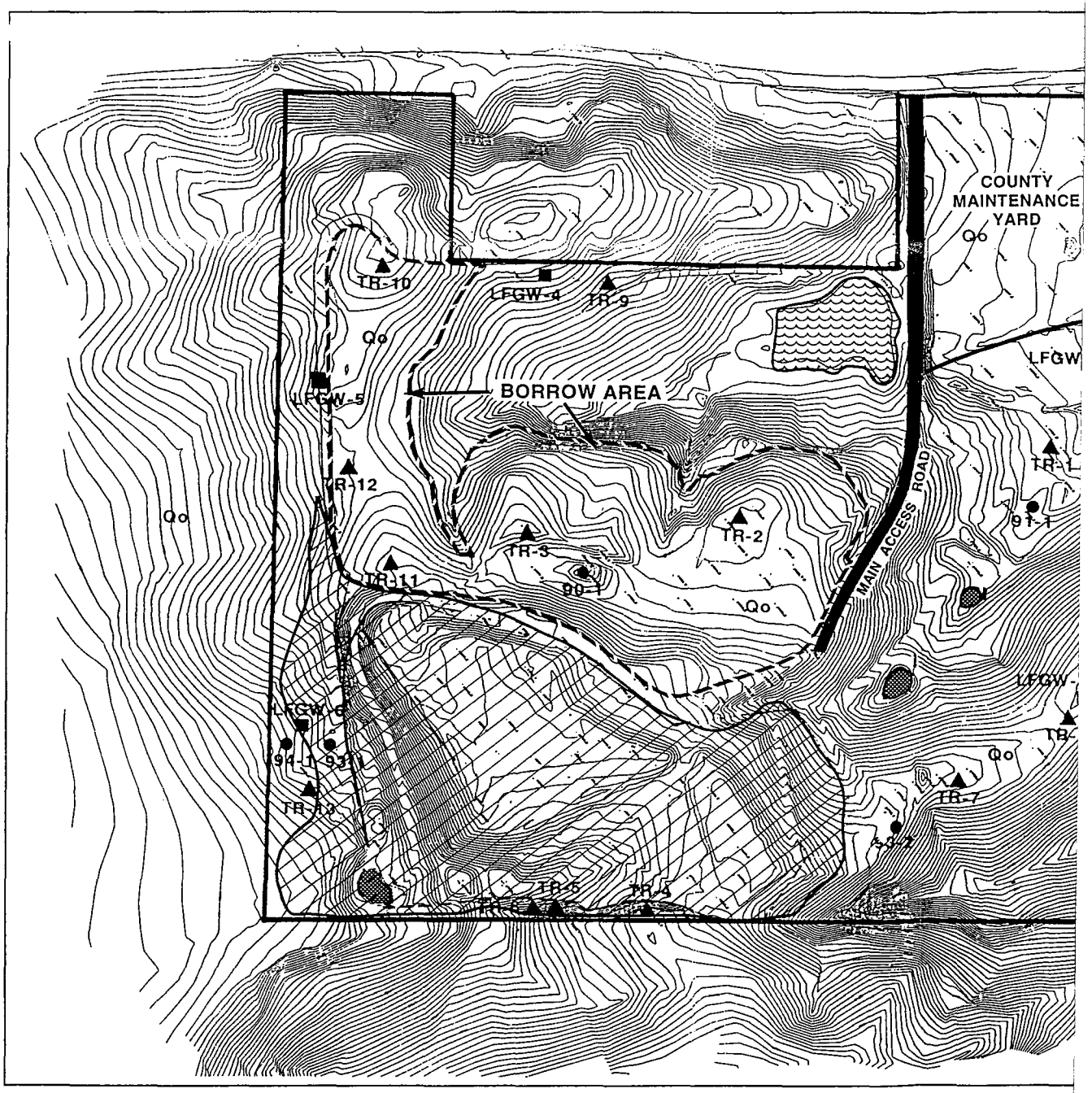
# Vicinity Map

EXHIBIT 2

**LAYTONVILLE LANDFILL CLOSURE PROJECT**
MENDOCINO COUNTY

0 500 1000 2000 FEET

NORTH




Source: Anderson Consulting Group, 1995.

# SECTION 2
# ENVIRONMENTAL CHECKLIST AND CHECKLIST EXPLANATIONS

## PROJECT INFORMATION

| | | |
|---|---|---|
| 1. | Project Title: | Laytonville Landfill Closure |
| 2. | Lead Agency Name and Address: | Mendocino County<br>559 Low Gap Road<br>Ukiah, CA 95482 |
| 3. | Contact Person and Phone Number: | Paul Cayler<br>(707) 463-4078 |
| 4. | Project Location: | See attached project description. |
| 5. | Project Sponsor's Name and Address: | Mendocino County Solid Waste Division<br>559 Low Gap Road<br>Ukiah, CA 95482 |
| 6. | General Plan Designation: | Public Service for Solid Waste |
| 7. | Zoning: | Public Facility |

8. Description of Project: See attached project description.

9. Surrounding Land Uses and Setting: See attached project description.

10: Other public agencies whose approval is required:

California Integrated Waste Management Board
California Regional Water Quality Control Board

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

| | | |
|---|---|---|
| ☐ Land Use and Planning | ☐ Transportation/Circulation | ☐ Public Services |
| ☐ Population and Housing | ☐ Biological Resources | ☐ Utilities & Service Systems |
| ☐ Geological Problems | ☐ Energy and Mineral Resources | ☐ Aesthetics |
| ☐ Water | ☐ Hazards | ☐ Cultural Resources |
| ☐ Air Quality | ☐ Noise | ☐ Recreation |
| | ☐ Mandatory Findings of Significance | |

**DETERMINATION** (To be completed by the Lead Agency)

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project COULD have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared. ☑

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed project MAY have a significant effect(s) 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, if the effect is a "potentially significant impact" or is "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects 1) have been analyzed adequately in an earlier EIR pursuant to applicable standards and 2) have been avoided or mitigated pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project. The earlier EIR adequately analyzes the proposed project, so NO ADDITIONAL ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION will be prepared. ☐

_____ _____

Signature Date

Printed Name Title

## EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the entire action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from Section XVII, EARLIER ANALYSES, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration [Section 15063(c)(3)(D)]. Earlier analyses are discussed in Section XVII at the end of the checklist.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list should be attached, and other sources used, or individuals contacted, should be cited in the discussion.

7. This checklist has been adapted from the form in Appendix I of the State CEQA Guidelines, as amended effective September 19, 1994.

8. Information sources cited in the checklist and the references used in support of this evaluation are listed in attachments to this document.

| ENVIRONMENTAL ISSUES *(see attachments for information sources)* | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **I. LAND USE AND PLANNING.** Would the proposal: | | | | |
| a) Conflict with general plan designation or zoning? | ☐ | ☐ | ☐ | ☑ |
| b) Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project? | ☐ | ☐ | ☐ | ☑ |
| c) Be incompatible with existing land use in the vicinity? | ☐ | ☐ | ☑ | ☐ |
| d) Affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)? | ☐ | ☐ | ☐ | ☑ |
| e) Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)? | ☐ | ☐ | ☐ | ☑ |
| **II. POPULATION AND HOUSING.** Would the proposal: | | | | |
| a) Cumulatively exceed official regional or local population projections? | ☐ | ☐ | ☐ | ☑ |
| b) Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)? | ☐ | ☐ | ☐ | ☑ |
| c) Displace existing housing, especially affordable housing? | ☐ | ☐ | ☐ | ☑ |
| **III. GEOLOGIC PROBLEMS.** Would the proposal result in or expose people to potential impacts involving: | | | | |
| a) Fault rupture? | ☐ | ☐ | ☑ | ☐ |
| b) Seismic ground shaking? | ☐ | ☐ | ☑ | ☐ |
| c) Seismic ground failure, including liquefaction? | ☐ | ☐ | ☑ | ☐ |
| d) Seiche, tsunami, or volcanic hazard? | ☐ | ☐ | ☑ | ☐ |
| e) Landslides or mudflows? | ☐ | ☐ | ☑ | ☐ |

| ENVIRONMENTAL ISSUES *(see attachments for information sources)* | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| f) Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill? | ☐ | ☑ | ☐ | ☐ |
| g) Subsidence of the land? | ☐ | ☐ | ☑ | ☐ |
| h) Expansive soils? | ☐ | ☐ | ☑ | ☐ |
| i) Unique geologic or physical features? | ☐ | ☐ | ☐ | ☑ |
| **IV. WATER.** Would the proposal result in: | | | | |
| a) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff? | ☐ | ☐ | ☑ | ☐ |
| b) Exposure of people or property to water related hazards such as flooding? | ☐ | ☐ | ☐ | ☑ |
| c) Discharge into surface waters or other alterations of surface water quality (e.g., temperature, dissolved oxygen, or turbidity)? | ☐ | ☑ | ☐ | ☐ |
| d) Changes in the amount of surface water in any water body? | ☐ | ☐ | ☑ | ☐ |
| e) Changes in currents, or the course or direction of water movements? | ☐ | ☐ | ☑ | ☐ |
| f) Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations, or through substantial loss of groundwater recharge capability? | ☐ | ☐ | ☑ | ☐ |
| g) Altered direction or rate of flow of groundwater? | ☐ | ☐ | ☐ | ☑ |
| h) Impacts to groundwater quality? | ☐ | ☐ | ☑ | ☐ |
| i) Substantial reduction in the amount of groundwater otherwise available for public water supplies? | ☐ | ☐ | ☐ | ☑ |

| ENVIRONMENTAL ISSUES *(see attachments for information sources)* | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **V. AIR QUALITY.** Would the proposal: | | | | |
| a) Violate any air quality standard or contribute to an existing or projected air quality violation? | ☐ | ☐ | ☑ | ☐ |
| b) Expose sensitive receptors to pollutants? | ☐ | ☐ | ☑ | ☐ |
| c) Alter air movement, moisture or temperature, or cause any change in climate? | ☐ | ☐ | ☐ | ☑ |
| d) Create objectionable odors? | ☐ | ☐ | ☑ | ☐ |
| **VI. TRANSPORTATION/CIRCULATION.** Would the proposal result in: | | | | |
| a) Increased vehicle trips or traffic congestion? | ☐ | ☐ | ☑ | ☐ |
| b) Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☑ | ☐ |
| c) Inadequate emergency access or access to nearby uses? | ☐ | ☐ | ☑ | ☐ |
| d) Insufficient parking capacity on-site or off-site? | ☐ | ☐ | ☐ | ☑ |
| e) Hazards or barriers for pedestrians or bicyclists? | ☐ | ☐ | ☑ | ☐ |
| f) Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | ☐ | ☐ | ☐ | ☑ |
| g) Rail, waterborne, or air traffic impacts? | ☐ | ☐ | ☐ | ☑ |
| **VII. BIOLOGICAL RESOURCES.** Would the proposal result in impacts to: | | | | |
| a) Endangered, threatened or rare species or their habitats (including, but not limited to, plants, fish, insects, animals, and birds)? | ☐ | ☐ | ☑ | ☐ |
| b) Locally designated species (e.g., heritage trees)? | ☐ | ☐ | ☐ | ☑ |
| c) Locally designated natural communities (e.g., oak forest, coastal habitat, etc.)? | ☐ | ☐ | ☐ | ☑ |

| ENVIRONMENTAL ISSUES *(see attachments for information sources)* | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| d) Wetland habitat (e.g., marsh, riparian and vernal pool)? | ☐ | ☐ | ☑ | ☐ |
| e) Wildlife dispersal or migration corridors? | ☐ | ☐ | ☑ | ☐ |
| **VIII. ENERGY AND MINERAL RESOURCES.** Would the proposal: | | | | |
| a) Conflict with adopted energy conservation plans? | ☐ | ☐ | ☐ | ☑ |
| b) Use non-renewable resources in a wasteful and inefficient manner? | ☐ | ☐ | ☐ | ☑ |
| c) Result in the loss of availability of a known mineral resource that would be of future value to the region and state residents? | ☐ | ☐ | ☐ | ☑ |
| **IX. HAZARDS.** Would the proposal involve: | | | | |
| a) A risk of accidental explosion or release of hazardous substances (including, but not limited to, oil, pesticides, chemicals, or radiation)? | ☐ | ☐ | ☑ | ☐ |
| b) Possible interference with an emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☑ | ☐ |
| c) The creation of any health hazard or potential health hazard? | ☐ | ☐ | ☑ | ☐ |
| d) Exposure of people to existing sources of potential health hazards? | ☐ | ☐ | ☑ | ☐ |
| e) Increased fire hazard in areas with flammable brush, grass, or trees? | ☐ | ☐ | ☑ | ☐ |
| **X. NOISE.** Would the proposal result in: | | | | |
| a) Increases in existing noise levels? | ☐ | ☐ | ☑ | ☐ |
| b) Exposure of people to severe noise levels? | ☐ | ☐ | ☑ | ☐ |
| **XI. PUBLIC SERVICES.** Would the proposal have an effect upon, or result in a need for new or altered government services, in any of the following areas: | | | | |
| a) Fire Protection? | ☐ | ☐ | ☑ | ☐ |

| ENVIRONMENTAL ISSUES *(see attachments for information sources)* | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| b) Police Protection? | ☐ | ☐ | ☑ | ☐ |
| c) Schools? | ☐ | ☐ | ☐ | ☑ |
| d) Maintenance of public facilities, including roads? | ☐ | ☐ | ☑ | ☐ |
| e) Other governmental services? | ☐ | ☐ | ☑ | ☐ |
| **XII. UTILITIES AND SERVICE SYSTEMS.** Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities: | | | | |
| a) Power or natural gas? | ☐ | ☐ | ☐ | ☑ |
| b) Communications systems? | ☐ | ☐ | ☐ | ☑ |
| c) Local or regional water treatment or distribution facilities? | ☐ | ☐ | ☐ | ☑ |
| d) Sewer, septic systems, or wastewater treatment and disposal facilities? | ☐ | ☐ | ☐ | ☑ |
| e) Storm water drainage? | ☐ | ☐ | ☑ | ☐ |
| f) Solid waste materials recovery or disposal? | ☐ | ☐ | ☐ | ☑ |
| g) Local or regional water supplies? | ☐ | ☐ | ☐ | ☑ |
| **XIII. AESTHETICS.** Would the proposal: | | | | |
| a) Affect a scenic vista or scenic highway? | ☐ | ☐ | ☑ | ☐ |
| b) Have a demonstrable negative aesthetic effect? | ☐ | ☐ | ☑ | ☐ |
| c) Create adverse light or glare effects? | ☐ | ☐ | ☐ | ☑ |
| **XIV. CULTURAL RESOURCES.** Would the proposal: | | | | |
| a) Disturb paleontological resources? | ☐ | ☑ | ☐ | ☐ |
| b) Disturb archaeological resources? | ☐ | ☑ | ☐ | ☐ |
| c) Affect historical resources? | ☐ | ☑ | ☐ | ☐ |
| d) Have the potential to cause a physical change which would affect unique ethnic cultural values? | ☐ | ☐ | ☑ | ☐ |

| ENVIRONMENTAL ISSUES *(see attachments for information sources)* | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| e) Restrict existing religious or sacred uses within the potential impact area? | ☐ | ☐ | ☐ | ☑ |
| **XV. RECREATION. Would the proposal:** | | | | |
| a) Increase the demand for neighborhood or regional parks or other recreational facilities? | ☐ | ☐ | ☐ | ☑ |
| b) Affect existing recreational opportunities? | ☐ | ☐ | ☐ | ☑ |
| **XVI. MANDATORY FINDINGS OF SIGNIFICANCE** | | | | |
| a. Does the project 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, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☐ | ☑ | ☐ |
| b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? | ☐ | ☐ | ☐ | ☑ |
| c. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) | ☐ | ☐ | ☐ | ☑ |
| d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☐ | ☑ | ☐ |

| ENVIRONMENTAL ISSUES<br>*(see attachments for information sources)* | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **XVII. EARLIER ANALYSES** | | | | |

Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or Negative Declaration [State CEQA guidelines Section 15063(c)(3)(D)]. In this case a discussion should identify the following on attached sheets.

a) **Earlier analyses used.** Identify earlier analyses and state where they are available for review.

b) **Impacts adequately addressed.** Identify which effects from the above checklist were within the scope of, and adequately analyzed in, an earlier document pursuant to applicable legal standards. Also, state whether such effects were addressed by mitigation measures based on the earlier analysis.

c) **Mitigation measures.** For effects that are checked as "Potentially Significant Unless Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

Authority: Public Resources Code Sections 21083 and 21087.
Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 31083.3, 21093, 21094, 21151; *Sundstrom v. County of Mendocino*, 202 Cal. App. 3d 296 (1988); *Leonoff v. Monterey Board of Supervisors*, 222 Cal. App. 3d 1337 (1990).

# SECTION 3

## 3.1 DISCUSSION OF ENVIRONMENTAL EVALUATION

An explanation of each checklist response used to determine if the proposed project may cause a significant effect on the environment is provided below. An acronym indicating one of the following conclusions precedes each checklist question.

☑ NO IMPACT **(NI)** The project will have no impact on the surrounding environment.

☑ LESS THAN SIGNIFICANT **(LS)** There is no substantial evidence that the project may have a significant effect on the environment so further analysis of this issue is not needed.

☑ MITIGATED TO LESS THAN SIGNIFICANT **(MLS)** The project may have a significant effect on the environment; however, the lead agency has incorporated mitigation which clearly reduces the potential impact to a level that is less than significant and further analysis of this issue is not needed.

☑ POTENTIALLY SIGNIFICANT **(PS)** The project may have a significant effect on the environment and further evaluation in an EIR is required.

### Topic I
### LAND USE AND PLANNING

**Would the proposal:**

a) **(NI) Conflict with general plan designation or zoning?**

The landfill closure would not conflict with the site's General Plan land use designation (Public Service for Solid Waste) or it zoning designation (Public Facility). Both designations allow landfill use of the site.

b) **(NI) Conflict with applicable environmental plans or policies adopted by agencies with jurisdiction over the project?**

The site has been used historically as a landfill under the jurisdiction of the Mendocino County Administrative Office, Solid Waste Division. Closure of the landfill would not conflict with the County's environmental plans or policies.

c) **(LS) Be incompatible with existing land use in the vicinity?**

Land use in the vicinity of the project site consists of agricultural and residential uses, including the Laytonville Rancheria which borders the project site to the south and east. The proposed postclosure use of the landfill as open space would not be incompatible with these

uses. Short-term construction activities including the excavation of onsite cover soil, construction of the final cover, final grading, and installation of the drainage system could result in minor nuisances on adjacent land uses from dust generation and noise. However, these impacts would be minimized with implementation of the mitigation measures included in Section V - Air Quality, and Section X - Noise, of this report.

d) (NI) **Affect agricultural resources or operations (e.g., impacts to soils or farmlands, or impacts from incompatible land uses)?**

The proposed project would have no effect on agriculture resources or operations. All proposed closure actions would be contained within the project site and no agricultural land uses would be affected. In addition, the project would involve continued monitoring of surface and groundwater to ensure that agricultural water supplies are protected.

e) (NI) **Disrupt or divide the physical arrangement of an established community (including a low-income or minority community)?**

All proposed closure actions would be contained within the landfill site and no changes in the physical arrangement of an established community, including the Laytonville Rancheria Native American reservation located adjacent to the project site, would be anticipated.

## Topic II
## POPULATION AND HOUSING

**Would the proposal:**

a) (NI) **Cumulatively exceed official regional or local population projections?**

The proposed landfill closure actions would not contribute to population growth and would not, therefore, contribute to the exceedance of any official regional or local population projections. No impacts on regional or local population projections would be anticipated.

b) (NI) **Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?**

The proposed project would have no effect on growth in the local area, either directly or indirectly.

c) (NI) **Displace existing housing, especially affordable housing?**

The proposed project would have no effect on existing housing.

## Topic III
## GEOLOGIC PROBLEMS

**Would the proposal result in or expose people to potential impacts involving:**

a) **(LS) Fault rupture?**

An evaluation of the project site performed by Anderson Consulting Group (ACG) in 1994 revealed no clear evidence of the presence of onsite faulting. However, because the possibility of onsite faulting cannot be conclusively ruled out, some potential for the exposure of people to fault rupture during construction and continued monitoring and maintenance activities would exist. This impact would be considered less-than-significant because of the low probability for onsite faulting, the short-term nature of proposed construction activities and the limited extent of monitoring and maintenance activities.

b) **(LS) Seismic ground shaking?**

The project site is located within an area of relatively high seismic activity. A computerized search of known nearby earthquake events, performed by ACG in 1994, indicated that 80 seismic events had occurred within a 61-mile radius of the site between 1800 and 1994. The nearest event, which took place in 1930, measured 4.5 on the Richter scale and was centered approximately 11 miles from the landfill site.

The nearest confirmed active fault, known as the Maacama fault, is located approximately 1-1/4 miles west of the landfill. Other active faults which could produce onsite ground shaking include the San Andreas Fault, located approximately 25 miles west of the site; the Sierran Block of the Coast Range Fault, located approximately 45 miles east of the site; the Healdsburg-Rogers Creek fault, located approximately 74 miles south of the site; and the Zamora Fault, located approximately 98 miles southeast of the site. Of these faults, the Maacama carries the highest potential for creating onsite groundshaking. The Maximum Probable Event (MPE) for this fault is an estimated 7.5 on the Richter scale with maximum peak horizontal ground acceleration of approximately 0.6g (where g equals the acceleration of gravity, or 32.2 feet per second squared) (ACG, 1995).

In preparing the Final Closure Plan, ACG performed a slope stability analysis for the proposed postclosure landfill slopes which included an evaluation of the potential for landslides during seismic events. The results of this analysis indicated that the proposed final slopes are expected to remain stable under both static and seismic loading conditions, although the final cover system may experience shallow, localized failures during groundshaking.

Due to the proximity of faults to the project site and the location of the site within an area historically prone to earthquake activity, there would be some potential for exposure of people to groundshaking during the construction phase of the project and during continued periodic monitoring and maintenance activities. However, due to the short-term nature of the construction phase and the infrequency of monitoring and maintenance activities, combined with the lack of onsite structures, the impact of increased human exposure to groundshaking during earthquakes would be less-than-significant.

c) **(LS) Seismic ground failure, including liquefaction?**

According to the Geologic and Hydrogeologic Report for the landfill prepared by ACG in October 1994, the geologic materials underlying the site would not cause liquefaction to occur during earthquakes. No adverse impacts from seismic ground failure would be anticipated.

d) **(LS) Seiche, tsunami, or volcanic hazard?**

Because of the project site's location, it would not be affected by seiches, tsunamis or volcanic activity.

e) **(LS) Landslides or mudflows?**

Existing slope characteristics and the unconsolidated nature of the site's fill area render its slopes prone to landsliding, especially in the event of seismic groundshaking; although there is no record of landslides occurring on the site to date.

Implementation of the proposed closure plan would result in a long-term decrease in the potential for onsite landsliding. The final cover system would increase slope stability by securing and covering unconsolidated material and the proposed final slope grades would reduce the risk of slope failure during storm events.

Due to their compact nature and geologic composition, the borrow areas would be less prone to slope failure than would the unconsolidated fill area. The borrow areas would be graded with average slopes of 20% or less. These slopes, as well as those of the fill area, would be vegetated with grasses to reduce erosion and the potential for slope failure.

There is a potential for human exposure to landsliding on the fill area and within the borrow areas during construction activities. However, because this phase would be short-term (approximately 8 weeks in duration) and because standard safety procedures would be implemented during construction, potential landslide impacts would be considered less-than-significant.

f) **(MLS) Erosion, changes in topography or unstable soil conditions from excavation, grading, or fill?**

The construction activities involved in the removal of vegetation, excavation, and grading of onsite soil would also result in short-term impacts related to erosion. These procedures would temporarily expose areas of soil to accelerated water and wind erosion on the fill area and within the borrow area(s), resulting in potentially significant impacts to soils (i.e., soil loss) and nearby tributaries (i.e., increased sedimentation).

As discussed above, the proposed project includes measures to minimize erosion and unstable soil conditions on the fill-area top deck and side slopes. Unstable soil conditions in the borrow areas would be minimized through final grading. However, the possibility of increased erosion and sedimentation in this area would be a potentially significant environmental impact.

**MITIGATION MEASURES:** The following mitigation measure has been identified to reduce borrow area erosion impacts to a less-than-significant level.

- Hydroseeding of all construction and borrow areas shall occur following all construction activities to minimize site erosion.

g) **(LS) Subsidence of the land?**

Based on a review of the geologic materials underlying the project site (performed by ACG during preparation of the Geologic and Hydrogeologic Report for the landfill in October 1994), local land subsidence is not likely to occur. However, some settling of waste within the landfill is anticipated over time. Based on ACG calculations, the landfill waste cells can be expected to settle approximately 2 feet below their current elevations (ACG, 1995). (The proposed final design grades have been designed to accommodate this degree of future settlement.)

The Final Closure Plan includes implementation of a settlement monitoring program which would include two permanent survey monuments on the western portion of the landfill and one permanent monument on the eastern portion. The monuments would be used in conjunction with aerial photos to monitor refuse settlement by comparing observed conditions with a control topographical map of landfill elevations. Settlement surveys would be conducted once every five years and would be followed by immediate regrading of any areas found to be affected by subsidence. This program would ensure that surface elevations were maintained to prevent ponding on the top deck area of the landfill. It is anticipated that the greatest degree of refuse settlement would occur within the postclosure maintenance period (scheduled to end in 2026).

With implementation of the settlement monitoring program, impacts related to land subsidence would be considered less-than-significant.

h) **(LS) Expansive soils?**

The natural soils underlying the site exhibit characteristics that could make them prone to some degree of expansion (i.e., sandy clays and clayey gravels); however, because the proposed project would not involve the construction of buildings or other structures that could be affected by expansive soils, no adverse impacts would be anticipated.

i) **(NI) Unique geologic or physical features?**

Visual surveillance of the site and review of recent aerial photography revealed no occurrence of unique geologic or physical features, and no impact related to such features would be expected to result.

## Topic IV
## WATER

**Would the proposal result in:**

a) **(LS) Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?**

Installation of the final cover would reduce runoff infiltration rates into underlying waste cells. Runoff passing through the vegetative layer would be directed into the perimeter ditch system via the drainage layer, thereby minimizing the potential for leachate generation. Because all runoff from the fill area would be directed into sedimentation basins, decreases in absorption rates or changes in drainage patterns on the fill area would have no effect on peak stormwater flows offsite (Refer to Section 1.5 for description of final cover drainage systems.)

b) **(NI) Exposure of people or property to water-related hazards such as flooding?**

The proposed project would not contribute to flooding hazards in the local or regional area due to its small size and remote location.

c) **(MLS) Discharge into surface waters or other alteration of surface water quality (e.g., temperature, dissolved oxygen, or turbidity)?**

Sedimentation from project construction could adversely affect water quality in local drainages. These impacts would be considered potentially significant.

MITIGATION MEASURES:

- Implementation of the mitigation measures identified under Section III., Geologic Problems, would ensure that impacts to surface water quality would be reduced to a less-than-significant level.

Because the proposed landfill closure would include the use of sedimentation ponds for turbidity reduction and the continued regular monitoring of surface waters for possible contamination, the potential for alteration of surface water quality onsite is minimal, and would be considered a less-than-significant impact.

d) **(LS) Changes in the amount of surface water in any water body?**

The proposed project is not anticipated to change the amount of surface water in any water body.

e) **(LS) Changes in currents, or the course of direction of water movements?**

As discussed above, the project would alter onsite surface drainage patterns through implementation of a new drainage/erosion control system. No other alterations to water movements would result from the project.

f) **(LS) Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations, or through substantial loss of groundwater recharge capability?**

Groundwater is generally encountered at depths ranging from 20 feet below ground surface (BGS) in the southwestern portion of the site to 50 feet BGS in the northern and eastern portions of the site. The maximum excavation depth of the borrow areas would be approximately 30 feet below the current ground surface, reaching an elevation of approximately 1,740 feet MSL in the northwestern corner of the borrow area. A test trench excavated near this location by ACG during the summer of 1994 (TR-9) encountered no groundwater at its maximum depth of 1,739 feet. Although groundwater levels fluctuate to some degree from year to year, the proposed extent of excavation would not be expected to intercept groundwater in the borrow areas where water table levels tend to be the lowest.

In addition, the project would not result in any addition to local groundwater or increase in groundwater withdrawals. The proposed drainage system would direct water into ditches and detention basins; however, evaporation and groundwater recharge rates would not be expected to vary substantially from their current rates, as a similar onsite drainage system has historically been in operation.

g) **(NI) Altered direction or rate of flow of groundwater?**

According to a study performed by ACG in 1994 (the Geologic and Hydrogeologic Report), groundwater in the vicinity of the site tends to flow toward the northeast. However, because the landfill is located centrally on a ridge, groundwater most likely flows radially away from the site.

The proposed landfill closure would not affect groundwater direction or rate of flow, as it would involve no substantial groundwater withdrawals or excavations into the water table. No impact to groundwater flows would result.

h) **(LS) Impacts to groundwater quality?**

Groundwater quality is currently monitored through 5 onsite monitoring wells (see Exhibit 3 for locations). One well (93-1), located in the southwestern corner of the site adjacent to the fill area, has exhibited evidence of increased mineralization. (Well 94-1 was installed downgradient of this well to further monitor this situation.) Such mineralization is common at landfill sites and sometimes occurs when other types of contaminants are present. Also, leachate sampling of seeps that occurred along the eastern landfill face during the winter of 1992 detected elevated levels of some volatile organic compounds. However, none of the compounds detected in the leachate were detected in surface water samples. Also, the eastern landfill face was covered with a two foot foundation layer to reduce water infiltration. No other evidence of groundwater or surface water contamination onsite or associated with the landfill has been detected to date.

The existing groundwater monitoring wells would remain in place following the proposed closure. Closure and postclosure procedures would include continued quarterly monitoring of the wells by Mendocino County in accordance with the Article 5 Monitoring Program prepared

by EMCON Associates and approved by the California Regional Water Quality Control Board (CRWQB). The County is required to report and devise a corrective action plan for any detection of groundwater contamination at the monitoring well locations or in offsite groundwater wells. Implementation of these requirements would limit adverse impacts on groundwater quality to a less-than-significant level.

i) (NI) **Substantial reduction in the amount of groundwater otherwise available for public water supplies?**

The proposed landfill closure would not involve an increase in groundwater withdrawals and would therefore not result in a reduction in the amount of groundwater available for any public water supply.

## Topic V
## AIR QUALITY

**Would the proposal:**

a) (LS) **Violate any air quality standards or contribute to an existing or projected air quality violation?**

According to the Mendocino County Air Quality Management District, Mendocino County is currently in attainment for fine particulate matter (dust particles of 10 microns or less in size, designated as $PM_{10}$) within this basin (Barker, pers. comm., 1995). The movement of final cover material on the project site during construction activities would create the temporary release of $PM_{10}$ into the airshed immediately above the landfill site. However, because the site is relatively small and the release of $PM_{10}$ would occur only during the construction phase of the project, no significant impacts related to the release of particulate matter would be expected.

An air quality impact could also result from landfill gas generation following final closure. Landfills typically generate methane gas through the anaerobic decomposition of waste below the landfill surface. Five perimeter gas monitoring wells were installed on the site in 1994 to control landfill gas generation. To date, these wells have detected no traces of methane gas from the fill area. Pursuant to Section 17783.15 of CCR Title 14, the County will implement a perimeter gas control system if methane in excess of 5% by volume is detected at the landfill property line. Because landfill gas would be continually monitored, and controlled if necessary, following final closure, no air quality effects related to methane gas generation would be anticipated.

b) (LS) **Expose sensitive receptors (i.e., people) to pollutants?**

The project site is bordered to the north by a low-density residential area and to the east and south by the Laytonville Rancheria. The site's pollutant monitoring and control systems would contain potential adverse effects of the proposed project on the site. Therefore, no adjacent sensitive receptors would be affected by the proposed project.

c) **(NI) Alter air movement, moisture, or temperature, or cause any change in climate?**

The proposed landfill closure would not result in the construction of any structures or other elements that could alter air movement. In addition, closure activities would not affect air moisture or temperature or result in a change in climate.

d) **(LS) Create objectionable odors?**

The project would not result in the generation of substantial objectionable odors and would significantly decrease the potential for odor generation (from waste) that existed when the landfill was in operation. Any minor odors during the construction phase (e.g., from vehicle or equipment exhaust) would be minimal and of short duration. No adverse effects would be anticipated.

## Topic VI
## TRANSPORTATION/CIRCULATION

**Would the proposal result in:**

a) **(LS) Increased vehicle trips or traffic congestion?**

The landfill would remain closed to the public following final closure and vehicle trips to the site would be limited to County personnel performing routing monitoring and maintenance activities. Therefore, minimal long-term traffic impacts are anticipated.

The construction phase of the project would require a temporary, minimal increase in vehicle traffic for the transport of cover materials, construction equipment, and personnel to the site. Specifically, construction of the final cover system would require approximately 9 truckloads of GCL for the hydraulic barrier layer, 4 truckloads of non-woven filter fabric for the drainage layer, 5 truckloads of erosion control materials (including hydroseeding equipment), and personal vehicles for approximately 10 construction personnel (Forrester and Olsen, pers. comms., 1995). Vehicles would access the site from U.S. 101 and Branscomb Road during the eight-week construction period.

U.S. 101 and Branscomb Road in the vicinity of the project site currently operate at relatively low levels of service. The addition of project-generated traffic during the construction phase would not exceed County or State level of service standards on affected roadways. Significant adverse impacts associated with increased vehicular trips to the site would not be anticipated.

b) **(LS) Hazards to safety from design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

The proposed project would generate a small increase in vehicle trips during the final-cover construction phase. Vehicle traffic would approach the site from U.S. 101 and Branscomb Road. U.S. 101 is a relatively straight, flat highway and Branscomb Road is tree-lined with moderate curves. Project-related traffic would not be required to travel through any sharp curves or dangerous intersections in route to the site. In addition, only passive agricultural

uses (e.g., grazing) are located near the landfill generating little vehicle traffic. Therefore, adverse traffic impacts associated with roadway design features would not be anticipated.

c) **(LS) Inadequate emergency access or access to nearby sites?**

Emergency access is provided to the site via Branscomb Road and the main access road to the landfill. The access road is designed for heavy vehicle use and no obstructions for emergency vehicles exist. The short-term construction traffic generated by the proposed project would not be sufficient to hinder the access of emergency vehicles to the project site or nearby residential areas. No adverse impacts would be anticipated.

d) **(NI) Insufficient parking capacity onsite or offsite?**

The project site would remain closed to the public following final closure and no need for additional parking would be created. In addition, the project site includes sufficient space for parking of construction vehicles and equipment during and following the construction period. No adverse impacts on parking capacity would occur.

e) **(LS) Hazards or barriers for pedestrians or bicyclists?**

Because the number of project-generated vehicle trips would be small and of short duration, no significant impacts related to hazards for pedestrians or bicyclists would be expected.

f) **(NI) Conflicts with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?**

The proposed landfill closure would not induce increased reliance on automobile transportation and, therefore, would not result in impacts related to conflicts with alternative transportation policies.

g) **(NI) Rail, waterborne or air traffic impacts?**

The proposed landfill closure would not involve or affect any rail lines, waterborne traffic, or air traffic.

## Topic VII
## BIOLOGICAL RESOURCES

**Would the proposal result in impacts to:**

a) **(LS) Endangered, threatened, or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds)?**

The dominant natural vegetation community on the project site is north coast conifer forest, dominated by pine (*Pinus sp.*) and Douglas fir (*Pseudotsuga menziesii*) interspersed with stands of manzanita (*Arctostaphylos sp.*). However, much of the site has been disturbed by historic landfill operations. These areas are largely denuded of shrubs and trees and have been revegetated with rye grass. A wetland/pond area of approximately 0.5 to 0.75 acre is also

located toward the northeastern corner of the site near the main entrance. No perennial streams traverse the site. The nearest perennial stream to the landfill is Cahto Creek, which flows westward approximately 700 feet from the southern project site boundary.

Special-status wildlife species known to occur in the landfill vicinity include the northern spotted owl (*Strix occidentalis caurina*), which is a Federally threatened species, northern goshawk (*Accipiter gentilis*), which is listed by the State as a California Species of Special Concern and a Category 2 candidate for federal listing, and the southern torrent salamander (*Rhyacotriton variegatus*), the tailed frog (*Ascaphus truei*), the foothill yellow-legged frog (*Rana boylii*), and the red tree vole (*Arborimus pomo*), which are all California Species of Special Concern. The north central coast fall spawning runs of the steelhead (*Oncorhynchus mykiss*) and silver salmon (*Oncorhynchus kisutch*) are known to occur in perennial streams in the project vicinity. Both species are California Species of Special Concern and Category 2 candidates for federal listing.

The site does not contain adequate habitat for the northern spotted owl, tree vole, southern torrent salamander, tailed frog, or foothill yellow-legged frog. Some marginally suitable northern goshawk habitat exists on the site, mainly to the north and east of the borrow areas. However, because of the marginal character of the habitat and the small area of disturbance (less than 1 acre of conifer forest in the northern portion of the proposed borrow areas would be removed), this impact would be considered less than significant.

Sensitive plant species known to occur in the vicinity of the landfill site include Baker's meadowfoam (*Limnanthes bakeri*), swamp harebell (*Campanula californica*), Nuttall's pondweed (*Potamogeton epihydrus ssp. nuttallii*), great burnet (*Sanguisorba officinalis*), and north coast semaphore grass (*Pleuropogon hooverianus*) (CNDDB, 1995 and CNPS, 1995). Although these species were not observed during the August 1995 field survey conducted on the site, some habitat for Baker's meadowfoam, swamp harebell, Nuttall's pondweed, and great burnet, which are primarily wetland species, may occur near the pond area in the northeastern corner of the site. Marginal habitat for the north coast semaphore grass also occurs throughout the site. This species was also not observed onsite during the August 1995 field survey.

The proposed project would not require any removal of vegetation from the pond area in the northeastern portion of the site where sensitive plant species would most likely occur. In addition, because the onsite habitat for north coast semaphore grass is marginal, and because no occurrences of this species were observed during the August 1995 field survey, it is not expected to occur on the site. No impacts to endangered, threatened, or rare plant species would result with the project.

b) **(NI) Locally designated species (e.g., heritage trees)?**

According to the Mendocino County Planning Department, no heritage tree ordinance or other designation of local species exists that would apply to the project area. No impact related to locally designated species would result.

c) (NI) **Locally designated natural communities (e.g., oak forest, coastal habitat, etc.)?**

According to the Mendocino County Planning Department, no natural communities that may occur on the project site are currently designated for special consideration. No impact related to locally designated natural communities would result.

d) (LS) **Wetland habitat (e.g., marsh, riparian, and vernal pool)?**

As discussed above, the project would not result in any loss or alteration of wetland habitat, as no removal of vegetation or excavation/filling of the pond area would be required. Any impact to the wetland area would be considered less-than-significant.

e) (LS) **Wildlife dispersal or migration corridors?**

Because of the human disturbance on the project site from previous landfill activities, extensive use of the area by migrating wildlife would not be anticipated. Also, the proposed project would result in a minimal loss of vegetation acreage in an area of widespread wildlife habitat. Therefore, adverse project impacts on wildlife migration corridors would not occur.

## Topic VIII
## ENERGY AND MINERAL RESOURCES

**Would the proposal:**

a) (NI) **Conflict with adopted energy conservation plans?**

The proposed landfill closure would not increase the use of energy and would not, therefore, conflict with any energy conservation plans.

b) (NI) **Use non-renewable resources in a wasteful and inefficient manner?**

Gasoline, diesel, motor oil and other fluids used for the operation and maintenance of vehicles and construction equipment used during the construction phase would be the principal non-renewable resources utilized during project implementation. The use of these resources would be subject to standard operating procedures and would not be handled in a wasteful or inefficient manner.

c) (NI) **Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?**

No valuable mineral resources were discovered on the site during its years in use as a landfill and no such minerals are expected to exist. No impact to mineral resources would result with the project.

## Topic IX
## HAZARDS

**Would the proposal involve:**

a) **(LS) A risk of accidental explosion or release of hazardous substances (including but not limited to: oil, pesticides, chemicals, or radiation)?**

The proposed project would include continued implementation of the existing landfill gas monitoring system. Landfill gas commonly contains methane gas which is generated during the anaerobic decomposition of waste below the landfill surface. Methane is considered a fire hazard when it accumulates at concentrations between 5% and 15% by volume. Under these conditions, exposure of the gas to an ignition source could result in an explosion. Methane is also considered a mild carcinogen and can therefore pose a human health hazard.

Methane gas moves through soil under two forces, convection and diffusion. During convection, subsurface gas pressure builds until gas is pushed to the ground surface where it mixes with atmospheric air. During diffusion, subsurface gas moves through soil from areas of high gas concentration to areas of low gas concentration. Methane gas that moves horizontally through soil and away from its generation source is referred to as migrated methane. Methane migration is of particular concern at the landfill perimeter where landfill gas may be released to surrounding properties.

No traces of methane gas have been detected to date during regular monitoring of the site's 5 perimeter gas wells. CCR Title 14, Section 17783.15 requires the implementation of a landfill gas extraction and control system if methane in excess of 5% by volume is detected at any landfill property line. Such a system is not currently required at the landfill; however, if unsafe methane levels are detected in the future, the County would likely be required to establish a gas control system.

The landfill historically operated as a Class III site, accepting only non-hazardous solid waste (e.g., household garbage, rubbish, paper, cloth, trees, and brush). Because no hazardous, designated, or liquid wastes were accepted, it is unlikely that a substantial amount of hazardous substances such as oil, pesticides, chemicals, or radiation would be released from the landfill during or following closure.

In addition, the proposed Final Closure Plan includes continuation of the existing groundwater and surface water monitoring programs. Continued quarterly testing of the 5 existing groundwater monitoring wells and annual testing of landfill surface waters would ensure that no hazardous wastes or other substance would be released from the site through surface or subsurface drainage.

Because final closure would include continued monitoring of perimeter landfill gas for potential explosion hazards as well as groundwater and surface water monitoring for contamination, possible explosion hazards or the release of hazardous substances would not be anticipated.

b) (LS) **Possible interference with an emergency response plan or emergency evacuation plan?**

Due to the relatively small size of the project site and sparse population of the local area, the roadway capacities would be sufficient to evacuate nearby residents in the event of a landfill emergency. In addition, the proposed Final Closure Plan includes an Emergency Response Plan (ERP) consistent with CCR Title 14 ERP requirements. This plan would ensure that proper response actions were taken in the event of any landfill emergency. No adverse impacts would be anticipated.

c) (LS) **The creation of any health hazard or potential health hazard?**

Closure of the landfill and the application of final cover is intended to minimize potential health hazards. The final closure would include continued implementation of the landfill gas and ground/surface water monitoring programs. Regular landfill gas testing would be conducted to monitor methane gas generation. Continued testing of ground/surface water would be conducted to monitor water quality characteristics. If monitoring activities identify changes in water quality, corrective actions would be implemented. The creation of potential health hazards would not be anticipated.

d) (LS) **Exposure of people to existing sources of potential health hazards?**

The primary potential hazard associated with the landfill is related to methane gas generation. Because the existing perimeter gas monitoring system has detected no traces of methane gas to date and because continued monitoring for methane would continue with implementation of the proposed project, methane is not expected to cause a substantial health hazard. The gas monitoring system would remain in place and operational with the proposed project and if unsafe methane levels were ever detected, a methane gas collection and control system would be implemented by the County (in accordance with CCR Title 14 regulations).

The groundwater and surface water monitoring systems would also remain in operation following the proposed landfill closure. The continued operation of these systems would minimize potential human exposure to hazardous substances.

e) (LS) **Increased fire hazard in area with flammable brush, grass, or trees?**

The project site is within a California Department of Forestry (CDF) "very high" fire-hazard severity area. As described in Section 1.3 of this report, the 7-acre fill area in the southern portion of the site and approximately 3.5 acres surrounding the fill area are currently grass-covered and devoid of dense vegetation. The remainder of the landfill site is covered with varying densities of trees and brush. All of these vegetation types are prone to potential fire hazards, especially during the summer months when humidity is low and temperatures are typically high. Potential fire hazards are currently controlled by maintenance of a fire break, consisting of a band of non-vegetated land around the formerly active portion of the site.

The proposed landfill closure would not substantially increase the on- or offsite fire hazard. No component of the Final Closure Plan would expose flammable vegetation to any ignition source. The potential for increased explosion hazards is present at all landfills due to the

possible generation and accumulation of methane gas; however, because no methane has been detected onsite to date, and because the proposed project would involve continued regular monitoring of perimeter landfill gas, no substantial increase in fire hazard is expected.

## Topic X
## NOISE

**Would the proposal result in:**

a) **(LS) Increases in existing noise levels?**

Final closure procedures would involve a short-term increase in noise levels during the construction phase of the project. Noise-generating activities would include the operation of trucks and other equipment, including that used during excavation/grading and the installation of drainage control facilities. Periodic post-closure activities could also generate noise, especially if maintenance procedures called for regrading. All of these sources would generate temporary and infrequent noise which could potentially be audible from the residences closest to the site (located approximately 450 feet north of the landfill).

Of the above-listed noise sources, truck traffic would create the most notable noise increase. As discussed in Section VI, Transportation and Circulation, the project would require the delivery of approximately 18 truckloads of cover material and other equipment to the site during the 8-week construction period. Construction activities would be performed between 7:00 a.m. and 5:00 p.m., Monday through Friday; and between 8:00 a.m. and 5:00 p.m., Saturday and Sunday.

Due to the relatively small number of trucks needed to deliver construction materials to the site, combined with the short-term and infrequent nature of onsite noise increases associated with excavation and grading activities, this impact would be considered less-than-significant.

b) **(LS) Exposure of people to severe noise levels?**

Some construction personnel could be exposed to short-duration severe noise levels when operating construction equipment for excavation and grading. The use of standard ear-protection equipment would limit this impact to a less-than-significant level. Project-related noise would not be audible at severe levels from surrounding properties.

## Topic XI
## PUBLIC SERVICES

**Would the proposal have an effect upon, or result in a need for new altered government services in any of the following areas:**

a) **(LS) Fire protection?**

The landfill falls within a CDF "very high" fire hazard severity area and is under the jurisdiction of the Mendocino Fire Protection District. The project site includes grasses, small shrubs and coniferous forest, all of which are prone to wildfire. Potential fire hazards are

currently controlled by maintenance of a fire break, consisting of a band of non-vegetated land, around the formerly active portion of the site.

The proposed landfill closure would involve revegetation of the fill and borrow areas with grasses. The non-vegetated fire break around the fill area would be maintained. The potential for accumulation of explosive levels of methane gas would be controlled by continued, regular perimeter gas monitoring. Closure and postclosure activities would not increase the onsite or local fire hazard and no substantial increase in fire protection services would be required.

b) **(LS) Police protection?**

The proposed project includes implementation of a site security system consisting of the construction of a 6-foot high chain link fence around the landfill footprint with locking gates at all entrance locations. The main entrance to the landfill would remain at its current location at Branscomb Road. The sign prohibiting entry to the landfill presently at this location would remain in place following closure.

The enhanced security provided by the Final Closure Plan, primarily through the construction of a fencing/gate system, would minimize the potential for onsite disturbances requiring police response. The project would not require additional security or police services from the Mendocino County Sheriff's Department, which is the responding agency to the site. No adverse impacts on police protection services would be anticipated.

c) **(NI) Schools?**

The project includes no residential or other urban uses and would neither generate new students nor decrease the number of current students attending schools in the project vicinity.

d) **(LS) Maintenance of public facilities, including roads?**

The proposed closure would not increase the need for maintenance of onsite roads, including the main access road, or roads in the project vicinity. Increased use of these roads would occur temporarily during the construction phase of the project, but road usage would become minimal upon completion of these activities. The project would not result in increased use or demand on any other public facilities.

e) **(LS) Other governmental agencies?**

The Mendocino County Administrative Office, Solid Waste Division would be responsible for all closure and postclosure activities. This agency is currently responsible for all landfill activities and no increase or alteration in its services would be required for implementation of the proposed project. No other governmental agencies would be affected by the closure.

## Topic XII
## UTILITIES AND SERVICE SYSTEMS

**Would the proposal result in a need for new systems or supplies, or substantial alterations to the following utilities:**

a) (NI) **Power or natural gas?**

No element of the proposed closure would involve increased power usage and no natural gas is used on the site.

b) (NI) **Communication systems?**

The project would not require communication systems and would therefore result in no impacts related the use of such systems.

c) (NI) **Local or regional water treatment or distribution systems?**

The project would not require water service and would not affect local or regional water treatment or distribution systems.

d) (NI) **Sewer or septic tanks?**

A portable toilet would be placed on the site during the construction phase for use by construction personnel. No effects on sewer or septic tanks would result.

e) (LS) **Stormwater drainage?**

A new stormwater drainage system for the landfill would be constructed with implementation of the proposed project (see Section 1.5 of this report for a description of this system). Implementation of this system would minimize any adverse effects on drainage associated with the existing landfill. No adverse impacts on the site's storm drainage system would be anticipated.

f) (NI) **Solid waste disposal?**

The landfill has discontinued waste disposal operations and is no longer in use as a functioning solid waste disposal facility. Therefore, final closure of the facility would have no effect on solid waste disposal in the County.

g) (NI) **Local or regional water supplies?**

The project would not require water service and would not affect local or regional water supplies.

## Topic XIII
## AESTHETICS

**Would the proposal:**

a) **(LS) Affect a scenic vista or highway?**

The landfill is visible from Branscomb Road west of the project site. Views from other roadways are blocked by natural topography and vegetation. Branscomb Road is not designated a scenic highway, therefore, no adverse effects on a scenic vista or highway would be anticipated.

b) **(LS) Have a demonstrable negative aesthetic effect?**

Construction of the final cover would increase the current maximum top-deck height by approximately 5 to 10 feet (to 1,812 MSL). This change would be slightly visible from the Branscomb Road location west of the landfill; however, the 5- to 10-foot difference in landfill height would not be sufficient to substantially alter views. Because only a minor alteration in the landscape would occur and the number of people that would see the landfill is small (consisting of Branscomb Road travelers and one residence bordering the road west of the landfill), adverse negative aesthetic effects would not be anticipated.

c) **(NI) Create light or glare?**

The proposed landfill closure would not require any new lighting facilities and would therefore not result in the creation of new light or glare.

## Topic XIV
## CULTURAL RESOURCES

**Would the proposal:**

a) **(MLS) Disturb paleontological resources?**

The project site is not known to contain any paleontological resources. However, because paleontological resources are typically located below the ground surface, the presence of such resources cannot be ruled out. If these resources were located on the project site, disturbance could occur with project construction. The possible disturbance of these resource during excavation activities would result in a potentially significant impact.

MITIGATION MEASURE: To reduce potential impacts to paleontological resources on the project site, the following mitigation will be implemented:

- If a potential paleontological, cultural, or historic resource is encountered during the project construction phase, excavation activities shall be immediately halted within 20 meters of the material and a paleontological and/or archaeological consultant shall be called to the site to evaluate the material. Construction personnel shall not collect, move, or alter the possible resource until a

determination has been made regarding the significance of the resource. The consultant shall determine the significance of the find and recommend measures to preserve the resource, if appropriate.

b) **(MLS) Disturb archaeological resources?**

A cultural resources records search, performed for the project site by the Northwest Information Center at Sonoma State University in August 1995, indicated that no recorded Native American or historic cultural resources that have been listed with the Center occur in the area of the site proposed for disturbance under the project (i.e., the areas slated for excavation). The search included a review of the Center's records, files, cultural/historic literature, and historic maps.

Although the results of the search did not reveal the presence of any archaeological resources on the site, the potential for their existence cannot be ruled out. The possibility of disturbance to an archaeological resource during excavation activities constitutes a potentially significant impact.

MITIGATION MEASURE:

- The mitigation provided under a) of this section would also be implemented to reduce the impact of potential disturbance to an archaeological resource to a less-than-significant level.

c) **(MLS) Affect historical resources?**

As noted above, a recent cultural records search did not reveal the presence of any historical resources on the project site; however, the existence of such resources cannot be ruled out. The possibility of disturbance to a historical resource during excavation activities constitutes a potentially significant impact.

MITIGATION MEASURE:

- The mitigation provided under a) of this section would also be implemented to reduce the impact of potential disturbance to a historical resource to a less-than-significant level.

d) **(LS) Have the potential to cause a physical change which would affect unique ethnic cultural values?**

The proposed project would involve the installation of a final cover system and other monitoring and maintenance systems associated with landfill closure. As noted above, a recent cultural records search revealed no evidence of Native American or historic cultural resources on the project site. In addition, the proposed final cover installation and excavation of the borrow areas would not result in a degree of physical change sufficient to affect any unique ethnic or cultural values of the local area. This impact would be considered less-than-significant.

e) (NI) **Restrict existing religious or sacred uses within the potential impact area?**

The project site has been is use as a landfill since 1967. No indication of its significance as a religious or sacred area has been received since that time and no such area is expected to occur on or near the site. In addition, the project would not result in a degree of physical change sufficient to prohibit any religious or sacred activities in the project vicinity. No impact to such uses would result.

## Topic XV
## RECREATION

a) (NI) **Increase the demand for neighborhood or regional parks or other recreational facilities?**

The proposed project would have no effect on parks or other recreational facilities.

b) (NI) **Affect existing recreational opportunities?**

No recreational opportunities exist within proximity of the project site and the site would remain closed to the public following closure. No impact to existing recreational opportunities would be anticipated.

## Topic XVI
## MANDATORY FINDINGS OF SIGNIFICANCE

a) (LS) **Does the project 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, 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?**

The proposed project includes final closure of the Laytonville landfill. Project construction would cause some environmental impacts, however, mitigation measures have been identified to reduce these impacts to less-than-significant levels. Project construction activities would not degrade the quality of the environment, reduce wildlife habitat and/or populations, reduce the number of rare or endangered species, or eliminate examples of California history.

b) (NI) **Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?**

The proposed landfill closure would result in long-term environmental protection from potential impacts associated with the former landfill use of the site. There would be no short-term advantages of the project that would be to a disadvantage of long-term environmental goals.

c) (NI) **Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

The landfill closure would not contribute to cumulative adverse impacts. Following placement of the final landfill cover, activities on the project site would be limited to site monitoring and maintenance procedures.

d) (LS) **Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

The proposed landfill closure would not result in significant adverse effects, either directly or indirectly, on human beings. As described previously, the project includes provisions for the monitoring of landfill gas and ground- and surface water. These activities would protect nearby residents from potential health and safety risks related to explosion hazards, air quality, and water contamination. No other potential effects on human beings would be associated with the project.

# Appendix E

Noise and Vibration Modeling

# Construction Noise

| Distance | Noise Level @ 50 ft | Single Family Res to the N<br>750 |
|---|---|---|
| Demolition | **81** | **57.478** |
| Site Preparation | **81** | **57.478** |
| Grading | **83** | **59.478** |
| Equipment Installation | **80** | **56.478** |

# Construction Vibration

| Distance | Vibration @ 25 ft | Single Family Res to the N<br>935 |
|---|---|---|
| Large Bulldozer | **0.089** | **0.000** |
| Loaded Trucks | **0.076** | **0.000** |
| Small Bulldozer | **0.003** | **0.000** |

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/18/2024
Case Description: Demolition

**** Receptor #1 ****

| Description | Land Use | Baselines (dBA) Daytime | Evening | Night |
|---|---|---|---|---|
| Demolition | Residential | 65.0 | 55.0 | 50.0 |

Equipment

| Description | Impact Device | Usage (%) | Spec Lmax (dBA) | Actual Lmax (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
|---|---|---|---|---|---|---|
| Dozer | No | 40 | | 81.7 | 50.0 | 0.0 |
| Excavator | No | 40 | | 80.7 | 50.0 | 0.0 |
| Front End Loader | No | 40 | | 79.1 | 50.0 | 0.0 |

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

| Equipment | Calculated (dBA) Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq | Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dozer | 81.7 | 77.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Excavator | 80.7 | 76.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Front End Loader | 79.1 | 75.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Total | 81.7 | 81.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/18/2024
Case Description: Site Preparation

**** Receptor #1 ****

| Description | Land Use | Baselines (dBA) Daytime | Evening | Night |
|---|---|---|---|---|
| Site Preparation | Residential | 65.0 | 55.0 | 50.0 |

| Description | Impact Device | Usage (%) | Equipment Spec Lmax (dBA) | Actual Lmax (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
|---|---|---|---|---|---|---|
| Dozer | No | 40 | | 81.7 | 50.0 | 0.0 |
| Excavator | No | 40 | | 80.7 | 50.0 | 0.0 |
| Front End Loader | No | 40 | | 79.1 | 50.0 | 0.0 |

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

| Equipment | Calculated (dBA) Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq | Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dozer | 81.7 | 77.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Excavator | 80.7 | 76.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Front End Loader | 79.1 | 75.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Total | 81.7 | 81.4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/18/2024
Case Description: Grading

**** Receptor #1 ****

| Description | Land Use | Baselines (dBA) Daytime | Evening | Night |
|---|---|---|---|---|
| Grading | Residential | 65.0 | 55.0 | 50.0 |

Equipment

| Description | Impact Device | Usage (%) | Spec Lmax (dBA) | Actual Lmax (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
|---|---|---|---|---|---|---|
| Dozer | No | 40 | | 81.7 | 50.0 | 0.0 |
| Excavator | No | 40 | | 80.7 | 50.0 | 0.0 |
| Scraper | No | 40 | | 83.6 | 50.0 | 0.0 |

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

| Equipment | Calculated (dBA) Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq | Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dozer | 81.7 | 77.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Excavator | 80.7 | 76.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Scraper | 83.6 | 79.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Total | 83.6 | 82.9 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/18/2024
Case Description: Equipment Installation

**** Receptor #1 ****

| Description | Land Use | Baselines (dBA) Daytime | Evening | Night |
|---|---|---|---|---|
| Equipment Installation | Residential | 65.0 | 55.0 | 50.0 |

| Description | Impact Device | Usage (%) | Equipment Spec Lmax (dBA) | Actual Lmax (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
|---|---|---|---|---|---|---|
| Excavator | No | 40 | | 80.7 | 50.0 | 0.0 |
| Front End Loader | No | 40 | | 79.1 | 50.0 | 0.0 |
| Backhoe | No | 40 | | 77.6 | 50.0 | 0.0 |

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

| Equipment | Calculated (dBA) Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq | Day Lmax | Day Leq | Evening Lmax | Evening Leq | Night Lmax | Night Leq |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Excavator | 80.7 | 76.7 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Front End Loader | 79.1 | 75.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Backhoe | 77.6 | 73.6 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Total | 80.7 | 80.1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

# Appendix F

Assembly Bill 52 Correspondence

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

**FUNCTIONS**

Administration & Business Services
Airports
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Solid Waste & Landfills
Water Agency

**COUNTY OF MENDOCINO**
**DEPARTMENT OF TRANSPORTATION**
340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482-9432
VOICE (707) 463-4363 FAX (707) 463-5474

February 5, 2025

Tribal Chairperson
Cloverdale Rancheria
555 S Cloverdale Blvd
Cloverdale, CA 95425

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Cloverdale Rancheria of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

The Laytonville Landfill was closed between July 1997 and May 1998. Since that time the final cover has undergone several repairs with other increased maintenance needs. As such, the County has decided to repair the side slopes and address other ongoing maintenance needs and concerns. The project will consist of the following primary activities:

- Removal and replacement of the existing side slope cover section to address stability concerns
- Improvements to the landfill gas collection and venting network
- Reconstruction of the surface water drainage system
- Relocation of an existing groundwater piezometer and installation of a new down gradient groundwater monitoring well
- Relocation of an existing perimeter landfill gas monitoring probe

The landfill will remain closed and there are no proposed operational changes or new operations at the landfill after project completion. All temporary and permanent impacts will be within the landfill property and within previously disturbed areas. No soil is expected to be imported or exported to complete this project - all fill soil used in this project will be reused from the existing slope cover soil and sourced from previously disturbed onsite borrow areas. The drainage analyses also show that the project will have no effect on surface water drainage patterns or amounts compared to current

conditions. Technical details and project plans are available upon request via the contact information detailed below.

The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Cloverdale Rancheria is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Cloverdale Rancheria to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

**FUNCTIONS**

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Solid Waste & Landfills
Water Agency

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**DEPARTMENT OF TRANSPORTATION**
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February 5, 2025

Tribal Chairperson
Manchester-Point Arena Band of Pomo Indians
P.O. Box 623
Point Arena, CA 95468

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Manchester-Point Arena Band of Pomo Indians of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

The Laytonville Landfill was closed between July 1997 and May 1998. Since that time the final cover has undergone several repairs with other increased maintenance needs. As such, the County has decided to repair the side slopes and address other ongoing maintenance needs and concerns. The project will consist of the following primary activities:

- Removal and replacement of the existing side slope cover section to address stability concerns
- Improvements to the landfill gas collection and venting network
- Reconstruction of the surface water drainage system
- Relocation of an existing groundwater piezometer and installation of a new down gradient groundwater monitoring well
- Relocation of an existing perimeter landfill gas monitoring probe

The landfill will remain closed and there are no proposed operational changes or new operations at the landfill after project completion. All temporary and permanent impacts will be within the landfill property and within previously disturbed areas. No soil is expected to be imported or exported to complete this project - all fill soil used in this project will be reused from the existing slope cover soil and sourced from previously disturbed onsite borrow areas. The drainage analyses also show that the project will have no effect on surface water drainage patterns or amounts compared to current

conditions. Technical details and project plans are available upon request via the contact information detailed below.

The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Manchester-Point Arena Band of Pomo Indians is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Manchester-Point Arena Band of Pomo Indians to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

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February 5, 2025

Tribal Chairperson
Pinoleville Pomo Nation
500 B Pinoleville Dr
Ukiah, CA 95482

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Pinoleville Pomo Nation of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

The Laytonville Landfill was closed between July 1997 and May 1998. Since that time the final cover has undergone several repairs with other increased maintenance needs. As such, the County has decided to repair the side slopes and address other ongoing maintenance needs and concerns. The project will consist of the following primary activities:

- Removal and replacement of the existing side slope cover section to address stability concerns
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The landfill will remain closed and there are no proposed operational changes or new operations at the landfill after project completion. All temporary and permanent impacts will be within the landfill property and within previously disturbed areas. No soil is expected to be imported or exported to complete this project - all fill soil used in this project will be reused from the existing slope cover soil and sourced from previously disturbed onsite borrow areas. The drainage analyses also show that the project will have no effect on surface water drainage patterns or amounts compared to current

conditions. Technical details and project plans are available upon request via the contact information detailed below.

The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Pinoleville Pomo Nation is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Pinoleville Pomo Nation to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

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VOICE (707) 463-4363 FAX (707) 463-5474

February 5, 2025

Tribal Chairperson
Potter Valley Rancheria
2251 South State St
Ukiah, CA 95482

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Potter Valley Rancheria of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

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conditions. Technical details and project plans are available upon request via the contact information detailed below.

The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Potter Valley Rancheria is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Potter Valley Rancheria to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

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February 5, 2025

Tribal Chairperson
Redwood Valley-Little River Band of Pomo Indians
3250 Road I
Redwood Valley, CA 95470

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Redwood Valley-Little River Band of Pomo Indians of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

The Laytonville Landfill was closed between July 1997 and May 1998. Since that time the final cover has undergone several repairs with other increased maintenance needs. As such, the County has decided to repair the side slopes and address other ongoing maintenance needs and concerns. The project will consist of the following primary activities:

- Removal and replacement of the existing side slope cover section to address stability concerns
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- Reconstruction of the surface water drainage system
- Relocation of an existing groundwater piezometer and installation of a new down gradient groundwater monitoring well
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The landfill will remain closed and there are no proposed operational changes or new operations at the landfill after project completion. All temporary and permanent impacts will be within the landfill property and within previously disturbed areas. No soil is expected to be imported or exported to complete this project - all fill soil used in this project will be reused from the existing slope cover soil and sourced from previously disturbed onsite borrow areas. The drainage analyses also show that the project will have no effect on surface water drainage patterns or amounts compared to current

conditions. Technical details and project plans are available upon request via the contact information detailed below.

The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Redwood Valley-Little River Band of Pomo Indians is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Redwood Valley-Little River Band of Pomo Indians to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

**FUNCTIONS**

Administration & Business Services
Airports
Engineering
Land Improvement
Roads and Bridges
Solid Waste & Landfills
Water Agency

**COUNTY OF MENDOCINO**
**DEPARTMENT OF TRANSPORTATION**
340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482-9432
VOICE (707) 463-4363 FAX (707) 463-5474

February 5, 2025

Tribal Chairperson
Redwood Valley Rancheria
P.O. Box 969
Ukiah, CA 95482

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Redwood Valley Rancheria of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

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The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Redwood Valley Rancheria is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Redwood Valley Rancheria to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

**FUNCTIONS**

Administration & Business Services
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**DEPARTMENT OF TRANSPORTATION**
340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482-9432
VOICE (707) 463-4363 FAX (707) 463-5474

February 5, 2025

Tribal Chairperson
Sherwood Valley Band of Pomo Indians
190 Sherwood Hill Dr.
Willits, CA 95490

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Sherwood Valley Band of Pomo Indians of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

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conditions. Technical details and project plans are available upon request via the contact information detailed below.

The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Sherwood Valley Band of Pomo Indians is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Sherwood Valley Band of Pomo Indians to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

**FUNCTIONS**

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**DEPARTMENT OF TRANSPORTATION**
340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482-9432
VOICE (707) 463-4363 FAX (707) 463-5474

February 5, 2025

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

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Stephanie L. Reyes:

This letter serves as formal notification to the Middletown Rancheria of Pomo Indians of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

The Laytonville Landfill was closed between July 1997 and May 1998. Since that time the final cover has undergone several repairs with other increased maintenance needs. As such, the County has decided to repair the side slopes and address other ongoing maintenance needs and concerns. The project will consist of the following primary activities:

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- Relocation of an existing groundwater piezometer and installation of a new down gradient groundwater monitoring well
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The landfill will remain closed and there are no proposed operational changes or new operations at the landfill after project completion. All temporary and permanent impacts will be within the landfill property and within previously disturbed areas. No soil is expected to be imported or exported to complete this project - all fill soil used in this project will be reused from the existing slope cover soil and sourced from previously disturbed onsite borrow areas. The drainage analyses also show that the project will have no effect on surface water drainage patterns or amounts compared to current

conditions. Technical details and project plans are available upon request via the contact information detailed below.

The proposed project must comply with California Public Resources Code Section 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the Middletown Rancheria of Pomo Indians is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Middletown Rancheria of Pomo Indians to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

**FUNCTIONS**

Administration & Business Services
Airports
Engineering
Land Improvement
Roads and Bridges
Solid Waste & Landfills
Water Agency

**COUNTY OF MENDOCINO**
**DEPARTMENT OF TRANSPORTATION**
340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482-9432
VOICE (707) 463-4363 FAX (707) 463-5474

February 5, 2025

Tribal Chairperson
Cahto Tribe at Laytonville
P.O. Box 1239
Laytonville, CA 95454

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Cahto Tribe of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

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The input of the Cahto Tribe is important to the County's planning process. If you wish to initiate consultation with the County pursuant to AB 52, please respond in writing within 30 calendar days from receipt of this letter to: Amber Fisette, Deputy Director – Solid Waste Division, at fisettea@mendocinocounty.gov or 340 Lake Mendocino Drive, Ukiah, CA 95482. Please include in your written request the name, title, and contact information of the tribal representative(s). If a written request for consultation is received within the 30-day response period, the County will begin coordination with the Cahto Tribe to set up a date and location for consultation.

Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map

**Howard N. Dashiell**
**DIRECTOR OF TRANSPORTATION**

Road Commissioner
County Engineer, RCE 42001
County Surveyor, PLS 7148

**FUNCTIONS**

Administration & Business Services
Airports
Engineering
Land Improvement
Roads and Bridges
Solid Waste & Landfills
Water Agency

**COUNTY OF MENDOCINO**
**DEPARTMENT OF TRANSPORTATION**
340 LAKE MENDOCINO DRIVE
UKIAH, CALIFORNIA 95482-9432
VOICE (707) 463-4363 FAX (707) 463-5474

April 14, 2025

Tribal Chairperson
Cloverdale Rancheria
555 S Cloverdale Blvd
Cloverdale, CA 95425

**Subject: Formal Notification of Decision to Undertake the Laytonville Landfill Final Cover Remediation and Improvements Project and Notification of Assembly Bill (AB) 52 Consultation Opportunity, Pursuant to Public Resources Code § 21080.3.1**

Dear Tribal Chairperson:

This letter serves as formal notification to the Cloverdale Rancheria of Mendocino County's (County) decision to undertake the Laytonville Landfill Final Cover Remediation and Improvements Project (project). The County is preparing an Initial Study/Mitigated Negative Declaration (IS-MND) in compliance with the California Environmental Quality Act (CEQA) for the proposed project. The project site is a 7-acre portion of the Laytonville Landfill, a closed Class III solid waste disposal facility located at 1825 Branscomb Road with Assessor's Parcel Number 014-250-32-00 in unincorporated Mendocino County approximately 1.6 miles west of United States Route 101. The following is a project description including a map showing the project location (attached), and the name of the County point of contact for the project.

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Thank you for your consideration on this matter and please do not hesitate to contact me should you have any questions or need additional information.

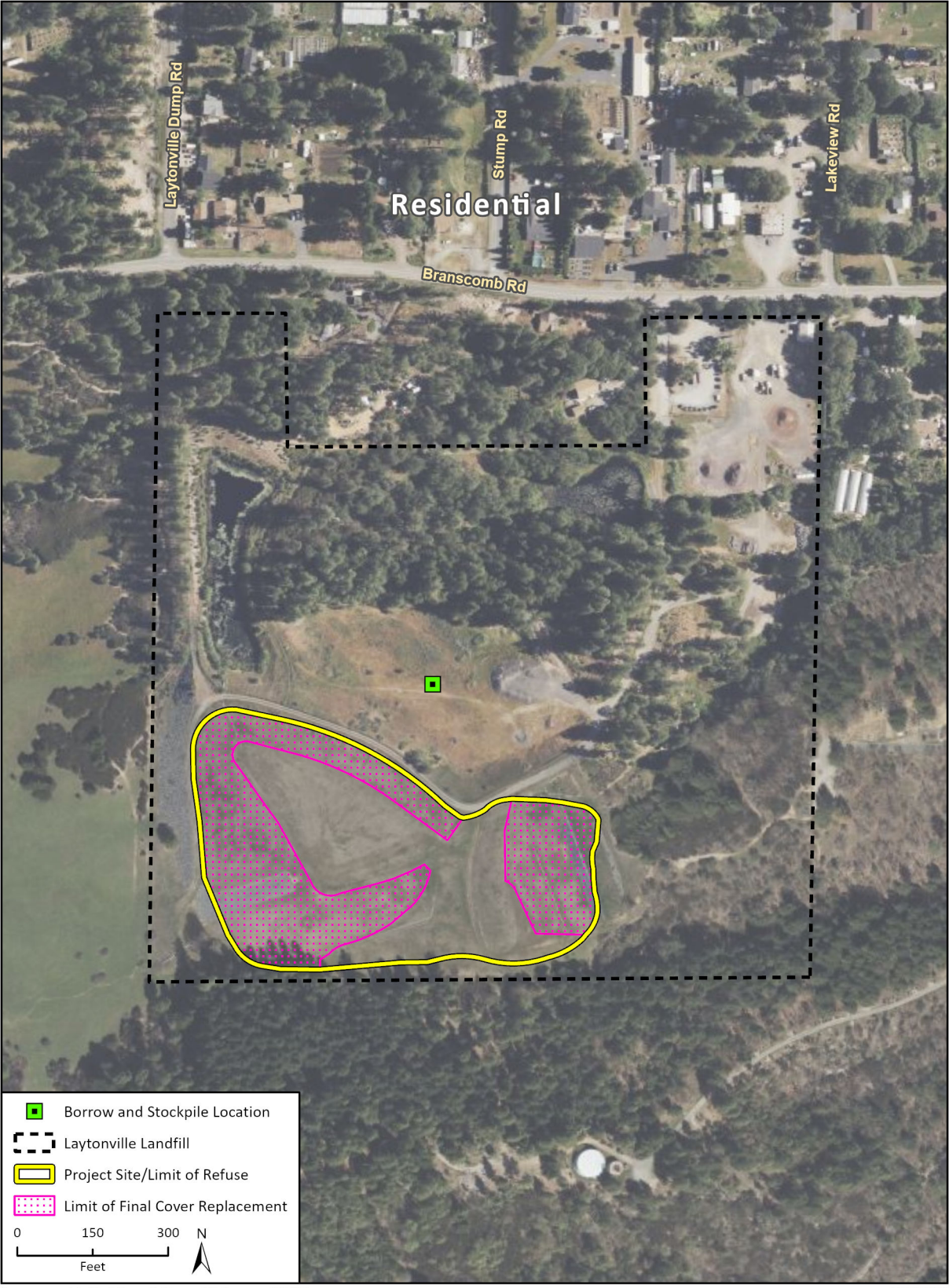
Sincerely,

Howard M. Dashiell

Howard Dashiell
Director
Mendocino County Department of Transportation

## Attachments

Attachment 1 Project Location Map




*Imagery provided by Microsoft Bing and its licensors © 2025.*

23-14356 EPS
Fig 2 Project Site

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*Street and Apt. No., or PO Box No.* PO Box 623
*City, State, ZIP+4®* Point Arena, CA 95468

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*Street and Apt. No., or PO Box No.* 555 Cloverdale Blvd
*City, State, ZIP+4®* Cloverdale, CA 95425

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*Street and Apt. No., or PO Box No.* 190 Sherwood Hill Dr
*City, State, ZIP+4®* Willits, CA 95490

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# Appendix G

Mitigation Monitoring and Reporting Program

# Mitigation Monitoring and Reporting Program

CEQA requires that a reporting or monitoring program be adopted for the conditions of project approval that are necessary to mitigate or avoid significant effects on the environment (Public Resources Code 21081.6). This mitigation monitoring and reporting program is intended to track and ensure compliance with adopted mitigation measures during the project implementation phase. For each mitigation measure recommended in the Final Initial Study- Mitigated Negative Declaration (IS-MND), specifications are made herein that identify the action required, the monitoring that must occur, and the agency or department responsible for oversight.

| Mitigation Measure/ Condition of Approval | Action Required | Monitoring Timing | Monitoring Frequency | Responsible Agency | Compliance Verification Initial | Compliance Verification Date | Compliance Verification Comments |
|---|---|---|---|---|---|---|---|
| **Cultural Resources and Tribal Cultural Resources** | | | | | | | |
| **CR-1: Unexpected Discovery of Archaeological Resources** | | | | | | | |
| In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work in the immediate area should be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for Archaeology should be contacted to evaluate the find. If the find is Native American in origin, a Native American representative should also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the modified project, additional work, such as data recovery excavation, may be warranted to mitigate significant impacts to historical resources. | ▪ Ensure work is halted if archeological resources are discovered on site, and that an archaeologist meeting the standards in the measure is contacted to evaluate the find<br>▪ Ensure that a Native American representative is contacted to participate in the evaluation if the find is Native American in origin | During ground disturbing activities | Ongoing throughout ground disturbing activities | County of Mendocino Department of Transportation | | | |