Draft Environmental Impact Report
for the

# John Smith Road Landfill Expansion Project

SCH# 2021020371

Prepared for:

San Benito County

July 15, 2022

DOUGLAS ENVIRONMENTAL

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Prepared for:

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| A | Agriculture |
| AB | Assembly Bill |
| AB 1807 | Tanner Air Toxics Act |
| AB 2588 | Air Toxics Hot Spots Information and Assessment Act of 1987 |
| AB 32 | California Global Warming Solutions Act of 2006 |
| ADA | Americans with Disabilities Act |
| ADT | average daily traffic |
| ADWF | Average Dry Weather Flow |
| afy | acre-feet of water per year |
| AP | Agricultural Productive |
| APCO | Air Pollution Control Officer |
| AQAP | Air Quality Attainment Plan |
| AR | Agricultural Rangeland |
| ARB | California Air Resources Board |
| ASTM | American Society for Testing and Materials |
| ASTs | aboveground storage tanks |
| ATCM | Airborne Toxics Control Measure |
| ATV | all-terrain vehicle |
| AWWF | Average Wet Weather Flows |
| | |
| BMPs | best management practices |
| | |
| CAA | federal Clean Air Act |
| CAAA | federal Clean Air Act Amendments of 1990 |
| CAAQS | California ambient air quality standards |
| Cal/OSHA | California Department of Industrial Relations, Division of Occupational Safety and Health Administration |
| CalARPP | California Accidental Release Prevention Program |
| Caltrans | California Department of Transportation |
| CARB | California Air Resources Board |
| CBC | California Building Standards Code |
| CCAA | California Clean Air Act |
| CCAR | California Climate Action Registry |
| CCR | California Code of Regulations |
| CCRWQCB | Central Coast Regional Water Quality Control Board |
| CDC | California Department of Conservation |
| CDF’s | California Department of Forestry and Fire Protection |
| CEQA | California Environmental Quality Act |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act of 1980 |
| CESA | California Endangered Species Act |
| CFCs | chlorofluorocarbons |
| cfm | cubic feet per minute |

| | |
|---|---|
| CFR | Code of Federal Regulations |
| $CH_4$ | methane |
| CHP | California Highway Patrol |
| CMA | Critical Movement Analysis |
| CNDDB | California Natural Diversity Data Base |
| CNEL | Community Noise Equivalent Level |
| CNG | compressed natural gas |
| CNPS | California Native Plant Society |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| $CO_2e$ | carbon dioxide equivalent |
| CPUC | California Public Utilities Commission |
| CRHR | California Register of Historic Resources |
| CUP | Conditional Use Permit |
| CUPAs | Certified Unified Program Agencies |
| CVP | Central Valley Project |
| CWA | federal Clean Water Act |
| | |
| dB | decibels |
| dBA | A-weighted dB |
| dBA/DD | dBA per doubling of distance |
| DDT | dichlorodiphenyltrichloroethane |
| DEIR | Draft Environmental Impact Report |
| DOT | U.S. Department of Transportation |
| DPM | diesel particulate matter |
| DTSC | Department of Toxic Substances Control |
| | |
| EIR | Environmental Impact Report |
| EPA | U.S. Environmental Protection Agency |
| ESA | Phase I Environmental Site Assessment |
| EV | electric vehicle |
| | |
| FEMA | Federal Emergency Management Agency |
| FIFRA | federal Insecticide, Fungicide, and Rodenticide Act |
| FIP | Federal Implementation Plan |
| FMMP | Farmland Mapping and Monitoring Program |
| FRAP | Fire Resource Assessment Program |
| FTA | Federal Transit Administration |
| | |
| GC | Government Code |
| GHG | greenhouse gas |
| gpm | gallons per minute |
| GWP | Global Warming Potential |

| | |
|---|---|
| HAPs | hazardous air pollutants |
| HAZWOPER | Hazardous Waste Operations and Emergency Response |
| HCM | Highway Capacity Manual |
| HCP | Habitat Conservation Plan |
| HCFC | hydrochlorofluorocarbons |
| HEPA | High Efficiency Particulate Air |
| HFC | hydrofluorocarbons |
| HVAC | heating and air conditioning |
| Hz | hertz |
| | |
| in/sec | inches per second |
| IPCC | Intergovernmental Panel on Climate Change |
| ITE | Institute of Transportation Engineers |
| | |
| JSRL | John Smith Road Landfill |
| | |
| kV | kilovolt |
| kVs | kilovolts |
| | |
| $L_{50}$ | Median noise levels |
| lbs./day | pounds/day |
| LCFS | Low Carbon Fuel Standard |
| LDL | Larson Davis Laboratories |
| $L_{dn}$ | Day-Night Noise Level |
| $L_{eq}$ | Equivalent Noise Level |
| LEV | Low Emission Vehicle |
| LFG | landfill gas |
| $L_{max}$ | Maximum Noise Level |
| $L_{min}$ | Minimum Noise Level |
| LOS | level of service |
| | |
| M | magnitude |
| MACT and BACT | maximum or best available control technology for toxics |
| MBARB | Monterey Bay Air Resources District |
| MBTA | Migratory Bird Treaty Act |
| Mg | megagrams |
| mgy | million gallons per year |
| MLD | most likely descendant |
| MMTCO | million metric tons of carbon dioxide equivalent |
| MRZ | Mineral Resource Zones |
| MSW | municipal solid waste |
| MTCO | metric tons of carbon dioxide equivalent |
| | |
| NAAQS | national ambient air quality standards |

| | |
|---|---|
| NAHC | Native American Heritage Commission |
| NCCP | Natural Communities Conservation Plan |
| NEHRP | National Earthquake Hazards Reduction Program |
| NEPA | National Environmental Policy Act |
| NESHAP | national emissions standards for HAPs |
| NMFS | National Marine Fisheries Service |
| NMOC | non-methane organic compound |
| NO | nitric oxide |
| $NO_2$ | Nitrogen dioxide |
| NOA | Naturally occurring asbestos |
| NOAA | National Oceanic and Atmospheric Administration |
| $NO_X$ | oxides of nitrogen |
| $N_2O$ | Nitrous oxide |
| NPDES | National Pollutant Discharge Elimination System |
| NWP | Nationwide Permit |
| | |
| $O_3$ | ozone |
| OAP | Ozone Attainment Plan |
| OEHHA | Office of Environmental Health Hazard Assessment |
| ONC | State of California Office of Noise Control |
| OPR | State Governor's Office of Planning and Research |
| OSHA | Occupational Safety and Health Administration |
| ozone | photochemical smog |
| | |
| PAH | polycyclic aromatic hydrocarbons |
| PAL | plant-wide applicability limitations |
| PCBs | polychlorinated biphenyls |
| PFC | perfluorocarbons |
| PG&E | Pacific Gas and Electric |
| $PM_{10}$ and $PM_{2.5}$ | particulate matter |
| ppm | parts per million |
| ppmv | parts per million by volume |
| PPV | peak particle velocity |
| PQP | Public Quasi-Public |
| PRC | Public Resources Code |
| proposed project | John Smith Road Landfill Expansion Project |
| PSD | prevention of significant deterioration |
| PSHA | Probabilistic Seismic Hazards Assessment |
| psi | Pounds per square inch |
| | |
| RCRA | Resource Conservation and Recovery Act of 1976 |
| RECs | recognized environmental concerns |
| RG | Rangeland |
| RMS | root mean square |

| | |
|---|---|
| RNG | renewable natural gas |
| ROG | reactive organic gases |
| RWQCB | Regional Water Quality Control Board |
| | |
| SARA | Superfund Amendments and Reauthorization Act |
| SB | Senate Bill |
| SCS | Soil Conservation Service |
| SEL | Sound Exposure Level |
| SENL | Single Event [Impulsive] Noise Level |
| $SF_6$ | hexafluoride |
| SIP | State Implementation Plan |
| $SO_2$ | sulfur dioxide |
| SWDS | solid waste disposal sites |
| SWP | State Water Project |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| | |
| TACs | toxic air contaminants |
| T-BACT | Best Available Control Technology for Toxics |
| tpd | tons per day |
| TSCA | Toxic Substances Control Act |
| | |
| UBC | federal Uniform Building Code |
| UFC | California Uniform Fire Code |
| USEPA | U.S. Environmental Protection Agency |
| USFWS | United States Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| UST | Underground storage tank |
| | |
| VdB | vibration decibels |
| VMT | vehicle miles traveled |
| VOC | volatile organic compounds |
| | |
| WSA | water supply assessments |
| | |
| µin/sec | microinch per second |

# 1 INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) has been prepared to evaluate the environmental impacts associated with implementation of the proposed John Smith Road Landfill (JSRL) Expansion Project. The JSRL Expansion Project (proposed project) includes a 388.05-acre northern expansion of the existing 95.16-acre JSRL, which is located at 2650 John Smith Road approximately 2 miles directly east of the eastern boundary of the City of Hollister. This expansion would increase the landfill's disposal capacity, expand the total waste footprint, increase the maximum permitted elevation of the final landfill, and increase the maximum permitted daily tonnage accepted at the JRSL.

To accommodate these changes, several operational changes are also being proposed. These include expanding the landfill entrance area to accommodate additional daily vehicle arrivals and reduce vehicle queuing on John Smith Road, expanding the site's environmental control and monitoring systems, constructing a renewable natural gas facility, expanding litter and dust control site wide, clean closing[1] the current 5.11-acre Class I Area owned by the City of Hollister under the supervision of the California Department of Toxic Substances Control and converting it to a disposal area for Class III waste,[2] and establishing a new haul route for out-of-County trucks delivering materials to the site. Additionally, approximately 70 acres of the 101.3-acre property owned by San Benito County located directly south of John Smith Road from the landfill would likely be used for habitat mitigation purposes.

The proposed project proposes a General Plan amendment to change the 388.05-acre expansion property's land use designations of Rangeland (RG) and Agriculture (A) to Public/Quasi-Public (PQP) to be consistent with the existing JSRL's land use designations and to accommodate the proposed waste disposal activities. The proposed project also requires issuance of a Conditional Use Permit, an Entrance Encroachment Permit, and building permits by San Benito County. The County also would need to update the San Benito County Integrated Waste Management Plan to include the expansion area.

## 1.1 PURPOSE AND INTENDED USES OF THIS DRAFT ENVIRONMENTAL IMPACT REPORT

This Draft EIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). An EIR is a full disclosure, public information document in which the significant environmental impacts of a project are evaluated, feasible measures to mitigate significant impacts are identified, and alternatives to the project that can reduce or avoid significant environmental effects are discussed.

An EIR is an informational document used in the planning and decision-making process by the lead agency and responsible and trustee agencies. The lead agency is the public agency with primary responsibility over the proposed project. In accordance with State CEQA Guidelines Section 15051(b)(1), "the lead agency will normally be the agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is San Benito County.

The purpose of an EIR is not to recommend either approval or denial of a project. CEQA requires decision-makers to balance the benefits of a project against its unavoidable environmental effects in deciding whether to carry out a project. The County will consider the Draft EIR, comments received on the Draft EIR, and responses

[1] Clean closure includes removing and properly disposing of all contaminated materials, performing compliance sampling to ensure the contaminants are removed, and re-grading the site for future uses consistent with a California Department of Toxic Substances Control approved Clean Closure Plan.
[2] Class I landfills may accept hazardous and non-hazardous waste whereas Class III landfills may only accept non-hazardous waste.

to those comments, which combined constitute the Final EIR, before making a decision on project approval. If significant environmental effects are identified, the County would need to adopt "Findings" indicating whether feasible mitigation measures or alternatives exist that can avoid or reduce those effects in order to approve the project. If any of the significant environmental impacts are identified as significant and unavoidable, the County may still approve the project if it determines that the social, economic, or other benefits outweigh the unavoidable impacts. The County would then be required to prepare a "Statement of Overriding Considerations" that discusses the specific reasons for approving the project, based on information in the EIR and other information in the record.

This EIR is intended to be used as the CEQA document for all approvals that may be required for the proposed landfill expansion, including the various County, trustee and responsible agency approvals listed in Section 3.6 of Chapter 3, Project Description.

## 1.2 TYPE OF ENVIRONMENTAL IMPACT REPORT

The John Smith Road Landfill Expansion EIR is a Project EIR, pursuant to State CEQA Guidelines Section 15161. A Project EIR is an informational document designed to provide the basis for the local planning and decision-making process. A Project EIR is the most common type of EIR, examining the environmental impacts of a specific development project. This type of EIR focuses on the changes in the environment that would result from the development project. In accordance with the State CEQA Guidelines, a Project EIR must examine all phases of the project including construction, operation, and final landfill closure.

## 1.3 SCOPE OF THIS DRAFT ENVIRONMENTAL IMPACT REPORT

The issues evaluated in this EIR are those anticipated with implementation of the proposed project, as determined from comments received on the Notice of Preparation (NOP) and an understanding of the project characteristics. All of the comments received on the NOP are included in Appendix A. The resource areas for which issues are evaluated in this EIR are as follows:

- Land Use, Planning, and Agricultural Resources
- Traffic and Transportation
- Air Quality
- Greenhouse Gas Emissions
- Noise
- Biological Resources
- Cultural and Tribal Cultural Resources
- Hydrology and Water Quality
- Geology, Soils and Paleontology
- Hazards, Hazardous Materials and Wildfires
- Aesthetics
- Public Services, Utilities and Energy

## 1.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

Under the CEQA statute and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when they are not considered potentially significant (Public Resources Code Section 21002.1(e); State CEQA Guidelines Sections 15128 and 15143). Information used to determine which impacts would be potentially significant was derived from a review of applicable planning and CEQA documentation, field work, a review of the project, feedback from ongoing public and agency consultation, and comments received on the NOP (Appendix A). Following the issuance of the NOP, comments were received and reviewed to determine the final scope of the EIR. As a result of the review of existing information and the scoping process, effects on the following resources were found not to be potentially significant, and therefore, are not included in the detailed analysis of potential project impacts:

### 1.4.1 MINERAL RESOURCES

Mineral resources in San Benito County include significant aggregate resources in the northern part of the County that have been classified and mapped by the Department of Conservation through the authority of the Surface Mining and Reclamation Act (Data Basin 2022) These resources include sand and gravel in the San Benito River and the San Andreas Fault zone. Tres Pinos Creek helps recharge sand and gravel in the San Benito River, and extraction of these resources has taken place on Tres Pinos Creek south of the project area. However, the proposed project does not include soils that would support mineral extraction and is not located within the vicinity of mineral extraction sites (San Benito County 2012; Data Basin 2022). Therefore, the proposed project would not result in the loss of known mineral resources. The proposed project's effects on mineral resources would not be significant and no further analysis of this issue is included in this EIR.

### 1.4.2 POPULATION AND HOUSING

The proposed project includes the expansion of an existing landfill in a rural area within the County. The proposed project would not substantially increase employment within the County to the degree that it would attract a substantial number of new residents to the area. Therefore, the proposed project would not be expected to induce substantial population growth either directly or indirectly and would not include any infrastructure that would induce population growth.

For housing impacts, the focus is on whether the project would displace substantial numbers of existing housing or substantial numbers of people, necessitating the construction of replacement housing elsewhere (per Appendix G of the State CEQA Guidelines). The proposed project would not displace any people or any existing housing. Therefore, the proposed project's effects on population and housing would not be significant and no further analysis of these two issues are included in this EIR.

### 1.4.3 RECREATION

The proposed project includes the expansion of an existing landfill in a rural area within the County. The proposed project would not substantially increase employment within the County to the degree that it would attract a substantial number of new residents to the area. Therefore, the proposed project would not be expected to increase the demands on existing recreational resources within the County and would not require the construction or expansion of other recreational facilities. The proposed project's effects on recreation would not be significant and no further analysis of this issue is included in this EIR. The project's effects on recreational cycling within the project area are discussed in Section 4.2, Traffic and Transportation of this EIR.

## 1.5 PUBLIC REVIEW PROCESS

Consistent with the requirements of CEQA, a good faith effort has been made during the preparation of this Draft EIR to contact affected agencies, organizations, and individuals who may have an interest in the project. This effort included the circulation of an NOP to a project-specific mailing list and to the Governor's Office of Planning and Research for a 30-day comment period that commenced on February 22, 2021. The NOP is a brief notice sent by the lead agency to notify responsible agencies, trustee agencies, and potentially affected federal, state, and local agencies that the lead agency plans to prepare an EIR and solicits guidance regarding the scope and content of the EIR. San Benito County also held two virtual scoping meetings on March 10 and 11, 2021 to receive comments on the NOP. The comments received on the NOP and a summary of where those comments are addressed in this EIR are included in Appendix A.

This Draft EIR is being circulated to federal, State, and local agencies, and to interested organizations and individuals who may wish to review and comment on the report. During the 45-day public review period, written comments will be received by the County at the following address:

Mr. Stan Ketchum
San Benito County Resource Management Agency
2301 Technology Parkway
Hollister, CA 95023
sketchum@cosb.us

## 1.6 TERMINOLOGY USED IN THE ENVIRONMENTAL IMPACT REPORT

To assist in the understanding of this report, the following descriptions, as found in Article 20 of the State CEQA Guidelines, are provided:

- "Project" means the whole of an action, which has the potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment directly or ultimately. In this EIR, the term "proposed project" is used to refer to the whole of the action that is the landfill expansion, including all required or necessary approvals.

- "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

- "Environment" means the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

- "Effects" and "impacts" as used in this document are synonymous. Effects analyzed under CEQA must be related to a physical change. Effects include:

  - direct or primary effects that are caused by the project and occur at the same time and place, and

  - indirect or secondary effects that are caused by the project and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.

- "Mitigation" includes:

  - avoiding the impact altogether by not taking a certain action or parts of an action;

  - minimizing impacts by limiting the degree or magnitude of the action and its implementation;

  - rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;

  - reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or

- compensating for the impact by replacing or providing substitute resources or environments.

- “Cumulative impacts” refers to two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts:

    - The individual effects may be changes resulting from a single project or a number of separate projects.

    - The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. An impact which does not result in part from the proposed project is not a cumulative impact of the project.

This EIR uses a variety of terms to describe the level of significance of adverse impacts identified during the course of the environmental analysis. These terms are defined below.

- A “less-than-significant impact” is an impact that is adverse but that does not exceed the defined standards of significance. Less-than-significant impacts do not require mitigation.

- A “potentially significant impact” is an impact for which there is not enough information to make a finding of less-than-significant impact; however, for the purpose of this EIR, the impact is considered significant. A potentially significant impact is equivalent to a significant impact and requires the identification of feasible mitigation measures or alternatives.

- A “significant impact” is an impact that exceeds the defined standards of significance and would or could cause a substantial adverse change in the environment. Mitigation measures are recommended to eliminate the impact or reduce it to a less-than-significant level.

- A “significant and unavoidable impact” is an impact that exceeds the defined standards of significance and that cannot be eliminated or reduced to a less-than-significant level through the implementation of mitigation measures.

## 1.7 ORGANIZATION OF THIS ENVIRONMENTAL IMPACT REPORT

This EIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Section 4.1, Land Use, Planning and Agricultural Resources).

**Chapter 1, Introduction.** Chapter 1 describes the purpose and organization of the EIR, context, and terminology used in the EIR.

**Chapter 2, Executive Summary.** This section summarizes the project description, alternatives to the project, significant environmental impacts that would result from the project, mitigation measures proposed to reduce or eliminate those impacts, areas of known controversy, and issues to be resolved including the choice among alternatives and whether or how to avoid or mitigate significant effects

**Chapter 3, Project Description.** Chapter 3 describes the project location, background, project characteristics, and project objectives.

**Chapter 4, Existing Setting, Environmental Impacts, and Mitigation Measures.** For each environmental issue area, this chapter describes the existing environmental setting, identifies applicable regulations, discusses the environmental impacts associated with the proposed project, and identifies mitigation for the impacts.

**Chapter 5, Cumulative and Growth-Inducing Impacts.** This chapter evaluates the extent to which the project would contribute to cumulative impacts in the region or induce economic or population growth in the County.

**Chapter 6, Alternatives.** This chapter describes the alternatives to the project that are being considered to mitigate the project's environmental impacts while meeting most of the project's objectives. This chapter also describes alternatives previously considered and rejected. With respect to the haul route, the Alternatives Chapter presents a project-level analysis of alternative routes so that the proposed project may be implemented with any of the alternative routes analyzed.

**Chapter 7, Report Preparation.** This chapter identifies the EIR authors and consultants who provided analysis in support of the EIR's conclusions.

**Appendices.** Appendices contain various technical reports, letters, and official publications that have been summarized or otherwise used for preparation of the EIR.

## 1.8 REFERENCES

San Benito County. 2012 (June). *Draft Initial Study/Mitigated Negative Declaration for the John Smith Road Landfill Expansion Project*.

Data Basin. 2022. https://databasin.org/maps/new/#datasets=f2985196ca6b45cf8f2ad604beb95b34). Accessed March 16, 2022.

# 2 EXECUTIVE SUMMARY

## 2.1 INTRODUCTION

This Executive Summary includes all of the items identified in the California Environmental Quality Act (CEQA) Guidelines Section 15123. These include identifying:

(1) Each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect;

(2) Areas of controversy known to the Lead Agency, including issues raised by agencies and the public; and,

(3) Issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects.

Accordingly, this summary includes a brief synopsis of the proposed project and project alternatives, environmental impacts and mitigation, areas of known controversy, and issues to be resolved during environmental review. Table 2-1 (at the end of this section) presents the summary of potential environmental impacts, their level of significance without mitigation measures, the recommended mitigation measures, and the levels of significance following the implementation of mitigation measures.

## 2.2 PROJECT DESCRIPTION

The proposed project includes a 388.05-acre northern expansion of the existing 95.16-acre JSRL. This expansion would increase the landfill's disposal capacity, expand the total waste footprint, increase the maximum permitted elevation of the final landfill, and increase the maximum permitted daily tonnage accepted at the JRSL.

To accommodate these changes, several other revisions to the landfill facility are proposed. These include expanding the landfill entrance area to accommodate additional daily vehicle arrivals and reduce vehicle queuing on John Smith Road, expanding the site's environmental control and monitoring systems, constructing a renewable natural gas facility, expanding litter and dust control site-wide, clean closing the current 5.11-acre Class I Area owned by the City of Hollister under the supervision of the California Department of Toxic Substance Control (DTSC) and converting it to a disposal area for Class III waste, establishing a new haul route for out-of-County trucks delivering waste to the site, and increasing/altering the site's water supply. Additionally, approximately 70 acres of the 101.3-acre RRP property owned by San Benito County located south of John Smith Road would likely be conserved by this project for habitat mitigation.

The proposed project would require a General Plan amendment (GPA) to change the land use designations of the 388.05-acre expansion property from current Rangeland (RG) and Agriculture (A) designations to Public Quasi Public (PQP), for consistency with the existing JSRL's land use designations and to accommodate the proposed waste disposal activities. The proposed project also requires issuance of a Conditional Use Permit, an Entrance Encroachment Permit, and building permits from San Benito County. The County would also need to amend the San Benito County Integrated Waste Management Plan to include the expansion area.

The proposed project does not include any changes to the site's operating hours. The JSRL is currently open for commercial refuse disposal operations seven days a week during daylight hours. No landfill activity is currently occurring or would occur during nighttime hours.

Cattle grazing currently occurs on the 388.05-acre expansion property and would continue until areas are needed for module construction. As the modules are developed, grazing areas would diminish over the life of the landfill. No grazing would occur within 50 feet of landfill modules. However, grazing would continue on undeveloped portions of the site, particularly in the northern and northeastern areas, and would be reintroduced into disturbed areas not containing waste, such as soil stockpile areas, after landfill activities cease at the site.

The proposed project would increase the landfill's permitted daily tonnage limit from 1,000 tons per day to 2,300 tons per day for waste to be buried. The tonnage related to recyclables, materials for beneficial reuse, and direct transfer materials, would not be included in this total. On average, these materials add approximately 25 percent to the total tonnage of materials delivered to the site. Until March 31, 2022, the landfill had been receiving up to 1,000 tons/day, primarily comprised of out-of-County wastes. Since that time, the landfill has been receiving in-County wastes only (200-300 tons/day) and has about 15 years capacity remaining for those wastes. Under the proposed project, the landfill is projected to receive both in-County and out-of-County waste until 2072 (50 years beginning in 2022, after which the landfill would operate for another 15 years until it reaches its final capacity in approximately 2087). The final site life would vary significantly based on numerous variables including, but not limited to, the final waste acceptance, waste type, waste density, and final volume.

## 2.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to State CEQA Guidelines Section 15382, a significant effect on the environment is defined as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." Chapter 4 of this Draft EIR describes in detail the significant environmental impacts that would result from implementation of the proposed project. Chapter 5 provides a discussion of cumulative and growth-inducing impacts. Table 2-1 identifies the significant impacts that would be anticipated with implementation of the proposed project.

## 2.4 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Detailed mitigation measures have been identified throughout Chapter 4 of this report that are intended to mitigate project effects to the extent feasible. All of these mitigation measures are identified in Table 2-1. After implementation of the proposed mitigation measures, most of the adverse effects associated with the proposed project would be reduced to a less-than-significant level. However, some impacts would remain significant and unavoidable following the implementation of identified mitigation measures. These impacts are:

### 2.4.1 GENERATION OF GREENHOUSE GAS EMISSIONS

As described in Section 4.4, the increased waste accepted at the landfill with implementation of the proposed project would generate increased landfill gas emissions and associated greenhouse gas (GHG) emissions. When evaluated under a conservative net zero threshold, these increased emissions would have a significant impact. Because landfill gas generation is the primary source of GHG emissions, the project has been designed and mitigation measures have been identified to mitigate annual GHG emissions from the project to the greatest extent feasible throughout the life of the landfill. These mitigations include improving landfill gas collection efficiency, requiring installation of a solar electricity system for the project electricity or the purchase of 100-percent carbon-free energy, converting landfill vehicles and construction equipment to renewable energy power sources, and installing electric vehicle charging stations at the landfill. The project also includes construction of a renewable natural gas (RNG) facility and the RNG facility would be required to be constructed and operating before the collected landfill gas flow rate reaches approximately 550 cfm, which is anticipated to occur in approximately 2027. Mitigation prioritizing local, off-site GHG reductions are also identified that require the installation of electric vehicle charging stations at County buildings and the replacement of County fleet with electric vehicles. Emissions modeling indicates that the proposed project's GHG generation rate with implementation of the identified mitigation measures would peak at approximately 11,541 metric tons of carbon dioxide equivalent ($MTCO_2e$) in 2068 and then decrease thereafter. Even with the RNG facility included in the project and the mitigation measures identified, when measured against a net zero threshold, the proposed project's GHG emissions from landfill gas generation are considered significant and unavoidable.

Additionally, it is worth noting that increased waste will be generated regardless of whether the proposed project is implemented. Because the proposed project would be accommodating the projected waste stream, it could be assumed that if the proposed project were not constructed, the waste stream would need to be transported to an alternative disposal facility, which itself would generate GHG emissions from transport and the landfilled waste. For in-County waste, transport to another facility would not occur until approximately 15 years from April 2022. Because it would be speculative to try to predict where waste that is anticipated to be disposed at the project site would be disposed if the project were not approved, it is not possible to definitively determine whether the proposed project would create more GHG emissions than if waste were transported to another disposal facility. Therefore, the modeling of GHG emissions and determination that the impacts are significant and unavoidable does not account for GHG emissions that would likely occur without the project.

### 2.4.2 AESTHETIC RESOURCES

As described in Section 4.11, the proposed project would impact the area's visual character. Although the landfill slopes and mound that would be built up as part of the project's operation would be broadly consistent with the elevation of the surrounding hills, they would be visually prominent in middleground or background views for a large number of viewers, including motorists on local roadways and viewers from publicly accessible areas throughout the surrounding valleys. Depending on the stage of operation, the new features might also have distinct coloration compared to the surrounding hillsides. Because these features would be present in so many views from the surrounding valleys and would affect the appearance of the hills, which contribute to the surrounding visual character, this impact would be significant.

Although Mitigation Measure 4.11-1 would screen most views of the active landfill operations from off site for a period, the changes in elevation would represent a substantial change in the area's visual character that could not be avoided even with implementation of the identified mitigation measures and this aesthetic resource impact would be considered significant and unavoidable.

The project site is not located within a designated state scenic highway corridor. However, State Route 25 (SR 25) is eligible for designation as a state scenic highway. As described above, the proposed project is anticipated to substantially change the area's visual character. This change would become visible over time from sections of SR 25. Because SR 25 is eligible for listing as a scenic highway, this impact would represent a significant and unavoidable aesthetic resource impact.

### 2.4.3 CUMULATIVE AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan conflicted with or obstructed implementation of the applicable air quality plan adopted for the purpose of reducing criteria air pollutants and greenhouse gas emissions and that this conflict represented a significant and unavoidable impact. It also concluded that the generation of greenhouse gas emissions associated with implementation of the 2035 General Plan was a significant and unavoidable impact. The 2035 General Plan Final EIR concluded that all other air quality impacts were less than significant.

The proposed project would be expected to increase the generation of criteria air pollutants and greenhouse gas emissions in the region consistent with expected growth in population and the associated waste stream. Individual projects are required to mitigate for their contributions to criteria air pollutants consistent with the requirements of the Monterey Bay Air Resources District. The proposed project would be subject to these regulations as well as regulations promulgated by the State of California that are intended to reduce air quality emissions and specifically greenhouse gas emissions. As part of these efforts, the State of California is aggressively pursuing greenhouse gas reduction goals including transitioning the vehicle fleet within the state to electric vehicles. However, although the regulations in place are designed to improve air quality over time and to result in a net reduction in air pollutants and greenhouse gas emissions, the proposed project would cumulatively contribute criteria air pollutants and greenhouse gas emissions to the air basin. These emissions would combine with the criteria air pollutant and greenhouse gas emissions associated with implementation of the 2035 General Plan, which could further obstruct implementation of the applicable air quality plan. For this reason, the proposed project's cumulative air quality and greenhouse gas emission impacts would be considered significant and unavoidable.

## 2.5 SUMMARY OF PROJECT ALTERNATIVES

This EIR includes a comparative evaluation of the proposed project with a "reasonable range" of potentially feasible alternatives to the project that are capable of attaining most of the project's basic objectives and would avoid or substantially lessen any of the significant effects of the project. Chapter 6, Alternatives, of this Draft EIR analyzes the following alternatives:

- The No-Project Alternative, which assumes continued operation of the JSRL consistent with its current permits and no out-of-County waste acceptance;
- Alternative 1A, the 1,700 Tons Per Day Expansion Alternative, which would include expansion of the landfill onto the 388.05-acre expansion property (Same Landfill Footprint) but would reduce the permitted daily tonnage acceptance limit to 1,700 tons per day;
- Alternative 1B, the 1,700 Tons Per Day Expansion Alternative, which would reduce the permitted daily tonnage acceptance limit to 1,700 tons per day but would expand the landfill onto a Reduced Landfill Footprint;
- Alternative 2A, the 1,000 Tons Per Day Expansion Alternative, which would include expansion of the landfill onto the 388.05-acre expansion property (Same Landfill Footprint) but would keep the currently permitted daily tonnage acceptance limit of 1,000 tons per day;
- Alternative 2B, the 1,000 Tons Per Day Expansion Alternative, which would keep the currently permitted daily tonnage acceptance limit of 1,000 tons per day but would expand the landfill onto a Reduced Landfill Footprint;
- Alternative 3, the 300 Tons Per Day Expansion Alternative, which would include expansion of the landfill onto a small portion of the 388.05-acre expansion property and would reduce the permitted daily tonnage acceptance limit to 300 tons per day;
- Alternative 4, the Southern Landfill Alternative, which includes continued operation of the existing landfill until it reaches its capacity and then constructing a new landfill on the 101.3-acre County-owned property located south of JSRL and John Smith Road and the purchase of an additional 67 acres of adjacent land to the south to accommodate soil stockpile requirements; and,
- Alternative 5, the Transfer Station Alternative, which includes continuing the current landfill operations with reduced out-of-County waste acceptance until the existing capacity is reached and then constructing a transfer station on a property in or near the City of Hollister to transfer waste to another landfill.

In addition, three alternatives that include components of the project that could be added to the proposed project or to any of the landfill alternatives have been identified. These include:

- Alternative 6, the South Fairview Road Haul Route Alternative, which includes using the segment of Fairview Road south of John Smith Road rather than using the segment north of John Smith Road as the haul route for out-of-County commercial vehicles traveling to the project site;

- Alternative 7, the Best Road Haul Route Alternative, which includes using Best Road instead of Fairview Road as the haul route for out-of-County commercial vehicles traveling to the project site; and,

- Alternative 8, the New Compost Facility Alternative, which includes constructing a new compost facility on the 101.3-acre County-owned property located south of JSRL and John Smith Road.

An additional off-site landfill alternative, alternative waste technologies, and an aggressive waste diversion alternative were also considered but were rejected from further analysis because they were determined to be infeasible. The Transfer Station Alternative was considered the Environmentally Superior Alternative but does not meet all of the project's objectives. Potential impacts of each of these alternatives are compared to impacts of the proposed project in Chapter 6, Alternatives.

## 2.6 AREAS OF CONTROVERSY, ISSUES RAISED, AND AREAS RESOLVED IN THE EIR

Section 15123 of the State CEQA Guidelines requires the summary section of a Draft EIR to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public. The following provides a brief summary of the issues raised by agencies and the public in comment letters received on the Notice of Preparation. The comment letters received on the Notice of Preparation are included in Appendix A of this document.

- The JSRL should only be for County residents. The acceptance of out-of-County waste causes increased traffic and road deterioration.
- The County should consider another location for a landfill along a major highway to avoid vehicle trips on local roadways.
- The existing operations already cause roadway damage and the proposed project would only increase roadway damage.
- The Fairview Road/John Smith Road intersection is dangerous and its realignment should be included as a project component. Adding traffic to this intersection would make it more dangerous.
- Traffic on Fairview Road generates high noise levels for residents.
- The project applicant should be responsible for the maintenance of Fairview Road and John Smith Road.
- Untarped waste haul trucks create litter along the haul routes.
- It is imperative that methane be captured and clean burned at the site to generate renewable energy.
- The recycling center at the site should be upgraded.
- There should be a convenient transfer center for residents to dispose of their large bulky items as a way to reduce illegal dumping.
- Toxic runoff from the JSRL could contribute to high levels of toxins in groundwater underlying Heatherwood Estates.
- What will happen to hazardous waste disposal in the County since the project will be constructing a Class III landfill expansion?
- The scale of the landfill expansion far exceeds the current and future needs of San Benito County. No justification is provided regarding the need for such a large project. Could a smaller size accomplish the same goals?
- Using fees paid by out-of-County haulers to support infrastructure within the County is short sighted and unsustainable. Sacrificing rangeland and degrading nearby land is not in the County's long-term interests.
- The project has the potential to contaminate the Santa Ana Valley groundwater aquifer.
- The project should be reworked with a dramatically smaller scope.

- The increased revenue the County receives from the project will not likely cover the additional roadway maintenance required due to increased truck traffic.
- The project will increase traffic congestion in the City of Hollister and County.
- Water that feeds nearby wells will be polluted by the landfill expansion.
- What is the intended use of funds received by the County from the project?
- What materials are being disposed of in the landfill from Santa Clara County?
- Does the project include the construction of a transfer station?
- The backing up of vehicles onto John Smith Road at the site entrance creates a dangerous driving condition.
- The cleanliness of John Smith Road needs to be improved to minimize nails, screws and other items being picked up in vehicle tires.
- A promised beautification project at the landfill entrance has not been implemented.
- The landfill operator needs to mitigate for blowing trash, which can harm or kill livestock if ingested.
- The project needs to consider the environmental impacts of the proposed project on a potential future high school on Best Road.
- The valley and hills proposed to accommodate the proposed landfill expansion include areas that are home to birds of prey that already have limited resources.
- Clarity should be provided regarding who is proposing the project and their financial interests in the expansion.
- The expansion acreage identified in the NOP needs to be clarified.
- Will the permitted hours of operation change with project implementation?
- Will the landfill's maximum depth change with project implementation?
- The estimated closure year should be included in the document.
- The permitted maximum tonnage for the landfill and any new activities should be described.
- Will the permitted number of vehicles allowed to enter the site increase with project implementation?
- The list of project approvals should include CalRecycle.
- Any changes in materials accepted at the site should be identified.
- The potential for the project to contribute elevated levels of arsenic to local groundwater is very concerning.
- A truck impact analysis should be provided for Bolsa Road, Bloomfield Avenue, Frazer Lake Road, and Leavesley Road/Ferguson Road. [Several of these roads are in Gilroy and will not be substantively affected by the project. Others are local names for SR 25, which is addressed in the EIR]
- The site's operating hours should be identified and the traffic analysis should be conducted for weekdays.

All of the substantive environmental issues raised in the Notice of Preparation comment letters have been addressed in this Draft EIR. The comment letters received on the Notice of Preparation are included in Appendix A of this Draft EIR. In addition, a summary of where the substantive environmental issues are addressed in this Draft EIR is included in Appendix A.

**Table 2-1**
**Summary of Environmental Impacts and Mitigation Measures**

| Impacts | Significance Before Mitigation | Mitigation Measures | Significance After Mitigation |
|---|---|---|---|
| **4.1 Land Use. Planning and Agricultural Resources** | | | |
| **4.1-1: Consistency with Applicable Plans Adopted to Avoid Environmental Impacts**. The proposed project would not conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, no impacts associated with plan consistency would be anticipated. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.1-2: Physically Divide an Established Community**. The proposed project would not physically divide an established community. Therefore, no impact on an established community would occur with project implementation. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.1-3: Important Farmland Conversion.** The project site does not include important farmlands and would not convert important farmlands to non-agricultural land uses. In addition, the project would not involve changes in the existing environment, which could result in the conversion of important farmland to nonagricultural uses. Therefore, no impact on important farmlands would be anticipated with project implementation. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.1-4: Conflict with Zoning for Agricultural Use.** The proposed project includes conducting solid waste operations on lands with agricultural zoning designations. These activities would be considered government functions that are conditionally permitted within these agricultural zoning designations. Therefore, if the County approves these uses on the project site, the proposed project would not conflict with lands zoned for agricultural uses. Therefore, no impact related to agricultural zoning would be anticipated with project implementation. | No Impact | No mitigation measures would be necessary. | No Impact |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| **4.1-5: Conflict with Adjacent Agricultural Uses.** Consistent with current operations, the proposed expansion area would be surrounded by agricultural lands used for cattle grazing. The expanded solid waste operations would not include any grazing restrictions other than a 50-foot setback from operational areas of the landfill or areas containing waste. The grazing activities adjacent to the current landfill operations have continued unabated without any restrictions and would be expected to continue with project implementation. Therefore, no impact related to conflicts with adjacent agricultural uses would be anticipated with project implementation. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.2 Traffic and Transportation** | | | |
| **4.2-1: Circulation Element Policy Consistency.** The proposed project would not conflict with circulation policies included in the San Benito County 2035 General Plan or the 2040 San Benito Regional Transportation Plan. Therefore, there would be no conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and there would be no impact. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.2-2: CEQA Guidelines Section 15064.3 Consistency.** The proposed project would be expected to increase automobile VMT when compared to current operations; however, the additional VMT would be below the significance screening threshold. This impact would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.2-3: Potential Roadway Hazards.** The proposed project would increase the number of trucks passing through the Fairview Road/McCloskey Road intersection, which has several constraints. In addition, the project does not include a left turn lane from John Smith Road to the new project entrance. Therefore, the proposed project | Potentially Significant | In order to reduce roadway hazards to a less-than-significant level, the measures set forth below shall be implemented. Generally, and notwithstanding any specific timing provisions set forth below, the following measures shall be implemented on a schedule to be specified by the County, and agreed by the County and the applicant, such that the measures will be constructed or installed prior to the occurrence of | Less Than Significant |

**Table 2-1**
**Summary of Environmental Impacts and Mitigation Measures**

| Impacts | Significance Before Mitigation | Mitigation Measures | Significance After Mitigation |
|---|---|---|---|
| could substantially increase hazards of traffic conflicts, and this impact would be considered potentially significant. | | the impact requiring the mitigation. Also, such measures shall be implemented to the extent that existing public right-of-way is available for such measures (based on preliminary analysis such right of way does appear available, this will be confirmed in connection with specific design of the measures, and comparable and equally effective or superior revised mitigation shall be developed if there is any insufficiency of public right of way).<br><br>• John Smith Road/Project Entrance Intersection: The applicant shall construct (or ensure the construction of) a left-turn lane at the proposed new project entrance on John Smith Road to provide for left-turn access to the site that is a minimum of 70 feet in length before the new entrance is open for public use. Any required roadway right-of-way would be taken from the north side of the John Smith Road, generally within the boundaries of the project site. Additionally, the applicant shall install a stop sign for the landfill exit lane onto John Smith Road before the new entrance is open for public use. The applicant shall submit project plans for the intersection improvements to the County for approval prior to construction. The applicant shall provide and maintain a minimum sight distance of 550 feet in both directions at the new landfill entrance, including regular maintenance and vegetation trimming on property that is either owned by the applicant or the County or is located within a public right-of-way, to ensure minimum sight distance.<br><br>• Fairview Road/John Smith Road Intersection: Within three years of project approval or prior to exceeding 1,000 tons per day for burial, whichever occurs first, the applicant shall construct (or ensure the construction of), the restriping of the northbound left-turn pocket to St. Benedict Lane to accommodate a southbound left turn pocket on the Fairview Road approach to John Smith Road that it is a minimum of 105 feet in length. Any roadway widening that may be necessary to accommodate this larger southbound turn lane will occur within the existing right-of-way on the east side of Fairview | |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | Road. The applicant shall submit project plans for the intersection improvements to the County for approval prior to construction.<br><br>• Fairview Road/McCloskey Road Intersection: Within three years of project approval or prior to exceeding 1,000 tons per day for burial, whichever occurs first, the applicant shall construct (or ensure the construction of), the relocation of the existing traffic light pole at the southwest corner of Fairview Road and McCloskey Road, so that it does not impede right turns at this intersection, and for the installation of guard railing around the existing utility pole and box. Within three years of project approval or prior to exceeding 1,000 tons per day for burial, whichever occurs first, the applicant shall also construct (or ensure the construction of) the installation of ten feet of widened pavement at the southwest corner of Fairview Road and McCloskey Road to accommodate right turns from McCloskey Road onto Fairview Road. The applicant shall submit project plans for the intersection improvements to the County for approval prior to construction.<br><br>• Haul Route: Within three years of project approval or prior to exceeding 1,000 tons per day for burial, whichever occurs first, the applicant shall install or ensure the installation of truck route and speed limit signage along the commercial vehicle haul route consistent with the most current version of the Caltrans Manual on Uniform Traffic Control Devices. | |
| **4.2-4: Roadway Pavement Hazards.** The addition of project-related truck trips to the local roadway network could increase road maintenance requirements, which if not regularly conducted, could contribute to roadway hazards. Therefore, this impact would be considered significant. | Significant | Prior to waste being placed in the first expansion cell, the applicant and County shall execute an agreement obligating the applicant to pay a fair share fee toward roadway maintenance and rehabilitation along the haul route for the life of the expansion project. The tonnage accepted at the site shall be factored into the fair share fee so that an increase in waste tonnage deliveries to the site would result in a corresponding increase in road maintenance funding for the County. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| **4.2-5: Emergency Access.** The proposed project would include the expansion of the site entrance, which would be expected to improve emergency vehicle access. Therefore, there would be no impact on emergency access due to project implementation. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.2-6: Pavement Integrity.** The current pavement integrity on the ingress and egress routes would be inadequate for out-of-County commercial haul trucks. This could result in premature wear to the roadways that could lead to potholes and roadway cracking. This would be a potentially significant impact. | Potentially Significant | The applicant shall ensure that funding is provided for the reconstruction of portions of Wright Road and McCloskey Road used for the proposed haul route. The applicant and County will enter into a reimbursement agreement that will reimburse the applicant for reconstruction costs in excess of the applicant's fair share. This measure shall be implemented on a schedule to be specified by the County, and agreed by the County and the applicant, such that the reconstruction shall occur prior to use of the Wright Road and McCloskey Road haul route by out-of-County commercial vehicles. | Less Than Significant |
| **4.3 Air Quality** | | | |
| **4.3-1: Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.** Project construction activities would generate short-term criteria air pollutant and precursor emissions. However, these emissions are not projected to exceed the established thresholds of significance. Therefore, these construction activities would have a less than significant impact. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.3-2: Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.** The proposed project has the potential to generate criteria air pollutants and precursor emissions in excess of established thresholds. Therefore, this impact would be considered potentially significant. | Potentially Significant | a. The project proponent shall retain a qualified air quality professional to prepare an RNG design report that demonstrates operations of the RNG facility will not result in construction or operational criteria pollutant emissions greater than the LFG flare described above when combined with emissions from on-site operations. The design report shall be submitted along with an application to construct the RNG facility to the MBARD for review and shall include a demonstration that the thresholds of significance will be met for criteria air pollutants, except $SO_2$ as described below, and the VOC destruction efficiency will be met as described below. | Less Than Significant |

**Table 2-1**
**Summary of Environmental Impacts and Mitigation Measures**

| Impacts | Significance Before Mitigation | Mitigation Measures | Significance After Mitigation |
|---|---|---|---|
| | | b. VOCs from any emitted gas shall either be destructed or filtered to the 98% destruction or removal efficiency similar to that required for an LFG flare.<br><br>c. When operating the flare or RNG facility, emissions shall not exceed a maximum $SO_2$ concentration of 214.91 lb./day. | |
| **4.3-3: Conflict with or Obstruct Implementation of any Applicable Air Quality Plans.** The proposed project would not contribute to an exceedance of the CAAQS or NAAQS. Therefore, the proposed project would not conflict with or obstruct implementation of the MBARD Air Quality Management Plan and there would be no impact. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.3-4: Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminant Emissions.** The generation of diesel particulate matter and fugitive landfill gas emissions associated with project construction and operations could expose potential future residents directly adjacent to the project site to TAC emissions in excess of MBARD thresholds. This impact would be considered potentially significant. | Potentially Significant | Fugitive LFG emissions shall be limited to an average of 588 cfm over the landfill footprint as analyzed under the closure footprint area based on the risk at the MEIR. If a residence is constructed on the portion of property in which point G68 is located, the fugitive LFG emissions shall be limited to 242 cfm. | Less Than Significant |
| **4.3-5: Exposure of Sensitive Receptor to Odorous Emissions.** The proposed project would introduce new odor sources into the area. However, these odor sources would not be expected to adversely affect adjacent land uses. Therefore, this impact would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.3-6: Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions.** The proposed project would increase mobile-source carbon monoxide emissions in the local area. However, this increase would not cause local mobile-source CO emissions to exceed applicable | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| standards. Therefore, this impact would be considered less than significant. | | | |
| **4.4 Greenhouse Gas Emissions and Climate Change** | | | |
| **4.4-1: Generation of GHG Emissions from Operations.** Project features and regulations will reduce the project's contribution to global climate change, but with a conservative net zero threshold, impacts would be significant. | Significant | To ensure that the GHG emissions, which are primarily from LFG generation, are mitigated, the following mitigations shall be implemented:<br><br>a. Before the project produces approximately 550 cfm (annual average) of recovered landfill gas, the RNG facility shall be fully operational. Any tube trailers associated with the RNG facility must be powered by RNG or another renewable fuel source (e.g., electric).<br><br>b. During the life of the project, the project applicant may substitute different LFG control measures that are equally effective or superior to the measures provided herein, including the RNG facility proposed by the project, as new technology and/or other feasible measures become available. Prior to undertaking a substitution, the project applicant shall provide the County with a report prepared by a qualified air quality specialist confirming that the substituted technology is equally effective or superior to the RNG facility for reducing project GHG emissions. If any substitution is made before the RNG facility is operational, it must be approved by the County before the trigger in Mitigation 4.4-1a. If any substitution is made after the RNG facility is operational, the substitution technology must be operational before RNG operations may cease. The County shall not issue a demolition permit to decommission the RNG facility until the substitution technology is fully operational.<br><br>c. To optimize LFG collection efficiency and reduce fugitive LFG emissions from the landfill surface, the following measures shall be performed: | Significant and Unavoidable |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | 1. Landfill sequencing plans will be evaluated annually to identify landfill locations that can be either partially closed (i.e., undergo partial final closure) or temporarily covered.<br>2. Locations that are to final grade and expected to settle appreciably and, therefore, likely to receive additional waste prior to closure will be covered with a flexible membrane liner (minimum thickness of 12 mils) until additional waste is placed.<br>3. Locations that are not to final grade and are not projected to accept waste within the next year will be covered with a flexible membrane liner (minimum thickness of 12 mils) until additional waste is placed.<br>4. At locations where flexible membrane liners are placed, the perimeter of the flexible membrane liners will be embedded in an anchor trench to trap LFG being emitted from the landfill surface; LFG collector pipes will be installed to collect the trapped LFG.<br>5. As an alternative to placing flexible membrane liner, a thickened compacted soil interim cover (possibly including processed green waste or compost) may be used if it can be demonstrated to be equal or better than flexible membrane liner in controlling LFG surface emissions Prior to undertaking such a substitution, the project applicant shall apply to the County to allow a substitution and provide the County with a report prepared by a qualified air quality specialist confirming that the substituted technology is equally effective or superior to the flexible membrane for reducing project GHG emissions. No substitution shall be made unless approved by the County based on evidence that the substituted technology is equally effective.<br><br>d. To further reduce GHG emissions, the project applicant shall implement the following measures:<br><br>1. Install a solar electrical system to offset GHG emissions from electricity from the project, including the RNG facility, or purchase 100 percent carbon-free energy from the electricity provider; and | |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | 2. Before waste is placed in the first new expansion cell, convert pick-up trucks and light construction equipment, such as small excavators and loaders, to a renewable energy power source (i.e., renewable diesel, RNG or electricity). Before waste is placed in the first new expansion cell or as soon as commercially available and proven (i.e., with comparable product support, suitable for the necessary work, and reliability), convert water trucks and heavy equipment, such as compactors and dozers, to renewable energy power source or electricity. If not commercially available and proven before waste is placed in the first new expansion cell, purchase of replacement must occur within four months of such equipment being commercially available and proven, and placement of such purchased equipment into operation must take place as soon as is commercially reasonable. For any heavy equipment that cannot be converted to renewable energy source or electric because it is not yet commercially available or proven, applicant shall monitor changes in technology and new equipment and include a summary of remaining fleet to be replaced with renewable energy power source or electricity in a written annual report submitted to Integrated Waste Management in December each year explaining why replacement or use of a renewable energy power source is not commercially available or proven. If County disputes applicant's conclusions, County and applicant shall meet and confer and attempt to agree on the retention of a qualified third-party, to be retained at the applicant's expense to assess whether replacement or use of a renewable energy power source is commercially available and proven and, if the qualified third-party reasonably concludes replacement is commercially available and proven, applicant shall purchase renewable energy power source or purchase replacement vehicles within two months and place such purchased equipment into operation as soon as is commercially reasonable.<br><br>e. To further reduce GHG emissions, the project applicant shall implement the following measures: | |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | 1. Before waste is placed in the first new expansion cell, the applicant shall provide funding for the design, purchase, and installation of four electric vehicle charging stations at County building(s) to be determined by County based on need and capacity of County park lots at the time of installation. County and applicant shall confer in good faith to determine a reasonable and appropriate amount of funding, and County shall implement the design, purchase and installation as soon as is reasonably feasible following the payment of funds to the County. It shall be presumed that contracts providing for the design, purchase, and installation of the electrical vehicle charging stations under this mitigation measure obtained consistent with San Benito County Purchasing and Contracting Policy Manual and state law governing a county's procurement of goods and services (including requirements for competitive bidding and for accepting the lowest responsive bid) are a reasonable and appropriate amount of funding.<br><br>2. Before waste is placed in the first new expansion cell, the applicant shall provide funding for the replacement of two internal combustion engine vehicles in County Resource Management Agency fleet with electric vehicles of similar size and utility to be selected by County. The County shall prioritize replacement of the Resource Management Agency fleet with the oldest model years and/or highest miles per year. County and applicant shall confer in good faith to determine a reasonable and appropriate amount of funding, and County shall implement the engine replacement as soon as is reasonably feasible following the payment of funds to the County. It shall be presumed that contracts providing for electric vehicles under this mitigation obtained consistent with San Benito County Purchasing and Contracting Policy Manual and state law governing a county's procurement of goods and services (including requirements for competitive bidding and for accepting the lowest responsive bid) are a reasonable and appropriate amount of funding. | |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| **4.4-2: Conflict with Applicable Plan, Policy, or Regulation Adopted to Reduce GHG emissions.** The proposed project could conflict with the state goal to reduce mobile-source transportation emissions. Therefore, this impact would be considered potentially significant. | Potentially significant | To ensure compliance with state [and County] goals to reduce GHG emissions, the project shall implement the following:<br><br>• Install five electric vehicle charging stations during construction of the entrance area expansion.<br>• Incorporate signage encouraging recycling at the landfill and have educational materials about the benefits of recycling available in the landfill buildings open to the public. | Less Than Significant |
| **4.5 Noise** | | | |
| **4.5-1: Construction-Generated Periodic Increases in Ambient Noise Levels.** Construction activities in the western portion of the expansion property would result in temporary increases in ambient noise levels for the existing residence located directly to the west. These construction noise levels would exceed the Health and Safety Element's noise threshold. As a result, this impact would be significant. | Significant | Consistent with Policy HS-8.12, for all construction projects and landfill operations on the site that occur within 800 feet of the western expansion boundary, a written construction Noise Control Plan shall be developed and implemented. At a minimum, the plan shall include the following controls in order to reduce construction noise levels as low as practical:<br><br>• Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists;<br>• Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment;<br>• Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;<br>• Locate staging areas and construction material areas as far away as possible from adjacent land uses;<br>• Prohibit all unnecessary idling of internal combustion engines;<br>• Notify in writing all abutting land uses of the construction schedule at least one week in advance; and<br>• The plan shall designate a "disturbance coordinator" (e.g., contractor foreman or authorized representative) who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The determination and reasonable measures taken shall be tracked in a written log made available to the County. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site and it shall be included in the written notice sent to neighbors regarding the construction schedule.<br>• All construction equipment shall include the use of intake mufflers, exhaust mufflers and engine shrouds operating in accordance with manufacturers' specifications. | |
| **4.5-2: Traffic-Generated Permanent Increases in Ambient Noise Levels.** The proposed project would not result in a noticeable increase in traffic noise levels at off-site sensitive receptors. Therefore, this impact is considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.5-3: Exposure of Sensitive Receptors to Excessive Operational Noise Levels.** The site entrance activities and the working face operations would increase the noise levels generated from the project site. However, these operational noise levels would not exceed established thresholds. Therefore, this impact would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.5-4: Exposure of Sensitive Uses to Vibration Levels.** The vibration levels generated by the proposed construction and operational activities would not expose adjacent residences to excessive vibration levels. Therefore, this impact is less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.6 Biological Resources** | | | |
| **4.6-1: Mortality or Injury of California Tiger Salamander and Disturbance and Loss of Habitat.** The construction of project components could directly affect | Significant | a. The project shall implement the following measures to avoid and minimize injury or mortality of individuals during initial land | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| California tiger salamander habitat during the initial land clearing/vegetation removal activities. Individual salamanders, if aestivating in burrows in upland areas, could be injured or killed as a result. The project would eliminate all habitat for this species on the project site, and ongoing landfill operations would substantially reduce the quality of habitat on the project site and adjacent areas up until site closure. These potential impacts are considered significant. | | clearing/vegetation removal activities associated with the construction of project components:<br><br>• A qualified biologist shall ensure that the project proponent implements this measure to avoid and minimize impacts and shall document compliance with this and all biological resource-related mitigation measures herein.<br>• Prior to initial land clearing/vegetation removal activities, project construction boundaries and access areas shall be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.<br>• Erosion control measures shall be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting shall not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.<br>• If recommended or required by regulatory agencies or a qualified biologist as provided for in the mitigation measures herein, the applicant shall install and maintain exclusion fencing in the locations and for the duration recommended or required by a regulatory agency or qualified biologist.<br><br>b. The project shall develop and implement an environmental awareness training program. This training shall be conducted by a qualified biologist and provided to construction personnel before engaging in initial land clearing/vegetation removal activities associated with the construction of project components. Environmental awareness training shall include descriptions of all special-status wildlife species potentially occurring in the project area, their habitats, and methods of identification, including visual aids as appropriate, and shall also describe activity-specific measures required to minimize and avoid impacts. | |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | c. A qualified biologist shall conduct pre-construction biological surveys no more than four weeks prior to initial land clearing/vegetation removal activities. Potential habitat shall be surveyed by a qualified biologist to confirm no individual species are moving above-ground, or taking refuge in burrow openings or under materials that could provide cover such as boards, scrap metal, woody debris, or other materials. The project shall also retain a qualified biologist to provide biological monitoring during initial land clearing and vegetation removal activities to monitor the removal of the top 12 inches of topsoil at all project locations. If any life stage of a special-status species is found in the land clearing/vegetation removal work area, construction activities shall cease within 100 feet of the animal and USFWS and/or CDFW shall be notified within 48 hours. Construction activities shall not be allowed within 100 feet of the animal. The biologist shall determine if a buffer is necessary to avoid impact to the species and, if determined to be appropriate, an avoidance buffer of the size determined by the biologist shall be maintained for the duration required by the biologist. The biologist shall monitor the animal to make sure it is not harmed and that it leaves the site on its own unless handling is approved in consultation with USFWS and/or CDFW and such handling is done by a USFWS- and CDFW-approved biologist with appropriate handling permits to move the animal out of the work area to a USFWS- and/or CDFW-approved relocation site. If a dead individual is found, the qualified biologist shall be informed within 48 hours and shall conduct an inspection to determine whether any living animals of that species are in the area.<br><br>d. The project sponsor shall provide compensatory habitat mitigation to offset the permanent loss of suitable habitat at a minimum of a 1:1 ratio. The County, in consultation with a qualified biologist, shall determine the total acreage of permanent loss of suitable habitat. Compensation may be in the form of either the purchase of habitat credits from a USFWS- and CDFW-approved conservation bank or the permanent protection (through conservation easement) and management (including a long-term management plan reviewed and determined adequate to | |

**Table 2-1**
**Summary of Environmental Impacts and Mitigation Measures**

| Impacts | Significance Before Mitigation | Mitigation Measures | Significance After Mitigation |
|---|---|---|---|
| | | maintain suitable habitat by a qualified biologist) of suitable on- and/or off-site habitat.<br><br>In addition to mitigating impacts to the CTS, Mitigation Measure 4.6-1a-d is applied to mitigate impacts to other species below. When Mitigation Measure 4.6-1 is referenced for additional impacts below, the intent is to apply subsections (a) through (d) even if each subsection is not expressly referenced. Subsection (e) below applies only to the California tiger salamander.<br><br>e. If initial land clearing/vegetation removal activities associated with the construction of project components commences during the wet season and active dispersal period for CTS (generally between October 16 and May 14, depending on the precipitation year), a qualified biologist shall conduct pre-construction biological surveys no more than four weeks prior to the construction. Potential CTS habitat will be surveyed by a qualified biologist to confirm no salamanders are moving above-ground, or taking refuge in burrow openings or under materials that could provide cover such as boards, scrap metal, woody debris, or other materials. The project shall also retain a qualified biologist to provide biological monitoring during initial land clearing and vegetation removal activities to monitor the removal of the top 12 inches of topsoil at all project locations. If any life stage of CTS is found in the land clearing/vegetation removal work area, construction activities shall cease within 100 feet of the animal and USFWS and CDFW shall be notified within 48 hours. Construction activities shall not be allowed within 100 feet of the animal. The biologist shall monitor the California tiger salamander to make sure the amphibian is not harmed and that it leaves the site on its own unless handling is approved in consultation with USFWS and CDFW and such handling is done by a USFWS- and CDFW-approved biologist with appropriate handling permits to move the animal out of the work area to a USFWS- and/or CDFW-approved relocation site. | |
| **4.6-2: Disturbance of California Red-Legged Frog Habitat.** Although it is unlikely that the California red- | Significant | The project shall conduct the avoidance and minimization measures identified in Mitigation Measures 4.6-1a and 4.6-1b above prior to | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| legged frog occurs in the study area due to the marginal habitat quality on the project site and distance to suitable habitat and known populations, implementation of the proposed project could adversely affect this species if it disperses into the study area. The project would eliminate all habitat for this species on the project site, and ongoing landfill operations would substantially reduce the quality of habitat on the project site and adjacent areas up until site closure. Therefore, the project's potential impacts on this species would be considered significant. | | initial land clearing/vegetation removal activities associated with the construction of project components. If CRLF are found during the preconstruction survey or in the biological monitoring during land clearing/vegetation removal, as identified in Mitigation Measure 4.6-1c, the biologist shall monitor the animal(s) to make sure it is not harmed and that it leaves the site on its own. If any life stage of CRLF is found in the land clearing/vegetation removal work area, construction activities shall cease within 100 feet of the animal and USFWS shall be notified within 48 hours. Construction activities will not be allowed within 100 feet of the animal. The biologist shall monitor the animal(s) to make sure it is not harmed and that it leaves the site on its own unless handling is approved in consultation with USFWS and such handling is done by a USFWS-approved biologist with appropriate handling permits to move the animal out of the work area to a USFWS-approved relocation site. If CRLF are found within the land clearing/vegetation removal work area, the project shall provide compensatory habitat mitigation to offset the permanent loss of suitable habitat at a minimum of a 1:1 ratio. The County, in consultation with a qualified biologist, shall determine the total acreage of permanent loss of suitable habitat. Compensation may be in the form of either the purchase of habitat credits from a USFWS-approved conservation bank or the permanent protection (through conservation easement) and management (including a long-term management plan) of suitable on- and/or off-site habitat. | |
| **4.6-3: Mortality or Injury of San Joaquin Coachwhip and Coast Range Newt and Disturbance and Loss of Habitat.** The construction of project components could adversely affect San Joaquin coachwhip and Coast Range newt through the removal of suitable habitat during the initial land clearing/vegetation removal activities. The project's potential impacts on this species would be considered significant. | Significant | The project shall conduct the avoidance and minimization measures identified in Mitigation Measures 4.6-1a and 4.6-1b above prior to initial land clearing/vegetation removal activities associated with the construction of project components. In addition, if San Joaquin coachwhip and/or Coast Range newt are found in the preconstruction survey or in the biological monitoring during land clearing/vegetation removal, as identified in Mitigation Measure 4.6-1c, the biologist shall monitor the animal(s) to make sure it is not harmed and that it leaves the site on its own unless handling is approved in a letter from CDFW authorizing this activity and such handling is done by a qualified biologist who is CDFW-approved to trap and move the animal(s) to a | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | CDFW-approved relocation area. Construction activities will not be allowed within 100 feet of the animal. | |
| **4.6-4: Disturbance or Loss of Western Spadefoot or Their Habitat.** The construction of project components could adversely affect suitable aquatic, upland and dispersal habitat for western spadefoot during the initial land clearing/vegetation removal activities and ongoing landfill operations This species is known to occur in the vicinity of the study area. Therefore, the project's potential impacts on this species would be considered significant. | Significant | Prior to initial land clearing/vegetation removal activities associated with the construction of project components, a qualified biologist shall evaluate the work area and vicinity (within 1,200 feet of the work area, as feasible and accessible) for the presence of suitable western spadefoot habitat (i.e., features that pond water for at least 3 weeks and lack predators, and terrestrial habitat within 1,200 feet of potentially suitable western spadefoot breeding habitat). The areas that are identified as suitable habitat for western spadefoot shall be surveyed during the wet season by a qualified biologist no more than four weeks prior to the disturbance. If this species is identified onsite, land clearing/vegetation removal within the suitable habitat will be avoided, if feasible. If land clearing/vegetation removal is required within the suitable habitat, activities will be monitored by a qualified biologist. The qualified biologist shall have the authority to halt construction activities if a western spadefoot is observed within the work area, and the biologist may relocate animals to suitable habitats outside the area in consultation with CDFW. | Less Than Significant |
| **4.6-5: Disturbance or Loss of Tricolored Blackbird Foraging Habitat.** Implementation of the proposed project would not adversely affect nesting habitat for tricolored blackbird because there is no suitable breeding habitat onsite. Tricolored blackbirds may forage on the project site; however, the lands in the vicinity of the study area support adequate foraging opportunities for this species. Therefore, the project's potential impacts on this species would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.6-6: Potential Loss of Western Burrowing Owl Individuals, Raptors and Other Migratory Birds.** The construction of project components could adversely affect suitable habitat for western burrowing owl and raptors and other migratory birds during the initial land clearing/vegetation removal activities and ongoing landfill | Significant | a. A qualified biologist shall conduct surveys of suitable nesting habitat for common raptors and other migratory birds that would be directly disturbed by initial land clearing/vegetation removal activities as well as suitable nesting habitat, if present, within 500 feet of these activities. Surveys shall be conducted within 14 days before project activities begin near suitable nesting habitat during the nesting season (February 1 | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| operations. Burrowing owls are known to occur in the vicinity of the study area, and other raptors and other migratory birds have the potential to occur in the study area. Therefore, the project's potential impacts on these species would be considered potentially significant. | | – August 31). If any active bird nests are documented in the area that would be directly disturbed by these activities or active nests of common raptors and other migratory birds are documented within 500 feet, protective buffers shall be established and implemented until the nests are no longer active. A qualified biologist shall monitor the nests during these activities to confirm the effectiveness of the buffers. The size of the buffer shall be the size necessary to avoid disturbance to the nests and shall be determined by the qualified biologist after considering all relevant factors, including the type and intensity of project disturbance, presence of visual buffers, and other variables that could affect susceptibility of the nest to disturbance.<br><br>b. The project shall implement the following measuring conforming to Appendix D of the Staff Report on Burrowing Owl Mitigation (CDFG 2012):<br><br>• A qualified biologist shall be on-site during all initial land clearing/vegetation removal activities associated with the construction of project components in potential burrowing owl habitat and nesting habitat for raptors and other migratory birds. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas, plus a 150-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction. If lawful access cannot be achieved to adjacent areas, surveys can be performed with a spotting scope or other methods. The survey methodology will be consistent with the methods outlined in the Staff Report and will consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Copies of the survey results shall be submitted to CDFW and the County Planning Department. | |

**Table 2-1**
**Summary of Environmental Impacts and Mitigation Measures**

| Impacts | Significance Before Mitigation | Mitigation Measures | Significance After Mitigation |
|---|---|---|---|
| | | • If burrowing owls are detected, no ground-disturbing activities, such as road construction or ancillary facilities, shall be permitted within the distances listed below unless otherwise authorized by CDFW. Burrowing owls shall not be moved or excluded from burrows during the breeding season:<br><br>Burrowing Owl Burrow Buffers<br><br>Location/Time of Year — Level of Disturbance: Low / Medium / High<br>Nesting sites April 1–August 15: 656 feet / 1,640 feet / 1,640 feet<br>Nesting sites August 16–October 15: 656 feet / 656 feet / 1,640 feet<br>Any occupied burrow October 16–March 31: 164 feet / 328 feet / 1,640 feet<br><br>• If avoidance of active burrows is infeasible outside of the breading season, the owls can be passively displaced from their burrows according to recommendations made in the 2012 Staff Report on Burrowing Owl Mitigation. Burrowing owls should not be excluded from burrows unless or until:<br>o Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist meeting the Biologist Qualifications set forth in the May 2012 CDFW Staff Report, verifies through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.<br>o A Burrowing Owl Exclusion Plan is developed and approved by the applicable local CDFW office and submitted to the County Planning Department. The plan shall include, at a minimum:<br>- Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping; | |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | - Type of scope and appropriate timing of scoping to avoid impacts;<br>- Occupancy factors to look for and what will guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and cannot escape i.e., look for sign immediately inside the door);<br>- How the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);<br>- Removal of other potential owl burrow surrogates or refugia on-site;<br>- Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;<br>- Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;<br>- How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.<br><br>• Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below.<br>o Temporary exclusion is mitigated in accordance with the measures described below.<br>o Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for one week | |

**Table 2-1**
**Summary of Environmental Impacts and Mitigation Measures**

| Impacts | Significance Before Mitigation | Mitigation Measures | Significance After Mitigation |
|---|---|---|---|
| | | to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season.<br>o Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).<br><br>• In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.<br><br>• During construction activities, monthly and final compliance reports shall be provided to CDFW, the County Planning Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project. | |
| **4.6-7: Mortality or Injury of Vernal Pool Fairy Shrimp and Disturbance and Loss of Habitat.** The construction of project components could directly affect vernal pool fairy shrimp habitat through the disturbance and removal of potential habitat during the initial land clearing/vegetation removal activities. Fairy shrimp could be injured or killed as a result. These potential impacts are considered significant. | Significant | a. Following the USFWS-approved protocol (USFWS 2015), no more than one year prior to the initial land clearing/vegetation removal activities, the project shall conduct pre-construction surveys for vernal pool fairy shrimp in the onsite seasonal pond during the wet season (generally between October 16 and May 14, depending on the precipitation year) or when the seasonal pond is inundated and in any other natural areas on the project site that are demonstrated to pond water temporarily during a rainy period. If the surveys demonstrate negative findings, and the USFWS concurs with these results, no additional mitigation measures are necessary. If the surveys demonstrate positive findings, the following measure shall be implemented. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
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| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | b. Consult with USFWS under ESA to identify and implement appropriate measures to avoid, minimize, and compensate for impacts to vernal pool fairy shrimp, and, if necessary, obtain incidental take authorization. At a minimum, such measures shall include, but are not limited to, providing compensatory habitat mitigation to offset the permanent loss of suitable habitat, as determined by the USFWS, at a minimum of a 2:1 ratio. Compensation may be in the form of either the purchase of habitat credits from a USFWS- and CDFW-approved conservation bank or the permanent protection (through conservation easement) and management (including a long-term management plan with a funded endowment) of suitable on- and/or off-site habitat. | |
| **4.6-8: Disturbance or Loss of American Badger or Their Habitat.** Implementation of the proposed project could adversely affect American badger. This species is known to occur in the vicinity of the study area, and implementation of the proposed project could impact this species if it occurs in the project vicinity. Therefore, the project's potential impacts on this species would be considered potentially significant. | Potentially Significant | To determine if active badger dens are present on the project site or along the RNG pipeline alignment, preconstruction surveys for badger dens shall be conducted. If active badger dens are present on or adjacent to the project site, an avoidance buffer shall be maintained between the den and construction activities during pupping season (February 15 through July 1, or as otherwise determined through surveys and monitoring of the den). | Less Than Significant |
| **4.6-9: Loss of San Joaquin Kit Fox Habitat.** Implementation of the proposed project could adversely affect San Joaquin kit fox. Although there are no documented records of this species within 5 miles of the study area since the 1990s, this species could occasionally disperse through the study area. Loss of suitable dispersal habitat for this species would not reduce the number or extant range of the species; however, if this species is dispersing through the study area during project construction or ongoing landfill operations, it could be adversely affected. This would be considered a potentially significant impact. | Potentially Significant | No less than 14 and no more than 30 days before initial land clearing/vegetation removal activities begin, a qualified biologist will conduct a pre-construction survey to determine the potential for San Joaquin kit fox to occur in the construction area. If potential or known dens for San Joaquin kit fox are found, exclusion zones will be established and maintained as directed by a qualified biologist and meeting the minimum standards in the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox* (USFWS 2011), or the most current Standardized Recommendations at the time exclusion zones are established. No deliberate feeding of wildlife will be allowed, and no domestic pets associated with project personnel will be permitted on the project site. | Less Than Significant |
| **4.6-10: Loss of Wetland Habitat.** The construction of project components would adversely affect a sensitive | Potentially Significant | If wetlands are filled or disturbed as part of a project, the project proponent shall compensate for the loss to ensure no net loss of habitat | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| natural community through the direct fill of a wetland during the initial land clearing/vegetation removal activities. This would be considered a potentially significant impact. | | functions and values. Compensation ratios will be based on site-specific information and determined through coordination with the RWQCB but shall be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled). Compensation may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits.<br><br>If permittee-responsible mitigation is proposed, a restoration and monitoring plan shall be prepared describing how wetlands will be created and monitored. The plan shall identify the target species to be restored; planting design; irrigation needs; weed control; an implementation budget; and a 3-year maintenance and monitoring approach. The plan shall also include performance measures that ensure that 80 percent or greater cover by obligate and/or facultative wetland plant species is sustained after a three-year period and that less than 10 percent of the cover is inhabited by nuisance plant species. Contingency measures shall be included in the plan, such as provisions for remedial planting to meet percentage requirements, if performance standards are not achieved after 3 years. Requirements for ongoing monitoring shall be identified if performance standards are not met after 5 years (National Academies of Sciences, Engineering, and Medicine 2001). | |
| **4.6-11: Potential Interference with Terrestrial Movement and Migration Corridors.** Implementation of the proposed project would result in an additional barrier to terrestrial movement and migration. However, relative to the amount of available habitat in the vicinity of the study area, this impact would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.6-12: Conflict with Adopted Local Policies and Ordinances.** Implementation of the proposed project would not conflict with adopted local policies and ordinances. The project proponent would be required to obtain appropriate permits and pay fees to the County to convert raw land to industrial use unless the fees are | No Impact | No mitigation measures would be necessary. | No Impact |

**Table 2-1**
**Summary of Environmental Impacts and Mitigation Measures**

| Impacts | Significance Before Mitigation | Mitigation Measures | Significance After Mitigation |
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| waived because USFWS has approved other mitigating procedures. There would be no impact. | | | |
| **4.7 Cultural Resources** | | | |
| **4.7-1: Potential Impacts to Undocumented Cultural Resources.** There is the possibility that previously undiscovered and undocumented resources including TCRs could be adversely affected or otherwise altered by ground disturbing activities during construction of the project. Disturbance of undocumented resources would be a potentially significant impact. | Potentially Significant | A written inadvertent discovery plan prepared by a qualified archeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists shall be developed before construction begins and shall be implemented in the event of a discovery during project construction. Before construction commences, the contractor shall ensure that all construction personnel understand the need for proper and timely reporting of such finds and the consequences of any failure to report them.<br><br>If an inadvertent discovery of buried or otherwise previously unidentified historical resources, including archaeological resources (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, building remains) and tribal cultural resources, is made by site or contractor personnel at any time during project-related construction activities or project planning, operations shall stop in the immediate vicinity of the find and a qualified archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists shall be consulted to determine whether the resource requires further study. If such resources are discovered during project construction, all work within a 100-foot-radius of the find shall cease. A qualified archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists shall be retained at the applicant's cost to assess the discovery and recommend what, if any, further treatment or investigation is necessary for the find. The qualified archeologist, with input from other interested parties, shall develop a written plan that implements appropriate protection and feasible avoidance measures. Culturally affiliated Native American Tribes shall also be notified in writing concerning resources of Native American origin. Avoidance is the preferred CEQA mitigation measure for tribal cultural resources. If avoidance is not feasible, any necessary treatment/investigation shall be developed and completed in coordination with interested Native | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| | | American Tribes providing recommendations to the qualified archeologist before project activities continue in the vicinity of the find. | |
| **4.7-2: Potential to Uncover Human Remains.** Subsurface disturbances associated with construction activities could potentially uncover unmarked historic-era and prehistoric Native American burials, resulting in their alteration or damage. This would be a potentially significant impact. | Potentially Significant | If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, San Benito County will implement the procedures listed below. If human remains are identified on the project site, the following performance standards shall be met prior to implementing or continuing actions, such as construction, that may result in damage to or destruction of human remains:<br><br>In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, excavation in the area of the burial and excavation or disturbance in any nearby area reasonably suspected to overlie adjacent remains shall immediately halt and the San Benito County Coroner shall be immediately notified in writing. Services of a professional and qualified archaeologist shall be retained to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5(b)). If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050.5(c)). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. | Less Than Significant |
| **4.7-3: Tribal Cultural Resource Impacts.** The project would not cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code Section 21074. Therefore, no impact to tribal cultural resources would occur. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.8 Hydrology and Water Quality** | | | |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| **4.8-1: Increased Runoff and Potential for Localized or Downstream Flooding.** Implementation of the proposed project would result in an increase in impervious surfaces on the project site and altered drainage patterns, which would lead to an increase in stormwater runoff compared to existing conditions. The increased surface runoff could increase discharge into offsite drainages, which could exceed the capacity of the downstream drainage system. This impact would be potentially significant. | Potentially Significant | The following mitigation measures shall be implemented to reduce the 100-year storm event post-development peak flow of stormwater runoff to below the existing peak flow conditions beyond the project site through one of the following:<br>• The project applicant shall provide a final design of the expansion area's stormwater detention basins that control flow from Discharge Points 2 and 5 to ensure discharge from the project site does not exceed existing conditions at these discharge points. This shall include expanding the basin size and/or depth, if necessary, to capture the peak flow, or<br>• Drainage-areas on the landfill cap shall be modified and the drainage design updated, such that existing peak flow conditions are not exceeded at the perimeter discharge points. | Less Than Significant |
| **4.8-2: Potential for Short-Term Construction-Related Water Quality Degradation.** Implementation of the proposed project could cause short-term water quality degradation associated with construction activities. With implementation of the proposed project consistent with applicable water quality regulations, erosion from site soils would be minimized and pollutants would be largely captured on the site. Also, the implementation of identified spill prevention and cleanup plans would limit the potential for hazardous material spills to adversely affect stormwater quality. Therefore, the project's construction-related water quality impacts are considered less-than-significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.8-3: Potential Long-Term Degradation of Water Quality.** The development of the expansion area and clean closure of the Class I unit could increase the transport of sediments into local waterways or cause infiltration of pollutants from landfill runoff or leachate. The introduction of sediments into local drainages could | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| degrade water quality and contribute to adverse effects on aquatic organisms in receiving waters. With implementation of the proposed project consistent with applicable water quality regulations, long-term erosion from site soils would be minimized, leakage from the bottom of the landfill would be negligible, and pollutants would be largely captured on the site. Therefore, the project's long-term water quality impacts are considered less-than-significant. | | | |
| **4.8-4: Potential for Decreased Groundwater Recharge.** The installation of a liner system and eventually a closure cap would reduce the potential for groundwater recharge over the area of the landfill footprint. However, large areas are available surrounding the site that would continue to accommodate groundwater recharge. The proposed project would not be expected to decrease groundwater supplies or otherwise adversely affect groundwater recharge in the project vicinity and this impact would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.8-5: Potential for Leachate to Degrade Groundwater Quality.** Leachate generated within the expanded landfill modules would be captured by a Leachate Collection and Removal System. As described in the Design Basis Report, the leakage of leachate through the liner system would be less than 0.1 gallons per acre per day, which is considered negligible. This level of leakage would not be expected to degrade groundwater quality. In addition, the landfill expansion would include the installation of a groundwater monitoring system that would detect and capture contaminated groundwater before migrating offsite. Therefore, this impact would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.8-6: Potential Adverse Impacts to Groundwater Supply and Local Wells.** The JSRL will use a | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| groundwater supply well located at 1370 Shore Road in Hollister as a supplemental water supply during drought years and other periods where the on-site stormwater pond water supply is unavailable. A groundwater study indicates that the intermittent and seasonal extraction of supplemental supply from the 1370 Shore Road well would not reduce aquifer supply or cause groundwater levels to decline to the degree that neighboring wells would be adversely impacted. Therefore, this impact would be considered less than significant. | | | |
| **4.9 Geology, Soils and Paleontology** | | | |
| **4.9-1: Risks to People and Structures from Fault Rupture.** The project site is not located within an earthquake fault zone as designated by the Alquist-Priolo Earthquake Fault Zone Act and no known faults are located on the project site. Therefore, the proposed project would not be expected to expose people or structures to a fault rupture and there would be no impact. | No Impact | No mitigation measures would be necessary. | No Impact |
| **4.9-2: Exposure of People and Structures to Slope Instability from Earthquake Ground Shaking.** Ground shaking resulting from seismic activity at nearby or distant earthquake faults could expose unstable slopes to ground failure and landslides. However, because the project's proposed facilities would be required by Title 27 and the CBC to be designed and constructed to be stable when exposed to seismic ground shaking at the site, the proposed project would not be expected to expose people or structures to substantial seismic hazards and this impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.9-3: Exposure of People and Structures to Liquefaction, Lateral Spreading, Subsidence, or Collapse.** The project site is not located within an area with soil that would be susceptible to liquefaction, lateral | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| spreading, subsidence, or collapse. Therefore, the potential for people or structures to be exposed to these geologic hazards at the site would be considered a less-than-significant impact. | | | |
| **4.9-4: Erosion or Loss of Topsoil.** Excavation and grading of soil could result in localized erosion during project construction and operations. With implementation of the proposed project consistent with applicable water quality regulations, erosion from site soils would be minimized and sediments would be largely captured on the site. Therefore, the project's short- and long-term soil erosion impacts would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.9-5: Expansive Soils.** The presence of expansive soils could damage the foundations of any buildings built on the site to support the solid waste operations, which could represent a risk for occupants or the public. However, compliance with the foundation design requirements of the CBC would minimize the potential for expansive soils at the project site to affect building foundations. Therefore, this impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.9-6: Disturbance of Unique Paleontological Resources or Geologic Features.** The project site is located within geologic formations that have low potential to contain paleontological resources. Also, the project site does not include any unique geologic features. Therefore, the proposed project has a very low potential to disturb or destroy a unique paleontological resource or geologic feature and this impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.9-7: Potential for Methane Gas to Migrate into Surrounding Soil.** Because all of the landfill modules since construction of Module 1 have been lined with a high-density polyethylene geomembrane as part of the liner system that is impermeable to landfill gas and all | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| future expansion modules would be similarly lined, downward and lateral landfill gas migration into the soil would be prevented. Therefore, methane gas would not be expected to migrate from the expanded landfill into the surrounding soil and this impact would be considered less than significant. | | | |
| **4.10 Hazards, Hazardous Materials and Wildfires** | | | |
| **4.10-1: Exposure to Known and Unknown Hazardous Materials.** An increase in the allowable peak daily tonnage at the site could result in an increase in the amount of incidental hazardous waste illegally or accidentally delivered to the site within loads of municipal solid waste. However, with the continued implementation of the existing load checking program and waste acceptance procedures, this impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.10-2: Exposure to Hazardous Materials during Project Construction and Operations.** Use of various paints, solvents, cements, glues, and fuels is expected during the various construction and operational components of the proposed project. Site workers could be exposed to hazardous materials as a result of improper handling or use; accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies, resulting in adverse health effects. However, all allowable uses would be subject to compliance with federal, state, and local hazardous materials regulations, and would be monitored by the state (e.g., Cal/OSHA, DTSC, CHP) and/or local jurisdictions. Therefore, the potential for human exposure to hazardous materials during construction and operations would be a less-than-significant impact. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| **4.10-3: Increase Litter Generation.** The proposed project would potentially increase litter generation at the site and along local haul routes due to the increased volume of material delivered and disposed of at the site. Litter that travels onto adjacent lands from the project site or that falls from vehicles transporting waste to the site can be a nuisance for adjacent landowners, residents along the haul routes, and local travelers. While the project operator would be required by Title 27 and Title 14 to control litter that creates a safety hazard, nuisance, or similar problem, the proposed project's increased waste acceptance could increase litter along local haul routes near the landfill. Therefore, litter impacts along local haul routes related to the proposed project would be significant. | Significant | The operator shall implement and fund a litter pick-up program on the adopted haul route to the landfill entrance that provides for inspection and removal of any litter at least three times per week. All complaints received from the public about litter or calls to the litter hotline shall be reported to Integrate Waste Management monthly. Complaints about litter shall be responded to within 48 hours. | Less Than Significant |
| **4.10-4: Exposure to Hazardous Materials within the Class I Area.** The proposed project includes clean closing the Class I facility to minimize potential public health risks. With the clean closure of this facility, the long-term risk of public exposure to hazardous materials would be eliminated. Therefore, this impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.10-5: Vector Nuisances.** The increased tonnage accepted at the landfill could increase vector populations at the site. However, the current operational procedures required to control vectors would continue to control vectors at the site. In addition, the regular pumping of water out of the on-site detention basins for dust control purposes and the distance from population centers would minimize mosquito populations and their effects on humans. Therefore, this impact would be considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.10-6: Hazards from Increased Landfill Gas.** An increase in the peak daily tonnage at the landfill would result in an increase in daily methane generation, which | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| could increase hazards associated with landfill gas. However, expanded operation of the landfill gas collection system as the landfill expands would ensure this impact remains less than significant. | | | |
| **4.10-7: Exposure of People or Structures to Wildland Fires.** The expanded operations at the project site could increase the potential for wildland fires. However, with proper operation of the facility, the potential for the proposed project to increase wildland fire risks would be minimal. This impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.11 Aesthetics** | | | |
| **4.11-1: Impacts on Scenic Vistas or Visual Character.** The project site, including the proposed expansion area, makes up part of the background views from publicly accessible areas and roadways to the west, south, and east of the site. The proposed expansion would be visually prominent in middle ground or background views for many sensitive viewers, including motorists on local roadways and viewers from publicly accessible areas throughout the surrounding valleys. Because the proposed expansion would affect the appearance of the hills that contribute to the surrounding visual character, this impact would be significant. | Significant | Implement the following mitigation measures to reduce the project's effects on visual character.<br><br>• Locate soil stockpiles adjacent to the western and eastern expansion boundaries to provide visual screening when the active landfill operations are at lower elevations. Vegetate with native grasses any soil stockpiles that remain in place for longer than six months.<br><br>• Design and construct landfill modules so that initial waste placement or a perimeter soil containment provides a visual barrier between the active working face and offsite observers where feasible and safe to do so. For example, a soil containment berm will be constructed at the west ends of the landfill and/or the landfill will be excavated below grades so that initial filling will be out of site. To the degree feasible, when each lift (10- to 20-foot-thick layer of waste) is placed, a berm of waste will be placed on the outside edge of the lift first and covered with daily soil cover to obscure filling of the remaining lift. | Significant and Unavoidable |
| **4.11-2: Damage to Scenic Resources within a State Scenic Highway.** The change in the visual character of the project site as the landfill expansion progresses has the potential to alter the visual landscape as viewed from State | Significant | Implement Mitigation Measure 4.11-1. | Significant and Unavoidable |

| Table 2-1 Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| Route 25. Because State Route 25 is eligible to be designated as a State Scenic Highway, this change in views from the highway would be considered a significant visual impact. | | | |
| **4.11-3: Impacts from Lighting and Reflective Surfaces.** The project would require very limited new security lighting in the vicinity of on-site buildings, well below the limits established in the County Zoning Code. The project would not include the use of substantial reflective surfaces. This impact is considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.12 Public Services, Utilities and Energy** | | | |
| **4.12-1: Water Supply and Demand.** The proposed project would be served by water infrastructure to be constructed at the project site that has adequate capacity to meet the project's water demand consecutive average rainfall years. In addition, two separate sources of importable water supply are available that would meet the project demands when the onsite water infrastructure is insufficient. The project would not require the relocation or construction of new water infrastructure that would cause significant environmental effects. In addition, it would be able to adapt to potentially reduced water supplies during normal, dry and multiple dry years. Therefore, this impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.12-2: Wastewater Demand.** Implementation of the project would increase the generation of wastewater from the project site. Existing wastewater facilities would be adequate to serve the project. This impact is considered less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.12-3: Generation of Solid Waste.** The proposed project would generate negligible solid waste and would not affect the landfill's waste disposal capacity. Overall, the project would substantially increase solid waste capacity. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| Therefore, the project's impact on solid waste disposal would be considered less than significant. | | | |
| **4.12-4: Increased Demand for Fire Protection, Law Enforcement and Emergency Medical Services.** Development of the proposed project would increase the demand for fire protection, law enforcement and emergency medical services due to the increase in waste tonnage accepted at the site. The proposed project would be required to be designed and constructed consistent with the Uniform Fire Code requirements and would not include any components that would impede response times or require the relocation or construction of new facilities. Therefore, this impact would be less than significant. | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |
| **4.12-5: Increased Energy Demand.** Project implementation would increase energy demand during both construction and operation of the proposed project. Construction and operation of the proposed buildings on the site would be required to comply with the energy efficiency standards included in Title 24 and with air quality and greenhouse gas mitigation measures identified in Section 4.3, Air Quality, and Section 4.4, Greenhouse Gas Emissions, which would reduce the project's energy demands. In addition, the project includes the installation of a renewable natural gas facility that would provide a net increase in energy supply that would offset the use of energy associated with the proposed project's solid waste operations. Out-of-County transportation energy impacts would be minimized by removal of recyclable and compostable materials prior to transport of the residuals to JSRL, and consolidation of loads into fuel-efficient transfer trucks designed for transporting loads to landfills. Therefore, the project would not be expected to cause the inefficient, wasteful or unnecessary consumption of | Less Than Significant | No mitigation measures would be necessary. | Less Than Significant |

| Table 2-1<br>Summary of Environmental Impacts and Mitigation Measures | | | |
|---|---|---|---|
| **Impacts** | **Significance Before Mitigation** | **Mitigation Measures** | **Significance After Mitigation** |
| energy and would not be expected to conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact is considered less than significant. | | | |

# 3 PROJECT DESCRIPTION

## 3.1 PROJECT OVERVIEW

The proposed John Smith Road Landfill (JSRL) Expansion Project (proposed project) includes a 388.05-acre northern expansion of the existing 95.16-acre JSRL. This expansion would increase the landfill's disposal capacity, expand the total waste footprint, increase the maximum permitted elevation of the final landfill, and increase the maximum permitted daily tonnage accepted at the JRSL. To accommodate these changes, several operational changes are also being proposed, which are described in further detail below.

## 3.2 PROJECT LOCATION

The proposed project site is located at the JSRL and on 388.05 acres of land directly east, north and west of the JSRL (Figures 3-1, 3-2 and 3-3). The JSRL is located at 2650 John Smith Road approximately 2 miles directly east of the eastern boundary of the City of Hollister. The site is located in a hilly rural area east of the Hollister Valley and west of the rural Santa Ana Valley in unincorporated San Benito County. Access to the site is provided from John Smith Road, which provides access to the proposed project site from State Routes 25 and 156 via Fairview Road.

The existing 95.16-acre JSRL includes two parcels owned by San Benito County that total 90.05 acres (Assessor Parcel Numbers [APN] 025-190-073 and 025-190-074) and one 5.11-acre parcel owned by the City of Hollister (APN 025-190-072) (Figure 3-4). The two County-owned parcels contain the operating Class III JSRL. Class III landfills only accept non-hazardous waste for disposal. The City of Hollister parcel includes a closed Class I facility (waste disposal area) covering less than an acre. Class I landfills may accept both hazardous and nonhazardous wastes for disposal. The Class I facility was constructed and permitted for the disposal of liquid hazardous wastes containing agricultural pesticide residues and operated from 1977 to 1983. It was capped and closed in 1992 and is currently used as a location to stockpile soil for the Class III portion of the JSRL. The JSRL is surrounded by range land and is bounded on the south by John Smith Road.

The 388.05-acre expansion property is located on portions of three parcels (APNs 025-190-011, 025-190-027, and 025-190-038). The County also owns 101.3 acres directly south of the JSRL and John Smith Road (APN 025-190-075) (Figure 3-3). A 30-acre portion of this 101.3-acre County-owned property was previously considered for use as a resource recovery facility. The County approved a Resource Recovery Park District zoning overlay, but has not approved a project.

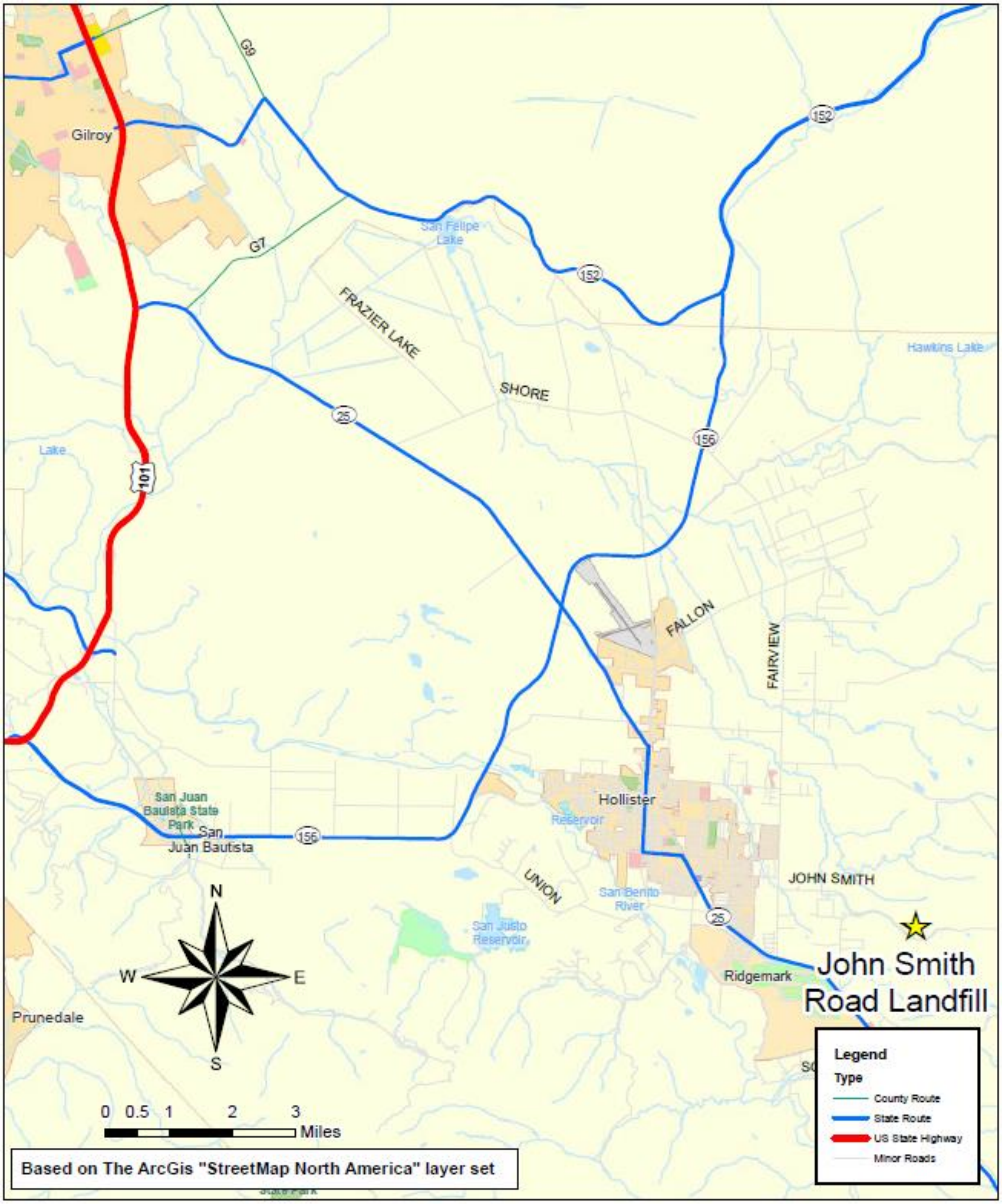
## 3.3 PROJECT OBJECTIVES

Consistent with CEQA Guidelines Section 15124(b), the proposed project's objectives include the following:

- Provide a minimum of 50 years of local waste disposal capacity for the benefit of County residents;
- Provide regional solid waste disposal capacity;
- Minimize any adverse environmental impacts of landfill operations;
- Maintain a stable and relatively predictable cost structure for solid waste disposal, for the benefit of the County and its residents;
- Provide net positive revenue to the County and to the applicant, from tipping fees and other possible sources, to defray cost of expansion and provide general fund revenues for solid waste diversion and other programs;

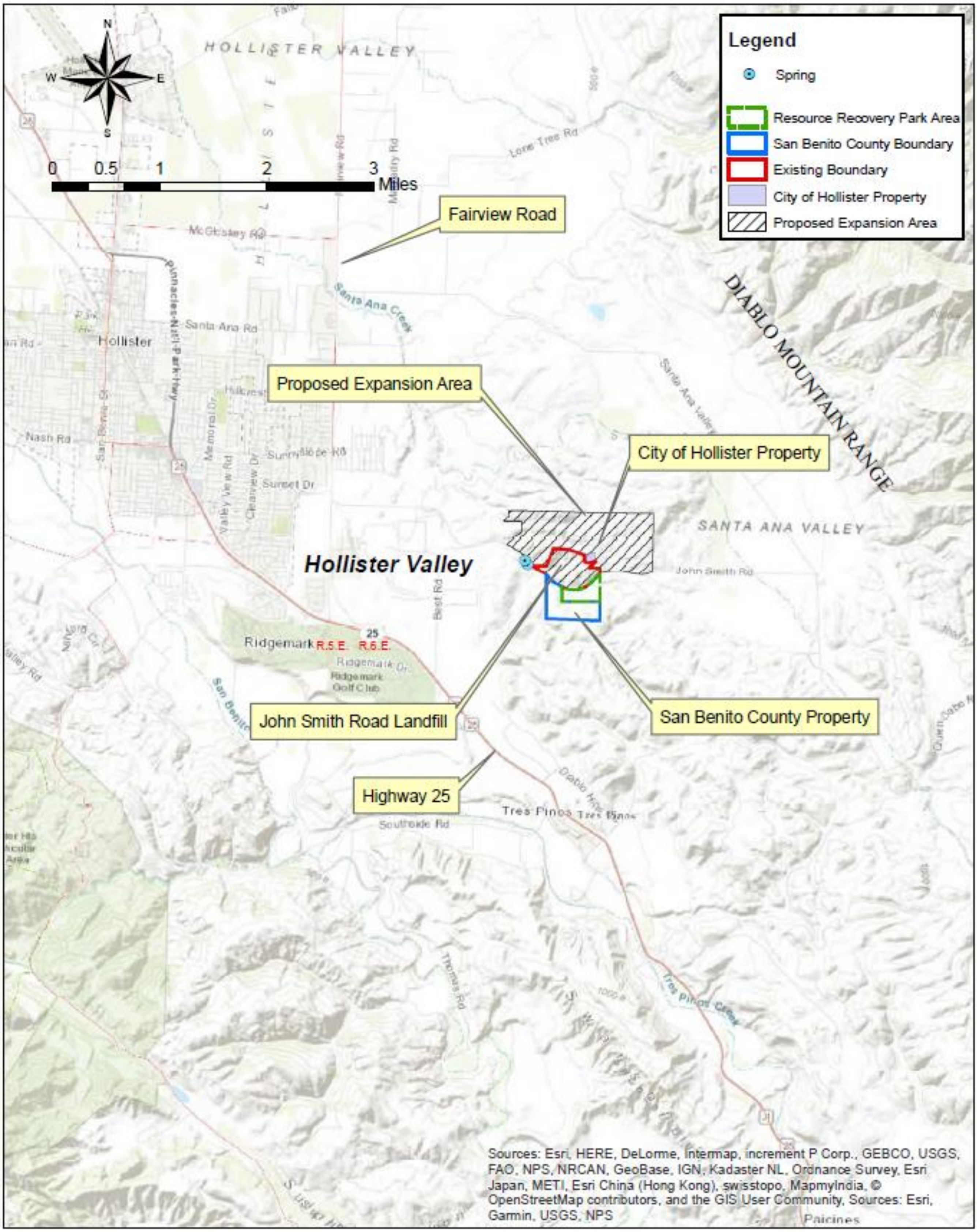
Source: Lawrence & Associates 2021

**Regional Map** **Figure 3-1**




Source: Lawrence & Associates 2021

**Project Vicinity Map** **Figure 3-2**




Source: Lawrence & Associates 2021

**Property Boundaries** **Figure 3-3**

- Reduce or eliminate existing traffic hazards associated with queueing on John Smith Road;
- Minimize future public health risks and liabilities and provide additional landfill disposal space by clean closing the existing Class I Area;
- Reduce greenhouse gas emissions by expanding conversion or reuse of landfill gas; and
- Support the County's compliance with evolving State requirements for recycling, waste recovery, and organics diversion.

## 3.4 EXISTING SETTING

Located near the south end of the Santa Clara Valley, the project site is bounded by the hills of the Diablo Range to the east and Coast Ranges to the west. Within the Santa Clara Valley, the terrain surrounding the site consists of rolling hills ranging from roughly 840 feet above mean sea level (msl) on the hilltops to 630 feet msl in the valley bottoms located between the Santa Ana Valley to the east and Hollister Valley to the west. The climate of the region can be best described as Mediterranean. The summers are hot and dry, and winters are mild and wet. The rainy season typically extends from November to April.

### 3.4.1 EXISTING LANDFILL OPERATION AND CONFIGURATION

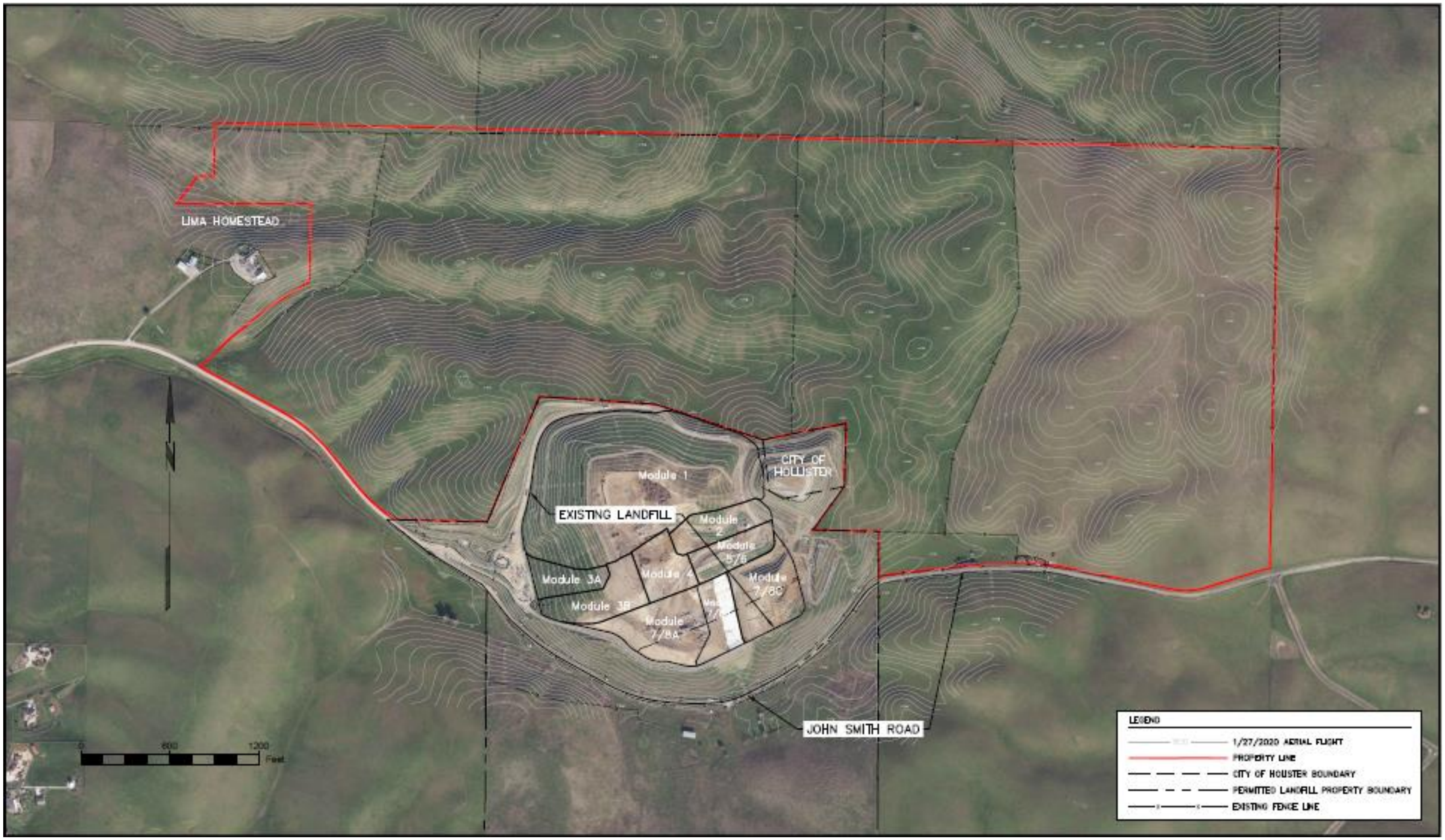
Customers delivering waste and recyclable materials to the landfill include the general public (typically light-duty trucks and trailers) and commercial haulers (typically route collection trucks, transfer trucks, and contractors). These customers enter the landfill through the entrance from John Smith Road and proceed to the scales and scale house where loads are weighed. A small recycling drop-off area for recyclables and electronic waste (such as televisions and computers) is located near the outbound scale for public convenience. A household hazardous waste (HHW) facility is located near the entrance and is used by the San Benito County Integrated Waste Management Regional Agency for HHW recycling events and other special disposal events (12 events each year) and is used for storage of hazardous wastes as needed. There are additional special recycling events at the landfill throughout the year (about 6 events each year). The scale house and landfill office are both located in a single-wide portable building. A second portable building is used for an employee break room.

Waste loads are directed to the landfill working face for burial or to temporary piles for bulk reuse/recycle such as green/wood waste and concrete. Waste deposited at the landfill working face is covered daily either by alternative daily cover (ADC), such as tarps, processed construction debris or other materials, or by soil.

In California, landfills that accept non-hazardous waste are called "Class III" landfills (per Title 27 CCR §§ 20220 and 20230). The currently operating, approximately 90.05-acre, Class III JSRL property is owned by San Benito County. San Benito County contracts out landfill operations to the operator of record, Waste Solutions Group of San Benito, LLC, a wholly owned subsidiary of Waste Connections. San Benito County Integrated Waste Management, a division within the County's Resource Management Agency, oversees the Landfill Operating Agreement and contract compliance with the Operator.

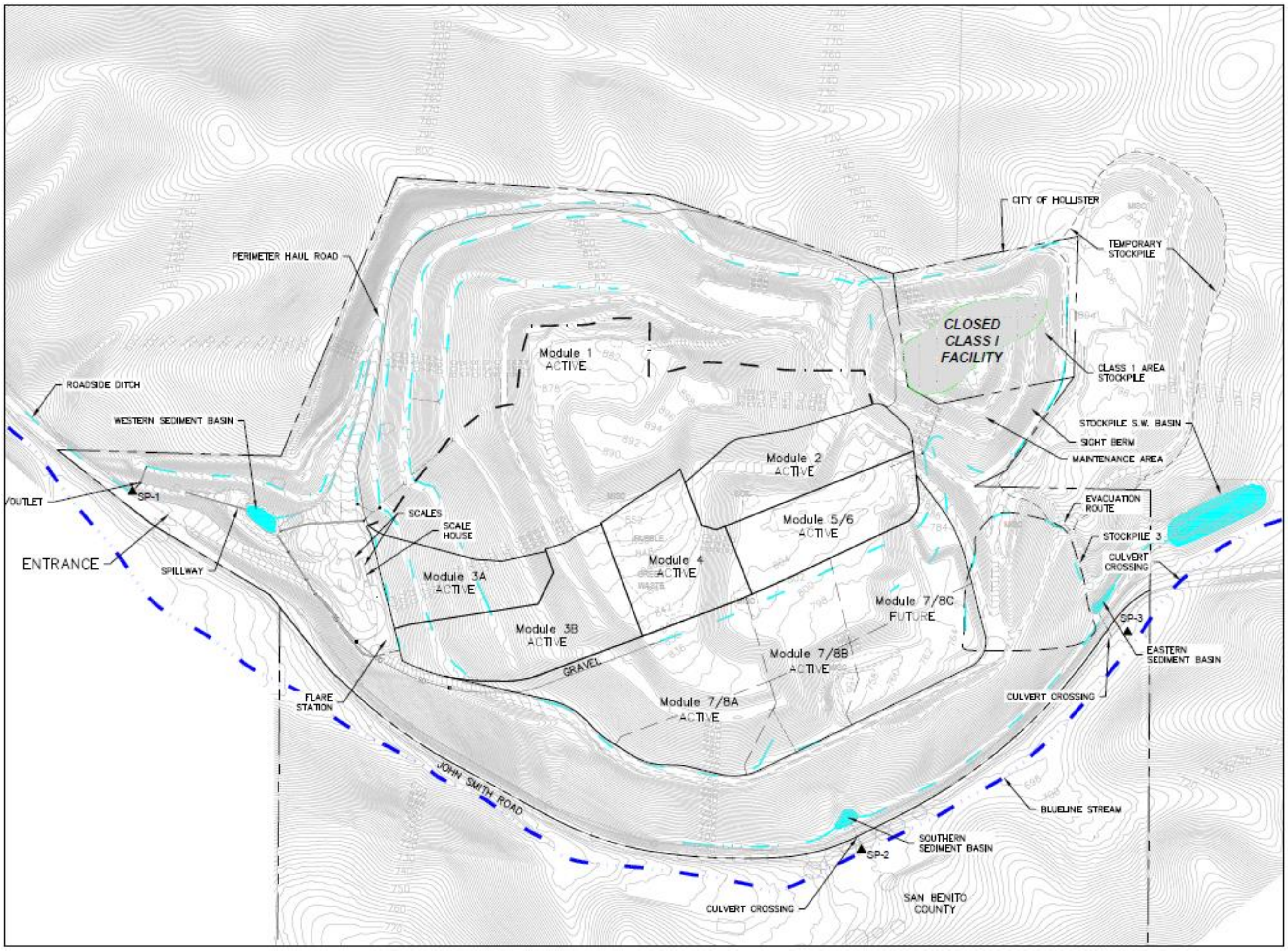
The JSRL has been developed in modules (Figure 3-5). Module 1 is an approximately 29-acre unlined portion of the landfill that reached its current footprint in 1993. The subsequently developed approximately 29-acre portion of the landfill (Modules 2 through 8) has a composite liner system and leachate collection and recovery system (LCRS) in accordance with State and Federal standards.

Adjacent to the operating Class III JSRL property, on a 5.11-acre parcel owned by the City of Hollister, is a closed "Class I" (per California Health and Safety Code §25141) surface-impoundment facility that contains potentially hazardous agricultural pesticide residues. The Class I facility was constructed and permitted for the disposal of liquid hazardous wastes and operated from 1977 to 1983. The Class I facility




Source: Lawrence & Associates 2021

**Existing Landfill and Expansion Area Boundary (in Red)** **Figure 3-4**




Source: Lawrence & Associates 2021

## Current Landfill Modules **Figure 3-5**

contained two impoundments. Impoundment 1 was the 0.43-acre primary disposal unit and accepted liquid hazardous wastes, mostly pesticide rinsate. Impoundment 2 (0.36 acres) was designed for storm water and overflow from Impoundment 1. The Class I facility was capped and closed in 1992 and is currently used as a location to stockpile soil for the Class III facility. The Class I facility and surrounding City of Hollister property are collectively called the "Class I Area" in this document.

The Class III landfill is operated under a Solid Waste Facility Permit issued by the California Department of Resources, Recycling, and Recovery (CalRecycle). CalRecycle regulates the operational aspects of landfills. The Class III landfill is also operated under Waste Discharge Requirements (WDR) and a Monitoring and Reporting Program (MRP) No. R3-2014-0047 issued by the Central Coast Regional Water Quality Control Board (CCRWQCB). In addition, in 2020, the CCRWQCB issued region wide General Waste Discharge Requirements Order No. R3-2020-001 that are the prevailing standard for all landfills in the Central Coast Region. The General Order will be implemented at the JSRL when a site-specific MRP is issued.

The Class I facility is regulated by the California Department of Toxic Substances Control (DTSC) under a Post-Closure Permit.

Because the Class I Area is adjacent to the Class III facility, the surface drainage and groundwater monitoring for the two facilities have been coordinated and addressed concurrently in the permitting of the Class III facility by the CCRWQCB.

## 3.4.2 HISTORY OF EXISTING LANDFILL OPERATION

### CLASS III LANDFILL AND ADJACENT CLASS I AREA

The JSRL began receiving waste in 1968 and was permitted to receive nonhazardous municipal and industrial waste and hazardous waste. At the time filling began, separation of hazardous from nonhazardous waste was not required by the regulations. Beginning in 1974 and ending in 1977, hazardous waste discharge was confined to an area that is now the northeast portion of the Class III landfill (within Module 1). In 1977, the City of Hollister developed the Class I impoundments described above to dispose of pesticide rinsate. Since 1977, the Class III landfill has received only nonhazardous municipal solid waste (Golder Associates 2012).

In September 1984, all liquids were removed from Impoundment 1 in the Class I facility, and in 1988, a Hypalon® interim cover was placed over waste residue in Impoundment 1. An interim cover was not needed on Impoundment 2 because contaminant concentrations in the soil beneath the impoundment were low.

In January of 1990, San Benito County Department of Environmental Health approved closure of the two Class I surface impoundments.

On August 29, 1991, San Benito County approved the expansion of the Class III landfill operations to extend the life of the current landfill, and control potential impacts from Household Hazardous Waste. The expansion of operations was limited to resolving inconsistencies in the site’s Solid Waste Facilities Permit regarding the final height, site design, hours of operation, closure and post-closure maintenance, and increasing 'peak' daily tonnage and associated traffic (permitted average daily tonnage remained at 250 tons per day). The reference to controlling potential impacts from household hazardous waste was related to regrading the closed Class I Area to direct surface drainage around the ultimate footprint of the active Class III landfill. Construction of the closure cap for the Class I facility was completed in the summer of 1992.

In April 1996, the California Environmental Protection Agency approved a post-closure permit for the Class I Area and corrective action requirements for the Class III portion of the landfill. The first Class I Area Post-Closure Permit was subsequently issued by DTSC in June 1996. The permit required groundwater monitoring and corrective action downgradient (to the southeast) of the Class I Area and northeast portion of the Class III area.

In 1993, new federal regulations (40 CFR Part 258, Subtitle D – commonly referred to as “Subtitle D” regulations) came into effect, requiring that all new landfill areas commenced after October 9, 1993 be lined with a liner system that includes a geomembrane and leachate collection and recovery system. At that time, the limits of the unlined portion of the landfill (Module 1) were established. All future modules were required to be lined in accordance with the new Subtitle D regulations.

In December 2001, the San Benito County Department of Environmental Health approved increasing the waste footprint from 29 acres to 44 acres within a 65-acre landfill property (of which approximately eight acres was the Class I Area), re-grading the Class I Area to drain, adding waste processing/recovery, and resolving inconsistencies in permitting such as including final height within current topography, site design, hours of operation, closure and post-closure maintenance, and increasing “peak” daily tonnage and associated traffic, increasing the maximum daily tonnage, and establishing peak volume traffic.

In November 2003, the DTSC issued a new Hazardous Waste Facility Post-Closure Permit for the Class I Area with an effective date of December 8, 2003 (Golder Associates 2012).

For the Class III area, the first lined module (Module 2) was constructed in 2008. Module 3A was constructed in 2009, and Module 3B was constructed in 2011.

In September 2012, San Benito County approved a vertical expansion over existing Modules 1 through 6, a lateral expansion of 13.6 acres to a total of approximately 58 acres of waste footprint, perform lot-line adjustments to increase the Class III landfill property by 33.81 acres to approximately 90.05 acres, and decrease the Class I property by 3.05 acres to 5.11 acres, increase the permitted daily tonnage from 500 tons per day to 1,000 tons per day to provide the potential for accepting out-of-County waste, and a General Plan Amendment to change the land use designation of the property from Agricultural to Public Quasi Public to be consistent with the landfill's historical land-use. In March 2013, the County clarified the operating parameters of the landfill including a maximum elevation of 920 feet above mean sea level (msl), increase in design capacity to 9,354,000 cubic yards, and to allow designated recyclable materials not to be counted towards daily permitted tons per day.

Module 4 was constructed in 2013, and Modules 5 and 6 were constructed in 2015.

Prior to 2015, San Benito County, as owner of the landfill, performed permitting and maintained the financial mechanisms for final closure, potential foreseeable groundwater release, non-groundwater release, and operating liability insurance. In 2015, Waste Solutions Group of San Benito, LLC, a subsidiary of Waste Connections, assumed these responsibilities as operator of the landfill under an agreement with San Benito County.

In August 2017, San Benito County approved an updated Class I Area Post-Closure Permit. The Class I Area Post-Closure Permit allows for stockpiling soil from the Class III area on top of the closed Class I Impoundment areas.

The first portions of Modules 7 and 8 (Module 7/8A) were constructed during the summer of 2018. Module 7/8B was constructed in 2019 and Module 7/8C was constructed in 2020.

#### County Property South of John Smith Road

An approximately 30-acre portion of the 101.3-acre parcel located south of John Smith Road Landfill has previously been considered for use as a resource recovery park (APN 025-190-0290). In 2010, San Benito County proposed to rezone the 30-acre site to Heavy Industrial to provide for the phased development of a resource recovery park for recycling, energy generation, and industrial uses. The County prepared, but did not certify, a Final Environmental Impact Report in 2011 for a resource recovery park on the property. San Benito County subsequently developed and modified a Draft Environmental Impact Report (Environmental Stewardship & Planning, Inc. 2013), and certified a Final Environmental Impact Report in 2014 to support creation of a new combining/overlay zone called Resource Recovery Park (RRP). The intent of the RRP combining/overlay zone was to provide increased private opportunities to facilitate temporary solid waste storage, transfer, treatment, processing, source separation and recovery, disposal, recycling, reusable item centers, recycled content manufacturing, construction and demolition materials sort lines, wood and green waste grinding facilities, and energy projects. In February 2014, the County Board of Supervisors approved the RRP combining/overlay zone project. No development has occurred within the area designated with the RRP combining/overlay zone.

### 3.4.3 Current Waste and Recyclable Acceptance Rates

The currently permitted daily maximum tonnage for municipal solid waste is 1,000 tons per day. This limit does not include recyclables or materials for beneficial reuse, for which there is no maximum. Materials for beneficial reuse include items that may be used for alternative daily cover. Table 3-1 summarizes the waste and recyclables acceptance rates for 2016 through 2020.

**Table 3-1**
**Quantities of Materials Received at JSRL (2016 through 2020)**

| Material | 2016 (tons) | 2016 (percent) | 2017 (tons) | 2017 (percent) | 2018 (tons) | 2018 (percent) | 2019 (tons) | 2019 (percent) | 2020[4] (tons) | 2020 (percent) |
|---|---|---|---|---|---|---|---|---|---|---|
| Total Tons Inbound, annual | 341,059 | 100% | 342,923 | 100% | 364,923 | 100% | 376,881 | 100% | 346,113 | 100% |
| Unweighed Mixed Recycle, annual | 18 | <0.01% | 70 | <0.01% | 82 | <0.01% | 63 | <0.01% | 83 | <0.01% |
| Onsite Recycle, annual (Soil, Concrete, Asphalt) | 25,988 | 7.62% | 39,707 | 11.58% | 62,936 | 17.25% | 61,204 | 16.24% | 57,829 | 16.71% |
| Woodchips and Mulch Used On-site as Erosion Control, annual | 33,275 | 9.76% | 12,097 | 3.52% | 10,764 | 2.95% | 16,572 | 4.40% | 14,423 | 4.11% |
| Buried Tonnage, annual | 314,807 | 92.30% | 308,098 | 89.85% | 291,311 | 79.82% | 299,069 | 79.35% | 270,344[3] | 78.11% |
| Tons of out-of-County waste for burial | 256,569 | 81% | 243,791 | 79% | 223,471 | 77% | 233,026 | 78% | 197,393[3] | 73% |
| Tons of in-County waste for burial | 58,238 | 18% | 64,307 | 21% | 67,840 | 23% | 66,043 | 22% | 72,951[3] | 27% |
| Total Average Daily Tonnage[1] | 945 | - | 950 | - | 1,011 | - | 1,044 | - | 956 | - |
| Average out-of-County Tons per Day | 711 | 83% | 675 | 81% | 619 | 81% | 645 | 82% | 545 | 79% |
| Average in-County Tons per Day | 161 | 17% | 178 | 19% | 188 | 19% | 183 | 18% | 202 | 21% |
| Average Daily Buried Tonnage | 872 | - | 853 | - | 807 | - | 828 | - | 747 | - |
| Peak Daily Buried Tonnage | 1,028[2] | - | 997 | - | 999 | - | 954 | - | 999 | - |
| Total Peak Daily Tonnage[1] | 1,679 | - | 1,482 | - | 2,230 | - | 2,271 | - | 1,914 | - |

1 Quantity includes both waste and materials used for erosion control and on-site recycle.
2 Inadvertently exceeded permitted tonnage on 1/26/2016 – reported to Local Enforcement Agency.
3 Preliminary value reported to CalRecycle by JSRL.
4 2020 was a leap year and had 362 operating days.
Source: Waste Connections 2021. Averages are based on 361 day per year

### 3.4.4 PERMITTED VEHICLE LIMIT

The current maximum permitted number of vehicles allowed to enter the site is 600 vehicles per day including employee and visitor vehicles. Table 3-2 summarizes the average and peak number of waste vehicles entering the facility from 2016 through 2020. Table 3-2 does not include employee and visitor vehicles, which would be expected to add an additional 15 vehicles per day. Table 3-3 identifies the year 2020 total average and peak vehicles entering the site per day inclusive of employees and visitors. Table 3-3 separately identifies the vehicle origins, distinguishing whether they were from within the county or from outside of the county.

As shown on Table 3-2, the peak trips for 2020 occurred on Saturday, June 27, 2020, with 454 trips crossing the scales. This date was a special event day (on a weekend) with much higher-than-normal traffic. For previous years, the peak day was also during special events. Based on the 2020 transaction records, during the June 27 event, approximately 94 percent of the trips were from within San Benito County of which 64 percent were self-haul residential and 30 percent were in-County commercial. Of the total trips, approximately 19 percent were for recycling of bulky items (such as mattresses and couches). Special events are typically scheduled so as not to correspond to household hazardous waste collection days.

Of the five years presented in Table 3-2, the year with the highest peak self-haul vehicle trips and peak total trips was 2017. The next highest peak self-haul and total vehicle trips occurred in 2020. The highest peak commercial vehicle trips occurred in 2019. The highest total peak vehicle trips during a special event occurred in 2017.

Because they represent the most recent full year vehicle counts relative to the Notice of Preparation, the 2020 average and peak vehicles identified in Table 3-3 establish the baseline of existing vehicle trip conditions for impact assessment purposes. Although the 2020 peak vehicle counts are lower than recorded in 2017, they most closely represent the baseline vehicle count conditions established when the Notice of Preparation was released on February 22, 2021.

**Table 3-2**
**Annual and Daily Waste Vehicles Entering the Landfill 2016-2020**

| Vehicle Type | 2016 | 2016 Daily Ave. | 2016 Peak (date) | 2017 | 2017 Daily Ave. | 2017 Peak (date) | 2018 | 2018 Daily Ave. | 2018 Peak (date) | 2019 | 2019 Daily Ave. | 2019 Peak (date) | 2020 | 2020 Daily Ave. | 2020 Peak (date) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Self-haul | 48,005 | 133 | 294 (9/24) | 57,090 | 158 | 381 (9/24) | 52,289 | 145 | 311 (3/31) | 53,283 | 172 | 287 (6/01) | 63,066 | 175 | 355 (1/18) |
| Comm. | 23,872 | 66 | 42 (9/24) | 22,897 | 63 | 39 (9/24) | 25,770 | 71 | 53 (3/31) | 22,013 | 68 | 86 (6/01) | 22,547 | 62 | 53 (1/18) |
| Total | 71,877 | 199 | 336 (9/24) | 79,987 | 222 | 420 (9/24) | 78,059 | 216 | 364 (3/31) | 75,296 | 240 | 373 (6/01) | 85,613 | 238 | 408* (1/18) |
| SE Peak | | | 350 (3/26) | | | 499 (3/11) | | | 383 (9/22) | | | 397 (6/22) | | | 454 (6/27) |

All daily averages are based on 361 operating days.
Peak vehicle numbers exclude bulky item disposal days and employee trips. Fifteen employee vehicles typically arrive at the site per day.
Special Event (SE) Peak is the peak vehicles including special Bulky Item event days.
Waste sources: Approximately 22% of waste comes from San Benito County and approximately 48% comes from Gilroy, Morgan Hill, and unincorporated portions of Santa Clara, Monterey, and Santa Cruz counties. Of the remaining waste, approximately 26% comes from south Bay Area, approximately 3% comes from north Bay Area, and less than 1% comes from other areas (excluding beneficial re-use materials) (CalRecycle 2019).
*Corresponded with a HHW collection day.
Comma. = Commercial vehicle type
Ave. = Average
Source: Waste Connections 2021.

| Table 3-3<br>Existing (2020) Average and Peak Vehicles Including Employees and Visitors | | |
|---|---|---|
| **Vehicle Categories** | **Current Average Vehicles Per Day** | **Current Peak Vehicles Per Day** |
| In-County Residential/Self Haul Vehicles including HHW, Employees and Visitors | 188 | 433 |
| In-County Commercial Vehicles | 31 | 9 |
| **Subtotal** | **219** | **442** |
| Out-of-County Commercial Vehicles | 36 | 27 |
| **Total** | **255** | **469** |
| Source: Lawrence & Associates 2021. | | |

### 3.4.5 CURRENT PERMITTED SITE CAPACITY

Under the current Solid Waste Facilities Permit (SWFP) issued by CalRecycle, the landfill has a permitted gross airspace capacity of 9,354,000 cubic yards on approximately 58 acres of disposal area. "Gross" capacity includes the volume of waste, daily cover, intermediate cover, liner components, and closure cap. "Effective" airspace capacity includes only waste, daily cover, and intermediate cover, and is the useful capacity of the landfill. Effective capacity is used for capacity planning and site-life estimation purposes. The landfill has a remaining effective capacity of approximately 1,613,000 cubic yards as of February 2021 (Lawrence & Associates 2021).

### 3.4.6 MATERIALS ACCEPTED AT THE LANDFILL

The waste received at the JSRL consists of non-hazardous residential, commercial, and industrial solid waste classified in 27 CCR §20220(a) as Class III wastes. Class III wastes are all putrescible and nonputrescible solids, including garbage, trash, waste, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, discarded home and industrial appliances separated for recycling, manure, vegetable or animal solid or semi-solid wastes, treated wood waste, and other discard waste (whether solid or semi-solid consistency); provided that such wastes do not contain wastes that must be managed as hazardous wastes, or wastes that contain soluble pollutants in concentrations that exceed applicable water quality objectives or could cause degradation of waters of the state.

Typical residential non-hazardous waste includes household waste, tree and lawn clippings, leaves and brush, scrap lumber and metal, appliances (which are separated from the incoming waste), furniture, wood chips, plastic containers, newspapers, cardboard, and glass containers. Commercial and construction and demolition waste typically includes food wastes, agricultural wastes, paper, corrugated cardboard, plastic, rubber, glass, mixtures of concrete, asphalt, wood, steel, brick, and non-friable asbestos wastes.[1] Inert wastes, such as cured asphalt and concrete, received at the landfill, are stockpiled, and utilized for the construction of a winter deck area and for maintenance of the internal roads and drainage-control facilities on the landfill. Tires, mattresses, and motor oil are accepted and temporarily stored until they are removed by a recycler.

Prior to 2020, processed (ground) green waste and wood waste were considered to be a recycled and diverted material for beneficial reuse as alternative daily cover (ADC). As of January 1, 2020, Assembly Bill (AB) 1594 no longer allows use of green material as an ADC. However, green waste and wood waste may be considered beneficial reuse when used for erosion control. In 2020, the landfill received 14,400 tons of wood and green waste of which less than 1 percent was from out of county sources. The materials were processed by chipping and

[1] Non-friable asbestos is asbestos containing material that has been tested and determined to be less than 1 percent asbestos and is encapsulated. Test results must be submitted to landfill personnel prior to disposal.

grinding and stockpiled for re-use. The current landfill operations include accepting, stockpiling, and processing green waste and wood waste but do not include a long-term method of reuse other than for beneficial reuse on site. The maximum allowable thickness for the application of green waste and wood waste for erosion control on facility surfaces is 12 inches. Any excess green waste or wood waste that is received at the site and is unable to be used for erosion control, would be exported from the site to either a permitted green waste/wood waste composting/processing facility or to another location with a demand for this type of waste.

### 3.4.7 WASTE MATERIAL SOURCES

Waste sources are divided into four categories:

- *In-County self-haul/residential waste*. This category includes material delivered by residents of San Benito County that bring their own municipal solid waste and do not have a commercial account with the landfill. This category may also include some contractors that do not have commercial accounts.

- *In-County commercial municipal solid waste*. This category includes loads from companies that have a commercial account with the landfill. The majority of the tonnage from this category is from waste-collection companies and is delivered by garbage trucks or in roll-off bins. This category also includes numerous demolition and construction contractors and includes governmental agencies.

- *Out-of-County self-haul commercial*. This category is similar to in-County self-haul/residential but is from outside San Benito County. There are very few loads in this category and it is considered negligible.

- *Out-of-County commercial*. This category is for municipal solid waste from outside the County, much of this waste comes from transfer stations in other counties or other commercial accounts from outside San Benito County.

The JSRL receives waste for burial, waste for beneficial reuse and recyclables from within the cities of Hollister, San Juan Bautista, and the unincorporated portions of San Benito County (in-County waste). The landfill also has historically received waste from the nearby communities of Gilroy, Morgan Hill, and the unincorporated portions of Santa Clara, Monterey, and Santa Cruz counties and in the past 15 years or so, has accepted waste from cities and counties in the south San Francisco Bay Area, and to a lesser extent farther away. According to the most recent record available from CalRecycle (2019), which excludes beneficial reuse materials, approximately 22 percent of the waste comes from San Benito County and approximately 48 percent comes from the adjacent cities of Gilroy, Morgan Hill, and the unincorporated portions of Santa Clara, Monterey, and Santa Cruz counties. Of the remaining waste, approximately 26 percent comes from cities in the south Bay Area, approximately 3 percent comes from the north Bay Area, and less than one percent comes from other areas.

## 3.5 PROPOSED PROJECT

The proposed project includes a 388.05-acre northern expansion of the existing 95.16-acre JSRL. This expansion would increase the landfill's disposal capacity, expand the total waste footprint, increase the maximum permitted elevation of the final landfill, and increase the maximum permitted daily tonnage accepted at the JRSL.

To accommodate these changes, several other revisions to the landfill facility also are proposed. These include expanding the landfill entrance area to accommodate additional daily vehicle arrivals and reduce vehicle queuing on John Smith Road, expanding the site's environmental control and monitoring systems, constructing a renewable natural gas facility, expanding litter and dust control site-wide, clean closing the current 5.11-acre Class I Area owned by the City of Hollister under the supervision of DTSC and converting it to a disposal area for Class III waste, establishing a new haul route for out-of-County trucks delivering waste to the site, and increasing/altering the site's water supply. Additionally, approximately 70 acres of the 101.3-acre RRP property owned by San Benito County located south of John Smith Road would likely be used for habitat mitigation purposes (Figure 3-3).

The proposed project would require a General Plan amendment (GPA) to change the land use designations of the 388.05-acre expansion property from current Rangeland (RG) and Agriculture (A) designations to Public Quasi Public (PQP), for consistency with the existing JSRL's land use designations and to accommodate the proposed waste disposal activities. The proposed project also requires issuance of a Conditional Use Permit, an Entrance Encroachment Permit, and building and grading permits from San Benito County. The County would also need to amend the San Benito County Integrated Waste Management Plan to include the expansion area.

The proposed project does not include any changes to the site's operating hours. The JSRL is currently open for commercial refuse disposal operations seven days a week during daylight hours. The JSRL currently receives refuse from the public from 8:00 a.m. to 4:00 p.m. Monday through Friday and 9:00 a.m. to 3:00 p.m. on Saturdays and Sundays. No landfill activity is currently occurring or would occur during nighttime hours.

Cattle grazing currently occurs on the 388.05-acre expansion property and would continue until areas are needed for module construction. As the modules are developed, grazing areas would diminish over the life of the landfill. No grazing would occur within 50 feet of landfill modules. However, grazing would continue on undeveloped portions of the site, particularly in the northern and northeastern areas, and would be reintroduced into disturbed areas not containing waste, such as soil stockpile areas, after landfill activities cease at the site.

These proposed project components are described in more detail below.

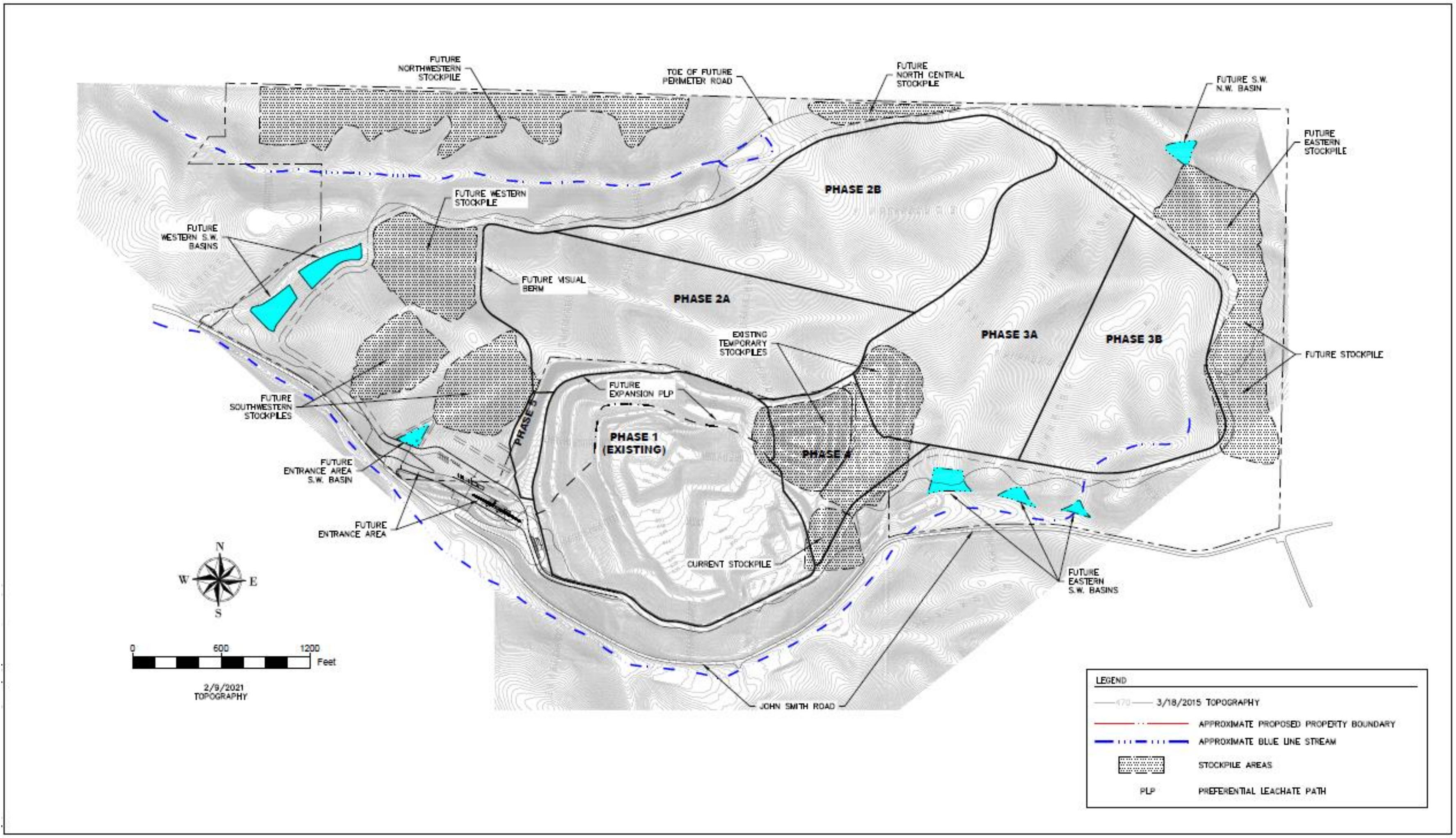
### 3.5.1 Landfill Area and Capacity Expansion

The proposed project includes expanding the existing 95.16-acre landfill onto a 388.05-acre area located directly to the east, north and west to increase the landfill's gross airspace capacity by 48,670,000 cubic yards from its current gross airspace capacity of 9,354,000 cubic yards to a total of 58,024,000 cubic yards (Lawrence & Associates 2021) (Figure 3-6). "Gross" capacity includes the volume of waste, daily cover, intermediate cover, liner components, and closure cap. "Effective" airspace capacity includes only waste, daily cover, and intermediate cover, and is the useful capacity of the landfill. The landfill has a remaining effective capacity of approximately 1,613,000 cubic yards as of February 2021 (Lawrence & Associates 2021), which would increase to 46,421,000 cubic yards with project implementation.

This expansion would increase the waste footprint from 58 acres to a total of 252.74 acres, with the remaining acreage used for roads, soil stockpiles, stormwater detention basins, and open space. In addition to expanding the landfill footprint, the maximum permitted elevation of the final landfill would increase to 949 feet above mean sea level (msl), a 29-foot increase above the current permitted elevation of 920 feet msl and a 49-foot increase above the current peak landfill elevation of approximately 900 feet msl.

Soil from the landfill footprint would be excavated to create individual waste disposal modules and the excavated soil would be used to form perimeter berms, and for daily, intermediate, and final landfill cover. Excavated soil would be stored on the site in stockpiles and the locations of these stockpiles would vary over time depending upon the site's operational needs.

Both permanent and temporary stormwater basins would be constructed and used during the winter for sediment retention and to store stormwater for dust suppression and for construction purposes. As required by Title 27 CCR, stormwater conveyances and basins would be designed to accommodate a 24-hour, 100-year rainfall event. The basins would be managed to ensure that filling during early storm events does not reduce their ability to capture 24-hour, 100-year events. This would be conducted by pre-released water within the basins prior to forecasted storm events. The water would be released in accordance with the site's Industrial Stormwater Program requirements.




Source: Lawrence & Associates 2021

**Proposed Landfill Expansion Phasing** **Figure 3-6**

### 3.5.2 INCREASE IN PERMITTED TONNAGE LIMIT

The proposed project would increase the landfill's permitted daily tonnage limit from 1,000 tons per day to 2,300 tons per day for waste to be buried. The tonnage related to recyclables, materials for beneficial reuse, and direct transfer materials, would not be included in this total. On average, these materials add approximately 25% to the total tonnage of materials delivered to the site (although the percentage varies significantly from day to day).[2]

The existing average daily tonnage of waste received at the site, including the proportions of waste for burial and beneficial reuse, was used to project site life and landfill capacity consumption associated with the proposed project. The existing average daily tonnage is estimated to be 923 tons per day from the January 2021 Fiscal Planning Model (of which 740 tons per day is waste for burial and 183 tons is waste for beneficial reuse). To project average daily tonnage for the proposed project, the following steps were used:

- The existing total average waste tons per day of 923 tons per day were divided by the current permitted limit of 1,000 tons per day = 92.3 percent.
- The proposed peak of 2,300 tons per day was multiplied by 92.3 percent to obtain a projected averaged total waste of 2,123 tons per day.
- The percentages of waste for burial and for beneficial re-use from the 2021 Fiscal Model were calculated to be 80.17 percent burial (740 tons per day) and 19.83 percent (183 tons per day) for beneficial reuse.
- The projected waste for burial was calculated by multiplying the average of 2,123 tons per day times 80.17 percent = 1,702 tons per day for burial.
- The 3-year average in total county waste of 191 tons per day was escalated annually using the California Department of Finance projected population growth rate for San Benito County.
- The average total waste minus in-County waste equals the out-of-County waste.
- The change from the current 923 tons per day to the projected 2,123 tons per day was phased in over 15 years. Over that 15 years, in-County tonnage would increase from 191 tons per day to 215 tons per day, and out of county waste would increase from 732 to 1,900 tons per day assuming that old waste disposal contracts expire an average every 3 years and the out-of-County waste would increase in roughly 234-ton steps every three years.
- The annual airspace consumption was calculated by dividing the total daily tonnage by 0.75 tons of waste per cubic yard of airspace capacity to obtain cubic yards per day filled and multiplying that by 361 operating days per year.
- The annual airspace capacity consumption was subtracted from the remaining airspace every year until approximately 15 years of capacity for in-County waste remained and the airspace consumption was reduced to in-County waste only.

Based on the above calculations, the landfill is projected to receive both in-County and out-of-County waste until 2072 (50 years beginning in 2022, after which the landfill would operate for another 15 years until it reaches its final capacity in approximately 2087). The final site life would vary significantly based on numerous variables including, but not limited to, the final waste acceptance, waste type, waste density, and final volume (if reduced for soil balance or to flatten slopes for slope stability).

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[2] Based on records from 2016 to 2020. Starting in 2022, green waste can no longer be used beneficially for daily cover, and that percentage should decrease somewhat.

### 3.5.3 ESTIMATED PEAK WASTE ACCEPTANCE

The recorded 2020 peak for buried waste of 897 tons per day was just below the permitted limit of 1,000 tons per day (Table 3-1). The 2020 combined peak of buried waste and waste for beneficial reuse was 1,914 tons per day. Peak tonnage is generated during days when a large quantity of waste for beneficial reuse is received. Beneficial reuse materials such as soil and demolition debris are commonly generated during projects of short duration and are received at a higher rate than typical for a limited number of days. The waste is then stockpiled near the landfill working face and used for daily cover over subsequent days. Large beneficial reuse days occur infrequently and usually on weekdays. For example, beneficial waste tonnage exceeded 500 tons on 16 days in 2020 with the duration typically one day and as much as four consecutive weekdays during one event.

For the purposes of estimating project impacts that would be expected when peak waste levels are received at the site, the following are assumed:

- The 2020 total waste peak of 1,914 tons per day including both buried waste and beneficial reuse waste (and excluding recyclables, wood, and green waste) is the peak baseline condition.

- The estimated project total waste peak (i.e., buried waste and waste for beneficial reuse) would be the proposed peak waste for burial of 2,300 tons plus the 2020 peak beneficial reuse tonnage of 1,017 tons equaling 3,317 tons per day. This assumes that the 2020 peak waste for beneficial use would not change significantly in the future.

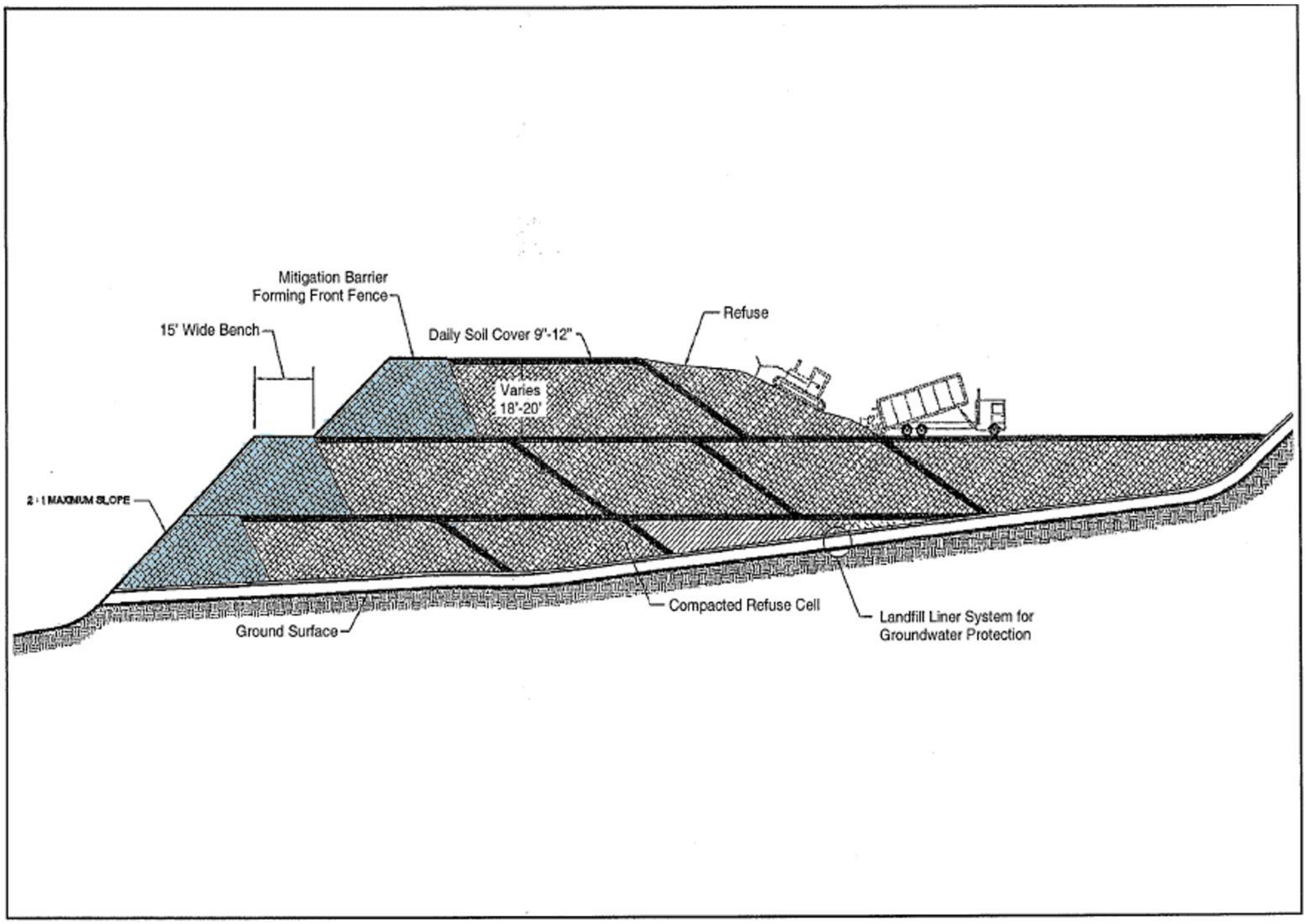
### 3.5.4 LANDFILL DEVELOPMENT SEQUENCING

The proposed expansion area is divided into approximately four phases, most of which would overlap onto the current landfill. The portions of the expansion area that overlie unlined portions of the existing landfill would be lined with a PLP (preferential leachate pathway). Each phase would be divided into individual modules. Modules typically would be sized to provide at least two years of capacity. Excavation for each new module would begin while previously constructed and operating modules are being filled. Excavated material from a new module is stockpiled and used as daily or intermediate cover for the previously constructed modules. For analysis purposes, one module is assumed to be constructed approximately every other year for the 49-year life of the landfill prior to the County-only waste period. The average module size would be approximately 7.8 acres with a total of 25 modules.

The landfill modules are proposed to be developed so that initial waste placement provides a visual barrier between the active working face and offsite observers to the extent feasible. Figure 3-7 identifies conceptually how this module progression would be implemented to screen offsite views of the active working face during most phases of the project operations. The modules shown in light blue would be constructed first at each level generally along the site's western edge and subsequent waste modules would be constructed behind the initial modules until the filling sequence progressed to the next level. This process would be repeated at each module level.

### 3.5.5 LANDFILL ENTRANCE EXPANSION

The project proposes to increase the size of the landfill entrance area from approximately 1.5 acres to 5 acres. The expanded entrance would provide: (1) an increase in in-bound vehicle queueing capacity, (2) a larger area for reuse/recycling activities including an area for customers to donate usable items rather than disposing of them and to allow other customers to take those items for their use, (3) a public waste drop off area with four bins located along a Z-wall with ramps to each bin to allow for self-haul vehicles without trailers to dump their loads at the entrance area to avoid having to travel to the working face, (4) a larger area for the County household hazardous waste (HHW) facility, (5) a larger area for employee and visitor parking, (6) an area for an expanded truck wheel wash facility to minimize mud and debris tracking onto John Smith Road, (7) an area for a renewable natural gas facility, (8) installation of leachate storage tanks to accommodate the application of leachate for dust control on lined portions of the landfill, (9) an expanded area for scales, scale houses and bypass lanes, (10) expanded storm water detention areas, (11) an additional site entrance solely for employees and fire access, (12) and enhanced entrance landscaping. Additional facility maintenance, storage, and non-public landfill areas would also be located throughout the entrance expansion area. Table 3-4 summarizes the existing entrance facility components and identifies the proposed changes in these components associated with project implementation. Conceptual layouts for the new entrance components are identified in Figures 3-8 and 3-9.




Source: Bryan A. Stirrat & Associates

**Conceptual Fill Sequencing to Minimize Offsite Views of Active Working Face** **Figure 3-7**

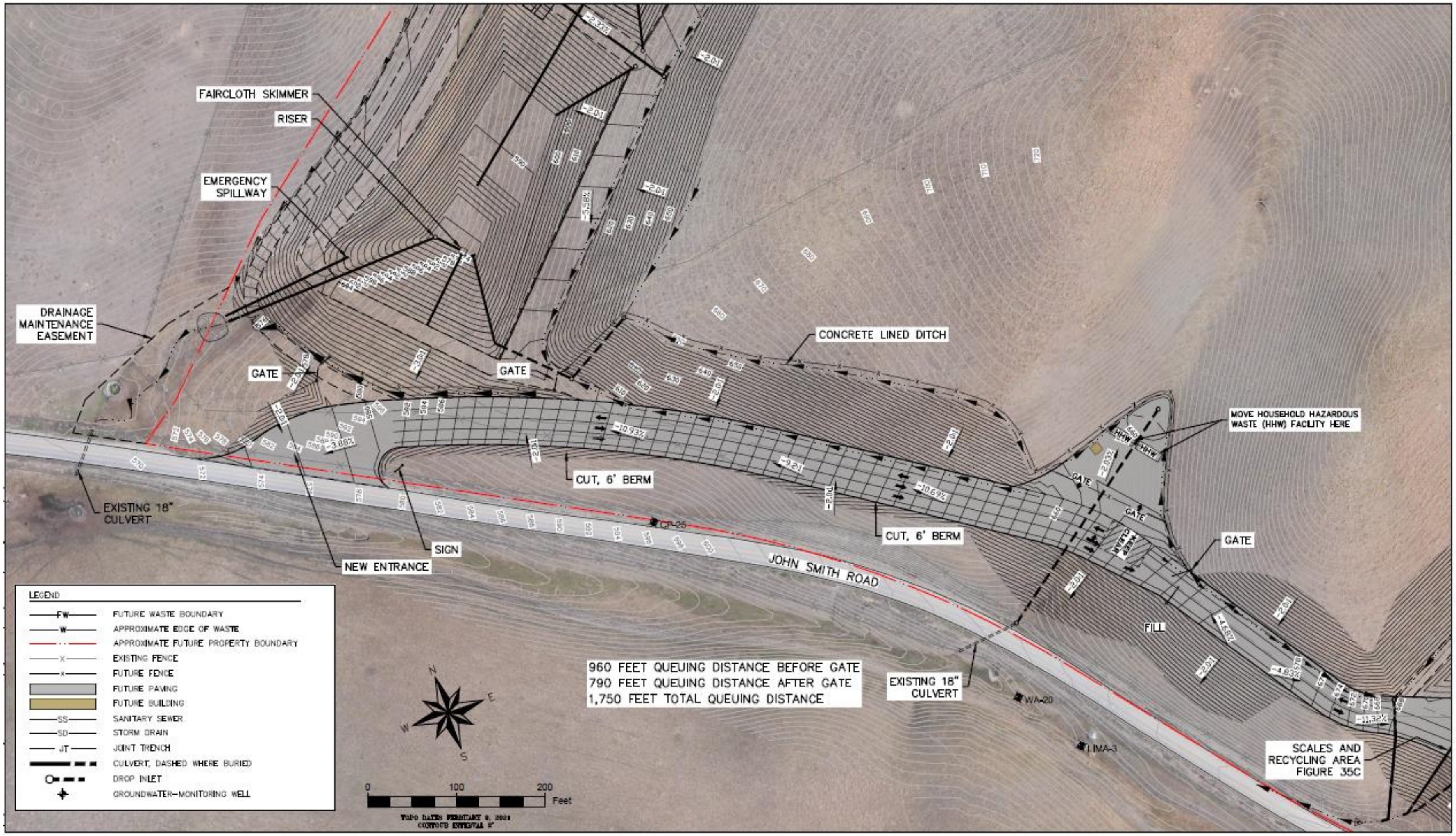
Construction of the new entrance would require additional excavation of the current 2 to 1 cut slope, backfill of the existing stormwater basin, and excavation of new stormwater basins and a new entrance road. Approximately 230,000 cubic yards of cut and 30,000 cubic yards of fill would be required to construct the entrance facilities. The remaining 200,000 cubic yards would be used to construct the visual berm at the west end of the landfill expansion area identified as Phase 2A.

It is anticipated that the entrance would be constructed in two phases over approximately six months. The first phase would include construction of everything except filling the existing entrance. Once the new access is available to the existing scales, the old entrance ramp would be backfilled to widen the entrance area. The old entrance ramp would then be converted to the separate employee and fire access road. The entrance facilities have been designed so that the current entrance can be used while constructing the new one.

**Table 3-4**
**Existing and Proposed Entrance Facility Components**

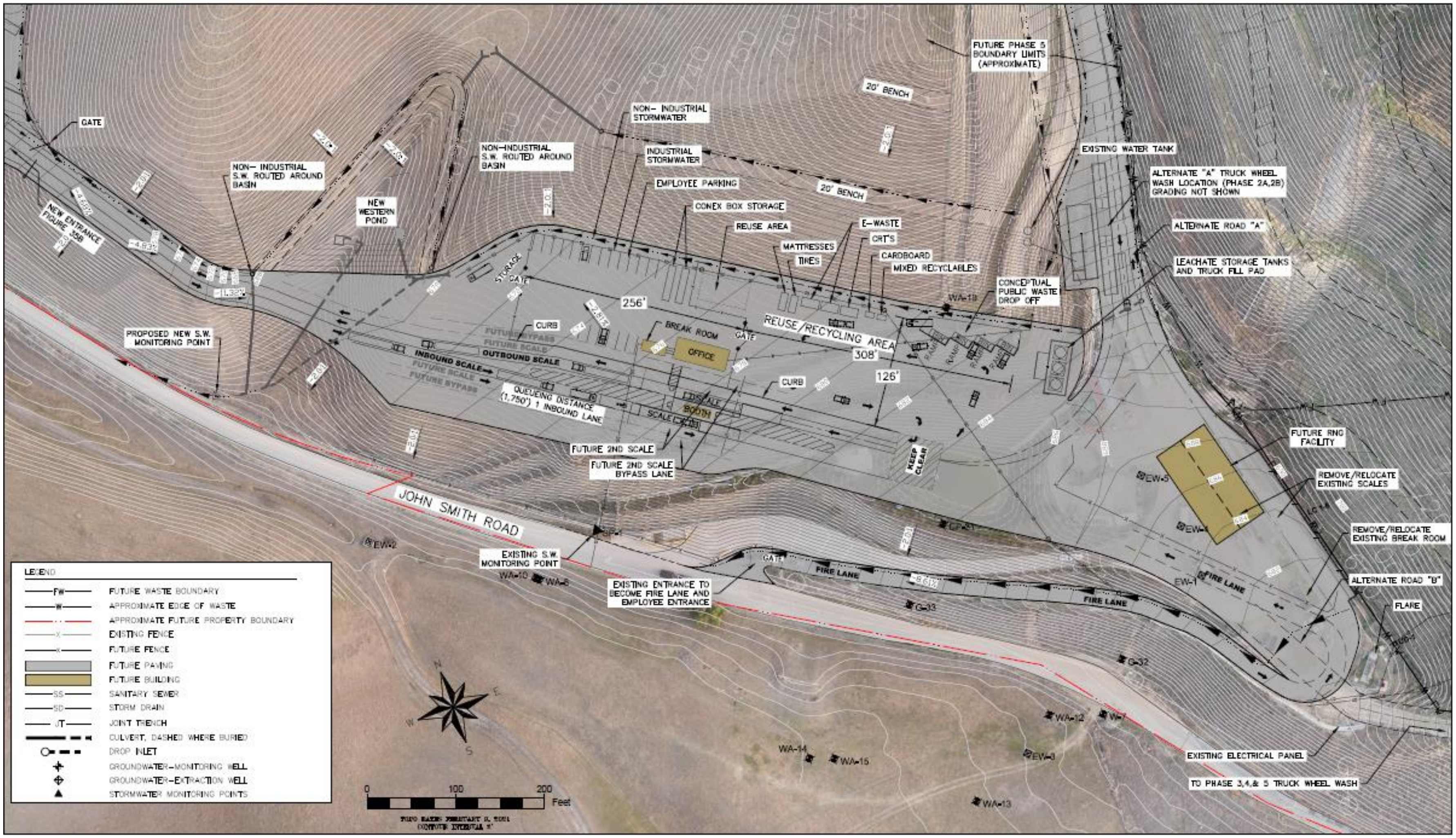
| Entrance Components | Existing Entrance Facilities | Proposed Entrance Facilities |
|---|---|---|
| Queueing Distance from John Smith Road | 800 feet of in-bound queueing from John Smith Road | 1,900 feet of in-bound queueing from John Smith Road |
| Queueing Distance from Entrance Gate | 170 feet of queuing length before the entrance gate | 960 feet of queuing length before the entrance gate |
| Overall Area | 1.5 acres | 5 acres |
| Employee and Visitor Parking Area | 0.16 acre | 0.4 acre |
| Recyclables Drop Off/Reuse Area | 0.2 acre | 1 acre including an area for customers to donate and pick up usable items |
| County HHW Facility Area | 0.11 acre | 0.15 acre |
| Mattress and Tire Drop Off | 0.09 acre | 0.1 acre |
| Public Waste Drop Off/Z-Wall | Not applicable | 0.4 acre |
| Wheel Wash | Small (one-wheel rotation) wheel wash | Large (three-wheel rotation) wheel wash |
| Landfill Gas and Leachate Pump Facilities | Landfill gas blower skid, flare, and leachate pump | Retain and augment landfill gas blower skid, flare, and leachate pump |
| Renewable Natural Gas (RNG) Facility | Not applicable | 1-acre RNG facility |
| Leachate storage and water truck facilities | Not applicable | Three 10,300-gallon leachate storage tanks and water truck fill system |
| Scale House | Single scale house and breakroom | Relocated single scale house and breakroom with space available for future scale house |
| Scales | Inbound and outbound 70-foot scales | Inbound and outbound 70-foot scales with space available for future second 70-foot scales |
| Bypass Lanes | Inbound bypass lane | Inbound and outbound bypass lanes with space available for future second inbound and outbound bypass lanes |
| Site Access | Single access to site provided by current entrance road | New entrance road constructed and existing entrance road converted to separate employee and fire access |
| Entrance Stormwater Basin | Western stormwater basin located west of existing entrance facility | Western stormwater basin relocated to the northwest to accommodate new entrance facilities and construction of an additional basin |
| Entrance Landscaping | Limited landscaping along the existing entrance road | Enhanced landscape beautification associated with the new entrance facility |

Source: Lawrence & Associates July 2021.




Source: Lawrence & Associates 2021

**Conceptual Layout for the Proposed New Entrance Driveway (Western Segment)** **Figure 3-8**




Source: Lawrence & Associates 2021

**Conceptual Layout for the Proposed New Entrance Facilities (Eastern Segment)** **Figure 3-9**

### 3.5.6 EXPANDED ENVIRONMENTAL CONTROL AND MONITORING SYSTEMS

As required by State and Federal standards, the existing leachate collection and recovery system, the landfill-gas collection and monitoring system, groundwater monitoring systems, and surface and storm water monitoring would be expanded incrementally, based on landfill sequencing and development, into the expansion area. These environmental control and monitoring systems would not substantially differ from the existing in-place systems that are described in Appendix B, other than they would cover more area as the landfill expands.

Leachate is formed when rainwater or other liquids filter through wastes placed in a landfill. When this liquid comes in contact with buried wastes, it leaches, or draws out, chemicals or constituents from those wastes. For the leachate collection and recovery system, Title 27 CCR requires that it be designed to accommodate twice the design flow and that it minimizes clogging. The expanded leachate collection and recovery system would be designed consistent with these regulations. The leachate mains drain to three existing leachate sumps that would be supplemented with five new sumps as the system expands. Leachate sumps include cleanouts that are used to insert water to test their function and to flush for cleaning. Leachate laterals would typically be spaced every 200 feet and would be oriented perpendicular to the main leachate header pipe. The spacing would be determined during the design of each expansion phase.

Leachate generated at the site is currently discharged into the City of Hollister wastewater collection system. However, the proposed project includes pumping leachate into three new leachate storage tanks and using it for dust control on the lined portions of the landfill and/or reinjecting it into the buried waste to accelerate waste decomposition, which would improve the quality of the landfill gas for beneficial use. During winter months when dust control needs are limited, the leachate would continue to be discharged into the City's wastewater collection system.

The entrance construction includes the installation of the three 10,300-gallon leachate storage tanks within the entrance area. Leachate would be piped to these tanks from the landfill's leachate collection and recovery system. A truck fill pad would be constructed adjacent to the tanks to accommodate the filling of water trucks with the leachate. The truck pad would include a sump pump to capture and return any leachate spilled during the truck filling process to the storage tanks.

For the landfill gas collection system, horizontal collectors would be installed periodically as lifts of waste are placed. Vertical wells would also be installed, typically in areas that have reached their final waste depth, to provide additional control, as needed. It is anticipated that a second larger flare system would be added adjacent to the current one and the existing smaller flare stack retained for low-flow excess landfill gas during the operation of the proposed Renewable Natural Gas (RNG) facility (described in further detail below). Installation of an upgraded flare system requires installation of a concrete pad or pads, localized underground conduits, a revised fence, and includes placement of pre-manufactured equipment. A large flare would have roughly the same footprint as the current one. If needed, based on the projected landfill gas generation rate, a larger flare would be implemented.

Landfill gas is typically 90 to 100 degrees Fahrenheit and nearly 100 percent humidity. As the landfill gas enters and flows through collection piping on the surface, the humidity condenses in the pipe and forms "condensate" that flows down the pipe. This condensate is currently collected and pumped into the City of Hollister wastewater collection system. Condensate generation is roughly proportional to the landfill gas flow rate.

Similar to the use of leachate, the proposed project includes using condensate for dust control on the lined portions of the landfill and/or reinjecting it into the buried waste to accelerate waste decomposition. The condensate would be pumped and commingled with leachate in the three new leachate storage tanks. During winter months, the condensate would continue to be discharged into the City's wastewater collection system. The current and projected leachate and condensate volumes are identified in Table 4.12-2 in Section 4.12, Public Services, Utilities and Energy of this EIR.

For the groundwater monitoring system, eleven monitoring wells were installed in the expansion area in 2020. Eight of the wells were installed in locations along the future landfill perimeter where they are proposed to be used for monitoring during operation of the expanded landfill. The wells are not currently monitored as part of the groundwater monitoring network but would be added incrementally as the landfill is expanded and as wells are incorporated into the monitoring well network under the WDRs and MRP for the facility. The wells, as part of an overall detection monitoring plan under the WDRs, are typically located at the nearest downgradient location ("point of compliance") that would detect a release from the expanded landfill.

The existing storm water management system would be expanded consistent with module development. This includes the installation of benches, culverts, natural drainage channels, and lined sedimentation basins, sized for both stormwater retention and water supply. Consistent with current practices, the application of chipped green waste and wood waste would be applied to landfill slopes and soil stockpiles for erosion control. The maximum thickness of this material would not exceed 12 inches. The existing surface water monitoring required by CCRWQCB and MRP 2013-0047 and the stormwater monitoring required under the State of California General Industrial Storm Water Permit would continue and would be expanded to include additional sampling locations consistent with the proposed expansion. In addition, in 2020, the CCRWQCB issued region wide General Waste Discharge Requirements Order No. R3-2020-001 that will become the prevailing standard for all landfills in the Central Coast Region. The General Order will be implemented at the JSRL when a site-specific MRP is issued.

### 3.5.7 RENEWABLE NATURAL GAS FACILITY

As described above, the decay of organic materials within buried waste generates landfill gas containing 50 to 60 percent methane with the balance mostly carbon dioxide. Both methane and carbon dioxide are greenhouse gases and methane has 25 times the global warming potential of carbon dioxide. Currently, the methane is combusted in a flare and converted to water and carbon dioxide. Landfill gas and methane generation from landfills is proportional to the organic material content in the waste and the average annual tons buried.

Senate Bill (SB) 1383 (short-lived climate pollutants) set a target of a 75-percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2025 and required that state agencies implement regulations intended to achieve this target. Those regulations were implemented and went into effect on January 1, 2022. The increase in annual tons of waste buried proposed for the project would result in a gradual increase in landfill gas generation, although the diversion of organic waste from the landfill's waste stream associated with implementation of SB 1383 would minimize that increase.

To minimize the increase in methane generation (and to help offset other greenhouse gas emissions), the project proponent is proposing to install a renewable natural gas (RNG) facility before the project produces approximately 550 cfm (cubic feet per minute - annual average) of recovered landfill gas. Figure 3-10 shows photos of typical RNG facilities of a similar size to the one proposed for the project site. The RNG facility would extract approximately 92% of the methane from the landfill gas, filter it to Pacific Gas and Electric's (PG&E's) quality standards, compress it, and then send it via a buried pipeline approximately one mile to the end of an existing PG&E pipeline main for reuse as "bio-methane." The remaining methane would be combusted in a flare as is currently done, and the flare would continue to be used when the RNG Facility is offline, such as during maintenance.

The point of connection to the compressed natural gas (CNG) pipeline would be located either west of Best Road near the Best Road/Maranatha Drive intersection on a small portion of Parcel 025-190-0380 or on the north side of John Smith Road near Heatherwood Lane. Figure 3-11 identifies two potential pipeline route options that would extend west from the project site along John Smith Road. The buried pipeline would be located within either the County road right-of-way or a County or PG&E utility easement, as approved by either or both entities.

To implement the RNG facility, the project proponent would enter into an agreement with a vendor (such as WAGA Energy, as shown on Figure 3-10) specializing in RNG facilities. Different vendors use differing

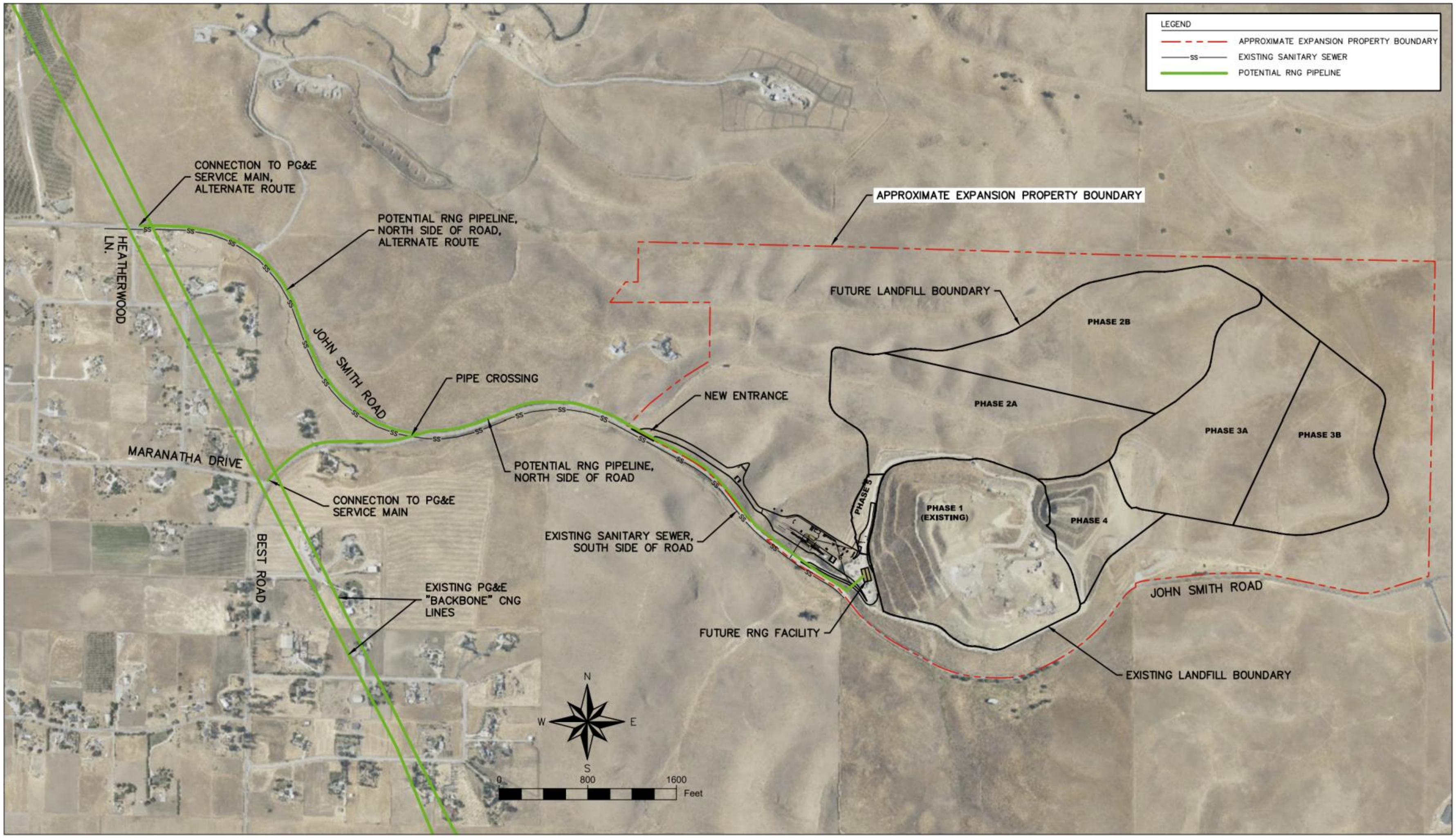

BIOGAS: 45-50% $CH_4$ ; 0-3% $O_2$ ; 7,000 ppmv $H_2S$ ; 5-20% $N_2$
200,000 TONS OF WASTE PER YEAR


BIOGAS: 40-50% $CH_4$ ; 0-3% $O_2$ ; **300 ppmv** $H_2S$ ; 5-20% $N_2$
600,000 TONS OF WASTE PER YEAR

PHOTOS COURTESY OF WAGA ENERGY

Source: Lawrence & Associates 2021

**Typical Renewable Natural Gas Facilities** **Figure 3-10**




Source: Lawrence & Associates 2021

**Renewable Natural Gas Pipeline Alignment Options** **Figure 3-11**

technologies to extract and filter the methane for re-use. The selected vendor would obtain a “permit to construct” from the Monterey Bay Air Resources District (MBARD), build the landfill gas treatment plant and construct the buried pipeline to one of the two potential injection points, and obtain a permit to operate from MBARD.  As a condition of approval, the selected vendor would also be required to submit a site plan for the RNG facility to the County with a project summary demonstrating that the RNG facility is substantially consistent with the RNG facility analyzed in the EIR.

PG&E has indicated, pending a design evaluation, that their existing pipeline has sufficient capacity to accept the RNG from the proposed RNG facility. The insertion of renewable natural gas into the pipeline would require placement of an approximately 12-foot wide by 40-foot-long skid (mobile platform) with valves, RMG shut-off, and flow and quality monitoring equipment on an approximately 40- by 100-foot site surrounded by a fence within the PG&E easement at the pipeline injection point.

The project also could use a “virtual pipeline” in which the extracted RNG would be further compressed to 3,600 to 4,000 pounds per square inch, injected into “tube” trailers at the RNG facility site, and transported by trucks to an existing permitted offsite facility where it would either be injected into a PG&E natural gas supply line or CNG fueling facility for site-specific use (such as running garbage trucks or school buses). These facilities would be within 30 miles (one way) of the project site.  Between 1 and 4 truckloads per day of RNG would be transported the compressed renewable natural gas to an existing permitted offsite facility. Depending on the market, the RNG plant operator may elect to use the physical pipeline described above, a virtual pipeline, or a combination of both.

Renewable natural gas facilities have electrical requirements that would likely require an upgrade to the electrical lines that extend to the site along John Smith Road. Some RNG facilities consume a portion of the RNG to generate electricity on site (with an air quality permit). For the proposed project, this option is possible but unlikely due to cost constraints.

The 0.94-acre fenced area allocated for the RNG facility is near the existing landfill electrical service and landfill gas blower and flare system. The building shown on Figure 3-9 is presented for scale only and is sized based on an existing enclosed 1,500 cfm facility (the anticipated flow in 20 years) at another site. More commonly, RNG facilities utilize a series of containerized equipment, skids, racks, and tanks bolted to concrete slabs that are flexible with regard to facility shape. Installation of the facility would include construction of concrete pads for pre-manufactured equipment, a fence (including sound insulation, if necessary, to meet off-site County noise requirements), and aggregate base or asphalt apron in the fenced area. The vendor also may elect to use an enclosed building.

### 3.5.8 EXPANDED LITTER AND DUST CONTROL

Within the unloading area, windblown litter is controlled by spreading and compacting the refuse and by placing daily/intermediate cover over the exposed refuse. At the working face, portable litter cages and temporary fencing are used by the landfill operator to control windblown litter. The placement of daily cover effectively limits the generation of litter from the working face during evening and nighttime hours, and the application of intermediate cover eliminates the generation of litter from covered modules. Perimeter fencing is used by the landfill operator to control windblown litter within the site boundaries. Litter is regularly removed by landfill personnel from and along the litter fences, other on-site areas, and adjacent off-site areas. The landfill is inspected for litter by landfill personnel and litter is regularly collected. Landfill crews regularly pick up litter along John Smith Road and Fairview Road. Landfill crews also pick-up illegal dumping on roads near the landfill. County crews will, on occasion, pick-up illegal dumping and bulky items along Fairview Road. All vehicles are required to be tarped and/or covered upon entering the landfill to minimize litter along the haul routes.  Fines of $5 for regular pickup trucks and $50 for trailers or larger vehicles are applied at the scale house for arriving waste haul vehicles that are not tarped.

For the proposed project, all of the current litter control measures described above would continue to be implemented at the site. The proposed project would also include implementation of the following additional litter control measures:

- Installation of fixed litter fences in the predominant downwind location from the expansion areas as those areas are expanded.
- Litter collection along the fences surrounding the expansion property.
- Install signage along haul route reminding self-haulers of tarping requirements, fines, and litter hotline number.
- Installing a camera at the site entrance or along the western site boundary as a way to determine if vehicles are pulling over on John Smith Road to tarp prior to arriving at the project entrance.
- Implement a 24-hour phone message line (litter hotline) for illegal dumping and litter complaints.

The current dust control measures at the site include spraying water on all roads, stockpiles, and waste unloading areas prone to dust generation; regularly sweeping and maintaining the pavement on the access road; using rumble plates at the landfill exit to reduce the potential for soil tracking onto surrounding streets; and using a one-wheel rotation wheel wash for trucks. A 2,500-gallon water truck is used to regularly apply water on dust-generating surfaces.

The tracking of mud and soil from waste vehicles exiting the project site onto John Smith Road has been identified as a concern for local roadway users. Soil that remains on the roadway can contribute to dust generation. Therefore, in addition to implementation of the current dust control measures applied at the project site, the proposed project would include implementation of the following additional dust control measures:

- Extend pavement further up the entrance access road (by Module 1) to provide more distance for mud to leave tires within the property. The mud would be swept from the on-site pavement as part of regular sweeping activities.
- Install a three-wheel rotation wheel wash for trucks.
- Relocate the entry access road and increase its length by approximately 1,800 feet to minimize the tracking of mud onto John Smith Road. Mud deposited on the extended entry access road would be regularly swept.
- Pave on-site dirt roads that daily receive public traffic and are anticipated to be used for more than five to ten years. Paving would include conventional asphalt pavement, chip seal or cement or lime-treated soil, or similar applications that reduce dust generation comparable to asphalt pavement. See Figures 4.3-2 through 4.3-7 in Section 4.3, Air Quality, of this Draft EIR for the on-site dirt roads that are anticipated to require paving.

## 3.5.9 CLASS I AREA CLEAN CLOSURE

The 5.11-acre parcel owned by the City of Hollister that contains a closed Class I disposal facility of less than one acre is proposed to be converted to a disposal area for Class III waste. The existing stockpiled soil that is located on this parcel would be used in ongoing landfill operations. After all the stockpiled soil is used, clean closure would be implemented in coordination with the City of Hollister and under the supervision of DTSC and CCRWQCB. Clean closure would consist of the following actions:

- Perform soil borings or test pits to collect soil samples for analysis to identify the vertical and horizontal limits of hazardous and non-hazardous contamination.

- Prepare technical report, closure workplan, and Class 3 post closure permit application for review and approval by the DTSC and CCRWQCB.

- Remove closure caps and overlaying clean soil fill assuming 5 feet over both impoundments or approximately 6,400 cubic yards, reuse the soil on site and dispose of the capping materials in the Class III section of the JSRL.

- Excavate approximately 3,500 cubic yards (5,600 tons) of hazardous waste and transport it to the Class I Kettleman Hills Landfill or another permitted Class I disposal facility.

- Excavate approximately 13,000 cubic yards of underlying non-hazardous soil and dispose of it in the Class III section of the JSRL.

- Verify that the contamination has been removed with sampling on the sides and bottom of the excavation with a frequency and statistical sampling method that meets DTSC requirements.

- Prepare a post closure report documenting the closure.

The off-site transport of waste to the Kettleman Hills Landfill or another permitted Class I disposal facility is estimated to require 32 truck trips per day over a period of nine days. All other soil hauling trips would occur within the project boundaries.

Once all closure activities are completed, the conversion of the area into a Class III waste disposal module would occur. This would include installing a landfill liner and leachate collection and removal system, similar to other Class III modules at the project site.

## 3.5.10 PROPOSED OUT-OF-COUNTY COMMERCIAL VEHICLE HAUL ROUTE

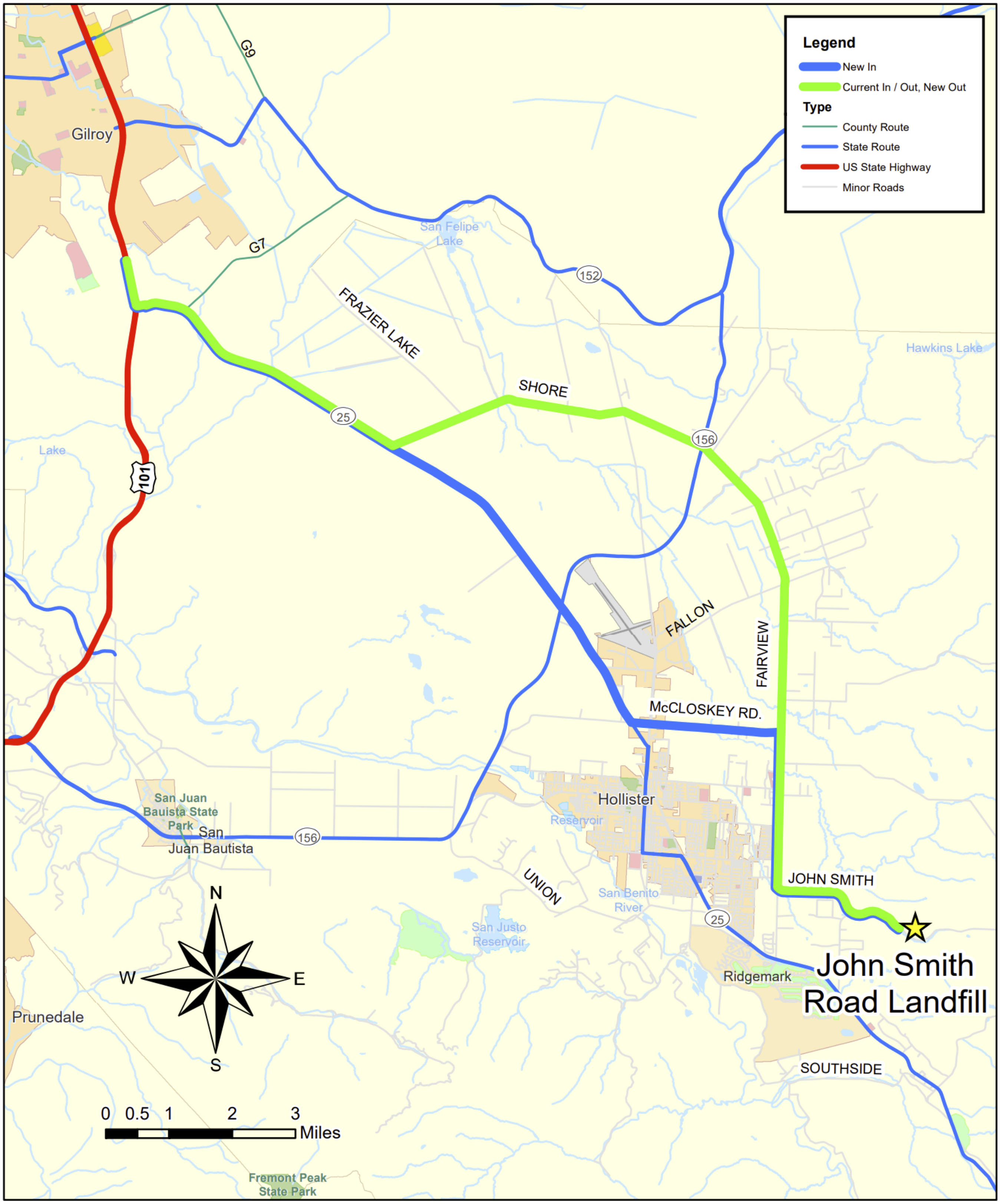
### CURRENT AND PROPOSED HAUL ROUTES

Figure 3-12 identifies the current out-of-County commercial vehicle haul route and the proposed future haul route. Out-of-County commercial vehicles coming south on State Route 25 currently take Shore Road and continue south on Fairview Road until they turn left onto John Smith Road and continue eastbound to the project site. With project implementation, the out-of-County commercial vehicle haul route would instead have the vehicles continue further south on State Route 25 to Wright Road-McCloskey Road and then turn right from McCloskey Road onto Fairview Road and turn left onto John Smith Road to access the project site. Empty commercial vehicles departing the site would travel westbound on John Smith Road, turn right on Fairview Road and continue northbound on Fairview Road and Shore Road to access State Route 25, as they do currently.

### POSSIBLE ALTERNATE HAUL ROUTES

Chapter 6, Alternatives, of this Draft EIR also considers two alternative out-of-County commercial vehicle haul routes that are separately analyzed at the project-specific level so that they could be selected as the project haul route. These include: the South Fairview Road Haul Route Alternative and the Best Road Haul Route Alternative. Selection of an alternate out-of-County haul truck route would not change the project's proposed landfill operations or the proposed landfill entrance improvements.

With the South Fairview Road Haul Route Alternative, out-of-County commercial vehicles driving to the project site would travel south on State Route (SR) 25 to the southern terminus of Fairview Road. They would turn left onto Fairview Road and continue north to John Smith Road, at which point they would turn right on John Smith Road and continue traveling east to the project site. To depart the site, these empty commercial vehicles would travel westbound on John Smith Road to Fairview Road. They would turn right onto Fairview Road and would




Source: Lawrence & Associates 2021

**Current and Proposed Out-of-County Commercial Vehicle Haul Routes** **Figure 3-12**

continue northbound as Fairview Road transitions to Shore Road and continues westbound to SR 25. This departure route is the same route currently used by commercial vehicles departing the project site.

This haul route would carry the same number of commercial vehicles as with the proposed haul route but would separate the inbound and outbound traffic trips using Fairview Road. Inbound trips would use the portion of Fairview Road south of John Smith Road and outbound trips would use the portion north of John Smith Road. This alternative would require construction of the John Smith Road Realignment Project, which would realign the intersection of John Smith Road and Fairview Road to eliminate the sharp right turn from Fairview Road onto John Smith Road from the south, which is currently impassible for the large commercial vehicles. That realignment was previously proposed by the County but has been removed from the County's 5-year Capital Improvement Program (CIP). It would need to be added back into the CIP by the County Board of Supervisors if this alternative haul route is selected.

The Best Road Haul Route Alternative consists of the incoming commercial vehicles traveling farther south on SR 25 to Best Road, turning left onto Best Road and then turning right onto John Smith Road to access the project site. To depart the site, these empty commercial vehicles would use the same route in reverse order, traveling westbound on John Smith Road, turning left onto Best Road, and then turning right onto SR 25.

### 3.5.11 WATER SUPPLY

The primary non-potable water demand at the project site is associated with landfill dust control and liner construction activities. Water for these activities is obtained either from on-site stormwater basins or by trucking water from a fire hydrant in Hollister (3 miles from the site). The fire hydrant water is provided through an agreement with the Sunnyslope County Water District. The site currently uses approximately 2.4 million gallons of water per year for landfill operations, primarily during the spring, summer and fall. With project implementation, the modeled average projected water usage would be approximately 5.3 million gallons per year. For module construction projects, which have typically occurred every other year at the project site, the demand has averaged approximately 1.9 million gallons of water. This frequency of module construction projects would be expected to be similar with project implementation, although the water demand would average approximately 2.2 million gallons. The project is also projected to increase the domestic water demand at the site by 20 percent, to 109,500 gallons per year. This represents an increase in domestic water demand of approximately 60 gallons per day.

With project implementation, the supply for domestic uses, dust control and liner construction activities is proposed to be obtained from on-site stormwater basins and supplemented with other sources when needed. Both permanent and temporary stormwater basins are proposed to be installed throughout the site as they are needed over the life of the landfill operations. Temporary basins would be located within the landfill expansion footprint. These basins would be relocated, as necessary, as the landfill phases progress. Water captured in these basins during storm events would be pumped through hoses that would be placed into the ponds to fill water trucks. The water trucks would apply water on the site's paved, graveled and unpaved roads to control dust. The stormwater basins are proposed to be lined to minimize water infiltrating into the underlying soil.

During consecutive average or above-average rainfall years (13 inches of rain), the volume of water collected in the basins would be sufficient for both operations and liner construction activities for the entire year. During an average rainfall year following a dry year (5 to 7 inches of rain), approximately 13 acre-feet of imported water would be required. During drought years additional supplemental water would need to be imported. Based on a 12-year analysis period, some water import would be required roughly every six years (odds of being needed one in every 6 years). The project's specific water demands described by season are discussed in detail in Section 4.12, Public Services, Utilities and Energy, of this Draft EIR.

Similar to current operations, the Sunnyslope County Water District's is assumed to provide the additional water supply necessary to meet the project's operational and construction water needs during drought years or when onsite sources are not sufficient. In addition, to ensure redundant water supply sources are available for the proposed project, the project applicant has identified an additional source of water that could be imported to the site during drought years. This additional water source would be provided from a private owner of an agricultural groundwater well located in the vicinity of the intersection of Highway 25 and Shore Road. Similar to the Sunnyslope County Water District water supply, the water provided from this private agricultural well would be trucked to the site.

Also, the project proponent may consider installing covers on the stormwater basins to ensure evaporation from these basins is minimized. Evaporation would be expected to be reduced by 95 percent with the application of basin covers. If covers were installed, sufficient water is estimated to be captured and retained within the stormwater basins to meet the project's construction and operational requirements. Therefore, with the basin covers, water would not need to be imported to the site during normal, dry or even multiple dry years.

Although the project would include the extension of haul roads as the landfill expands, the project includes additional on-site road paving to minimize dust generation and associated water demand. Also, the project proposes to use leachate generated at the site for dust control on lined areas of the landfill (limited in the winter period). For the leachate use, three or more 10,300-gallon storage tanks would be installed within the site entrance area and leachate would be piped to these tanks from the landfill's leachate collection and recovery system. Any leachate not consumed for operational uses would be piped to the wastewater treatment plant.

### 3.5.12 EQUIPMENT MAINTENANCE FACILITY

The current equipment maintenance facility consists of two 40-foot-long shipping containers with a 40-foot-wide canopy structure spanning the distance between them. Because dozers and compactors needing maintenance would damage pavement, the maintenance facility is moveable and located near the waste filling areas. Similarly, for the proposed project, the maintenance facility would be moved to a location near each phase, as needed. No changes are proposed to the size or design of the maintenance facility. Soil berms would be used to visually screen the maintenance area from sensitive offsite viewpoints.

### 3.5.13 USE OF COUNTY PROPERTY FOR HABITAT MITIGATION

To offset biological impacts associated with the proposed landfill expansion, 1:1 mitigation of suitable habitat is required, and an approximately 70-acre area of the 101.3-acre County-owned property located south of John Smith Road is likely to be used toward this required habitat mitigation (Figure 3-3). The use of these lands for habitat mitigation would include establishing a conservation easement with a management plan that would ensure they are preserved in their current state and protected in perpetuity. No grading or construction activities would be anticipated with the use of this property for mitigation purposes.

## 3.6 REQUIRED DISCRETIONARY ACTIONS

Project approval requires the lead agency (and responsible agencies) to approve the project or project components, issue required permits, or affirm compliance with agency requirements. San Benito County is the lead agency for the proposed project. A lead agency, as defined in Section 15367 of the State CEQA Guidelines, is "the public agency that has the principal responsibility for carrying out or approving a project." The project would require a general plan amendment and a conditional use permit from the County.

### 3.6.1 GENERAL PLAN AMENDMENT

The existing JSRL and the 101.3-acre property located south of John Smith Road have a General Plan land use designation of Public Quasi Public (PQP), and the 388.05-acre expansion site currently has land use designations of Rangeland (RG) and Agriculture (A). The proposed project includes a General Plan amendment to change the land use designation of the expansion site to PQP to be consistent with the existing JSRL and the 101.3-acre property and to accommodate the proposed waste disposal activities. The PQP land use designation allows, among other uses, landfills, recycling, and resource recovery facilities.

### 3.6.2 CONDITIONAL USE PERMIT

The existing JSRL and proposed expansion are within areas zoned Agricultural Productive (AP) and Agricultural Rangeland (AR). The San Benito County Code § 25.07.005 establishes uses conditionally permitted within AR and AP zoned areas, including those indicated as Additional Uses Permitted in Section § 25.29.106, which include *Governmental enterprises and/or private enterprise performing governmental functions (federal, state and local)*. While the existing JSRL is not currently subject to a conditional use permit (CUP), the proposed expansion, in conformance with § 25.07.005, would require one based on the current zoning.

### 3.6.3 PROPOSED COUNTY APPROVAL PROCESS

Described below is the environmental review process for the project and the discretionary actions sought by the project applicant for the proposed project that the County will consider during its review.

- The Draft EIR will be circulated for a 45-day public review and comment period.
- The County will hold a public town hall meeting during the public review period of the Draft EIR for the public and agencies to learn more about the project and submit written comments on the adequacy of the Draft EIR.
- After the close of the public review period for the Draft EIR, the Final EIR, consisting of all comments received on the Draft EIR together with responses to those comments and necessary changes to the EIR text will be prepared.
- The Planning Commission is the approval authority for the Conditional Use Permit. The Planning Commission will certify the Final EIR and make a decision whether to approve, conditionally approve, or deny the project application.
- The Planning Commission will review and make a recommendation to the Board of Supervisors regarding the proposed General Plan Amendment request to change the land use designations on the expansion property from Rangeland (RG) and Agriculture (A) to Public Quasi-Public (PQP) to be consistent with the existing JSRL and to accommodate the proposed waste disposal activities;
- The Board of Supervisors will hold a public hearing at which time it will receive public comments regarding whether the Board should certify the Final EIR, adopt the project's Mitigation Monitoring and Reporting Program, CEQA Findings and a Statement of Overriding Considerations. The Board of Supervisors will then decide whether to approve, conditionally approve, or deny the General Plan amendment for the project.
- Other County authorizations required to implement the proposed project, if approved by the Board, would include building permits, a roadway entrance encroachment permit, and an amendment to the San Benito County Integrated Waste Management Plan.

### 3.6.4 OTHER REQUIRED APPROVALS

If the Board of Supervisors chooses to approve or conditionally approve the project or one of the alternatives addressed in this EIR, the following approvals from other federal, State, local, and regional agencies would also be required. This EIR is intended to be used by federal, State, local, and regional agencies in the following approvals:

- A revised Solid Waste Facility Permit from CalRecycle;
- Revised Waste Discharge Requirements from the Central Coast Regional Water Quality Control Board;
- An update of the site's Stormwater Pollution Prevention Plan for the State Water Resources Control Board General Industrial Stormwater Permit;
- A federal Endangered Species Act Section 10 Permit from the U.S. Fish and Wildlife Service;
- A State Endangered Species Act Section 2081 Incidental Take Permit from the California Department of Fish and Wildlife;
- A water quality certification under Section 401 of the Clean Water Act by the Central Coast Regional Water Quality Control Board;
- A Permit to Construct/Permit to Operate from the Monterey Bay Air Resources District when the flare is modified or the energy facility is implemented;
- A modification to the existing Class I Hazardous Waste Facility Post-Closure Permit No. 03-SAC-006 and approval of a Clean Closure Plan by the California Department of Toxic Substances Control and Central Coast Regional Water Quality Control Board to accommodate clean closure of the Class I Area. These actions would be implemented in coordination with the City of Hollister as the owner of the Class I Area; and
- An amendment of the San Benito County Integrated Waste Management Plan by the San Benito County Integrated Waste Management Agency.

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# 4 EXISTING SETTING, ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES

## INTRODUCTION TO ENVIRONMENTAL ANALYSIS

The preparation of this environmental impact report (EIR) is in conformance with the California Environmental Quality Act (CEQA) of 1970 and the State CEQA Guidelines. Sections 4.1 through 4.12 contain discussions of the environmental setting, thresholds of significance, environmental impacts, mitigation measures, and levels of significance after mitigation. The issues evaluated in these sections consist of the significant and potentially significant environmental issues identified for review in the Notice of Preparation (NOP), found in Appendix A. These sections are organized into the following major components.

## EXISTING SETTING

The “Existing Setting” subsection presents the existing regional and local environmental conditions, in accordance with State CEQA Guidelines Section 15125. The subsection describes the baseline conditions against which the environmental impacts associated with the proposed project and the potential future development of the property are assessed. In accordance with CEQA Guidelines Section 15125(a), the environmental baseline, as analyzed in this EIR, is generally the environmental setting as it existed at the time the NOP was published, February 22, 2021. For certain resource areas, studies post-dating the NOP date have resulted in a more recent baseline, as noted in those sections.

## ENVIRONMENTAL IMPACTS

This subsection presents thresholds of significance used in the EIR and discusses significant effects associated with the proposed project on the existing environmental conditions, in accordance with State CEQA Guidelines Sections 15126(a) and 15143. The thresholds of significance are presented at the beginning of each subsection. Project impacts are numbered sequentially by section and impact number throughout these sections. That is, impacts in Section 4.2 are numbered 4.2-1, 4.2-2, 4.2-3; and impacts in Section 4.3 are numbered 4.3-1, 4.3-2, and so on. A bold font impact statement precedes the discussion of each impact and provides a summary of each impact and its level of significance. The discussion that follows the impact statement includes the substantial evidence upon which a conclusion is made as to whether the impact would be significant or less than significant. A discussion of cumulative impacts is provided in Chapter 5, “Cumulative and Growth-Inducing Impacts.”

## MITIGATION MEASURES

Following the individual impact discussions, feasible mitigation measures are identified as needed to reduce potentially significant project effects, in accordance with State CEQA Guidelines Sections 15002(a)(3), 15021(a)(2), and 15091(a)(1). The mitigation measures are numbered corresponding to the impacts that they address. For example, Mitigation Measure 4.2-1 would mitigate Impact 4.2-1. Where there are no potentially significant impacts, no mitigation measures are identified.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Following the individual mitigation measures, a conclusion is provided regarding whether mitigation measures would or would not reduce an impact to a less-than-significant level. The conclusion is presented in accordance with State CEQA Guidelines Section 15126(b), which requires identification of significant and unavoidable impacts. Significant and unavoidable impacts are also summarized in Chapter 2, “Executive Summary,” of this document.

# 4.1 LAND USE, PLANNING AND AGRICULTURAL RESOURCES

## 4.1.1 ENVIRONMENTAL SETTING

This section contains a discussion of the existing land use, planning and agricultural resources setting for the project site and surrounding area. An analysis of potential land use, planning and agricultural resources impacts associated with the proposed project is also provided.

### ON-SITE LAND USE

The proposed project is located approximately 2 miles directly east of the eastern boundary of the City of Hollister. The site is located in a hilly rural area east of the Hollister Valley and west of the rural Santa Anna Valley in unincorporated San Benito County. The existing 95.16-acre JSRL includes an operating Class III landfill and a closed Class I waste disposal area. The 388.05-acre expansion property located on lands directly east, north and west of the JSRL consist of rolling hills that are used for grazing cattle. The 101.3 acres owned by the County directly south of the JSRL consist of gently rolling grazing lands.

### SURROUNDING LAND USE

The properties surrounding the project site have historically been used for agricultural purposes, primarily as grazing land. Several of the surrounding properties include rural residences. The closest residence is the home of the former owner of the expansion property. Identified as the Lima property, this residence is located approximately 250 feet directly west of the western boundary of the expansion property (Figure 3-4, Chapter 3 – Project Description). The next nearest residences are located to the east and southeast of the eastern boundary of the expansion property. Three rural residences are located on large lots between 1,925 and 2,500 feet east of the eastern boundary of the expansion property. Additional rural residences are located further east of the expansion property and west of Santa Ana Valley Road. A cluster of residences is located to the southwest of the expansion property's western boundary. The nearest of these residences is located just over 2,000 feet from the expansion property's boundary. These residences are located east of Best Road along Lima Court and Foxhill Circle. Additional residences are located west of Best Road. The land uses along the major local haul routes used by vehicles accessing the project site, including John Smith Road, Fairview Road, Shore Road and McCloskey Road, include a mix of primarily agricultural, rural residential and residential subdivision uses.

### SAN BENITO COUNTY GENERAL PLAN

The San Benito County 2035 General Plan identifies the land use designation for the existing JSRL as Public Quasi Public (PQP). The land use designation of the proposed expansion site is almost exclusively designated Rangeland (RG) with a small western segment identified as Agriculture (A). Similar to the existing JSRL, the 101.3 acres of County-owned land located south of the JSRL has a land use designation of PQP (Figure 4.1-1). These land use designations are defined in the 2035 General Plan as follows:

**Public Quasi Public (PQP):** The purpose of this designation is to provide for public and quasi-public uses, including public utility facilities and services. This designation applies to the following uses: schools, landfills, recycling, resource recovery, government lands (non-parkland), sewage treatment plants, fire stations, sheriff stations/substations, jails, religious meeting areas, libraries, energy generation and distribution, water distribution, and public meeting halls, and other similar uses related to the operation of County government services.

**Rangeland (RG):** The purpose of this designation is to maintain open space and grazing land on hills, mountains, and remote areas of the county. This designation is applied to areas that have minimal transportation access, high to very high fire hazard, and no public infrastructure (e.g., sewer, water, drainage). Most of these areas are located within remote parts of the county. This designation allows support uses that directly support agricultural operations and one principal residential dwelling unit per lot. Secondary dwellings are allowed for relative, caretaker/employee, and farm worker housing.

**Agriculture (A):** The purpose of this designation is to maintain the productivity of agricultural land, especially prime farmland, in the county. This designation is applied to agriculturally productive lands of various types, including crop land, vineyards, and grazing lands. This designation allows agricultural support uses, such as processing, wineries, and other necessary public utility and safety facilities and one principal residential dwelling unit per lot. Secondary dwellings are allowed for relative, caretaker/employee, and farm worker housing. These areas typically have transportation access, but little to no public infrastructure.

### Surrounding Land Use Designations

The 2035 General Plan land use designation for properties to the north and east of the project site is Rangeland. For surrounding lands to the west of the JSRL and to the south of John Smith Road, the land use designation is Agriculture (Figure 4.1-1). Most of the non-urban land within the Hollister and Santa Ana valleys is used for productive agriculture.

### County Zoning Ordinance

The site is zoned a combination of Agricultural Rangeland (AR) and Agricultural Productive (AP) (Figure 4.1-2). The central and eastern portions of the existing JSRL and the landfill expansion property are zoned AR. The western portions of the JSRL and the landfill expansion property are zoned AP, as are the 101.3 acres of County-owned land located south of the JSRL. Surrounding properties to the north and east of the project site are zoned AR and properties to the south and west are zoned AP.

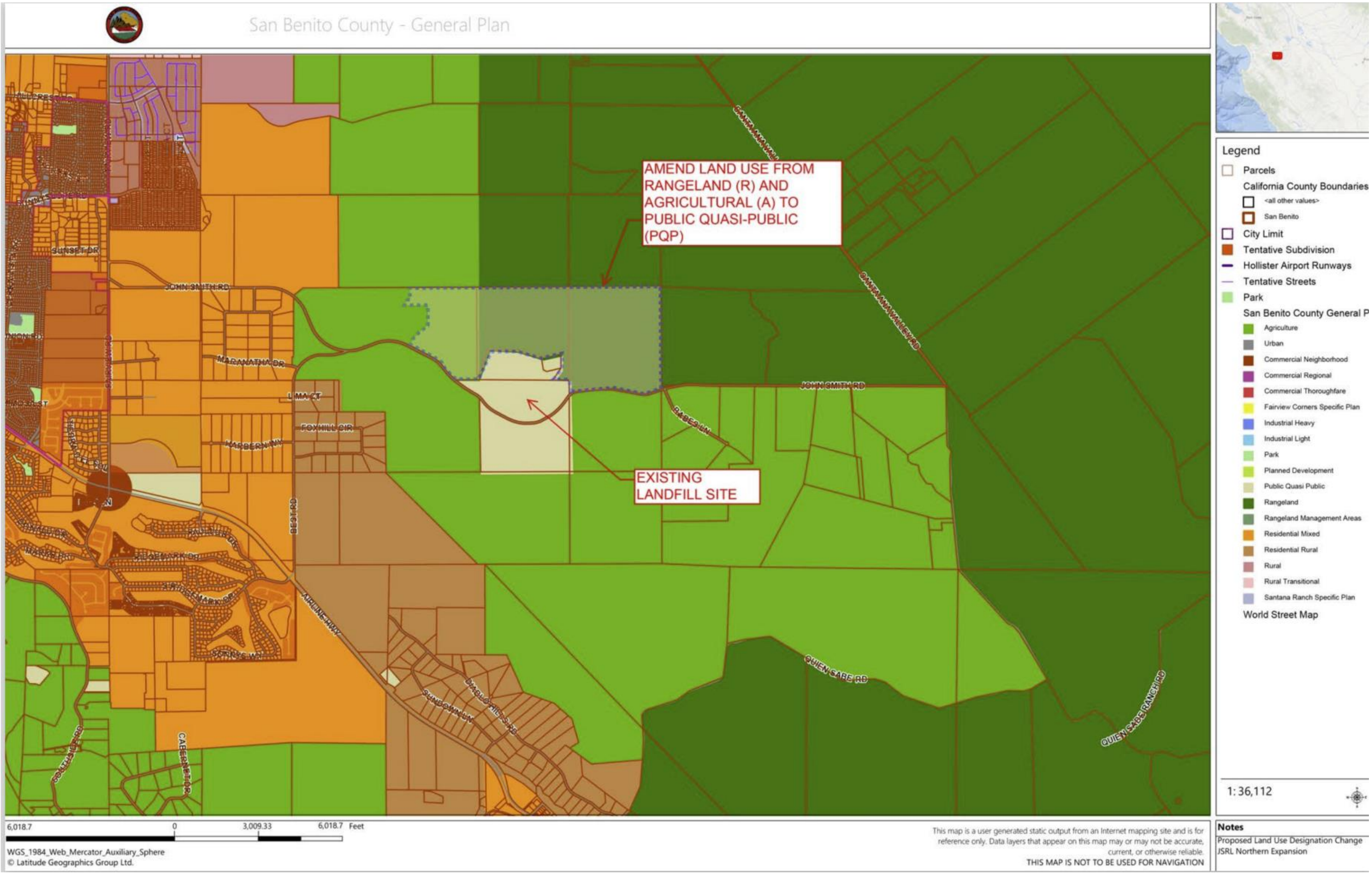
According to Section 25.29.106(H) of the San Benito County Zoning Code (San Benito County 2020), government functions are permitted on the AR and AP designated lands if they are being conducted by government enterprises and/or by private enterprise performing governmental functions and are deemed essential or desirable to the public convenience or welfare and are in harmony with the various elements or objectives of the General Plan.

### Conditional Use Permit

San Benito County Code Sections 25.07.005 and 25.29.106 establish uses conditionally permitted within the AR and AP zoned areas, including Government enterprises and/or private enterprises performing governmental functions (federal, state and local). The operation of the County-owned sanitary landfill qualifies as such a governmental enterprise. The existing JSRL pre-exists the Conditional Use Permit (CUP) requirement and, therefore, is not subject to an existing CUP. The proposed project will require a CUP in conformance with Sections 25.07.005 and 25.29.106.

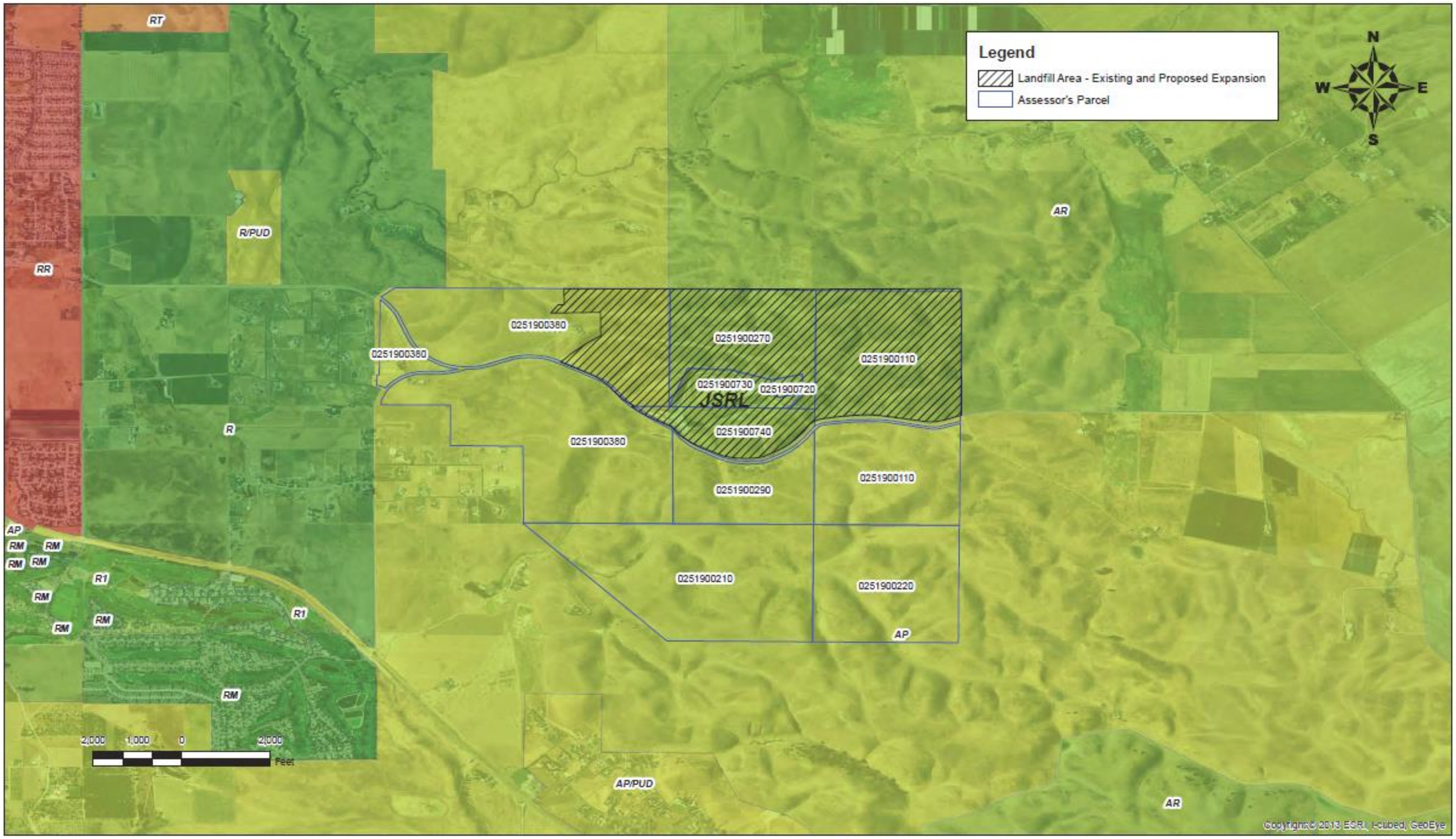
### Land Capability Classification

The Land Capability Classification (LCC) system is used by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) to determine a soil’s agricultural productivity. The LCC indicates the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management techniques. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating (Class I). The “prime” soil classification indicates the absence of soil limitations, which, if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production. Class I soils are considered prime soils. The land capability classification shows, in a general way, the soils’ suitability for most kinds of farming. A general description of soil classifications, as defined by the NRCS, is provided below in Table 4.1-1. No Class I soils, or




Source: Lawrence & Associates 2021

**Land Use Map** **Figure 4.1-1**




Source: Lawrence & Associates 2021

**Zoning and Assessor Parcel Number Map** **Figure 4.1-2**

prime soils, are identified on the project site. The soils on the entire project site are categorized as Class III and IV (USDA 2020).

### FARMLAND MAPPING AND MONITORING PROGRAM

The Farmland Mapping and Monitoring Program (FMMP) land classifications system monitors and documents land use changes that specifically affect California's agricultural land. The program, administered by the California Department of Conservation (CDC), produces maps, referred to as Important Farmland Maps, and statistical data that are used for assessing the significance and quality of agricultural lands. Agricultural land is rated according to soil quality, based on the Natural Resources Conservation Service soil survey maps, and irrigation status. Maps are updated every 2 years, with current land use information gathered from aerial photographs, a computer mapping system, public review, and field reconnaissance (CDC 2020).

The FMMP land classification system is cited by the State CEQA Guidelines as the preferred information source for determining the agricultural significance of a property (CEQA Guidelines, Appendix G). The California Department of Conservation has characterized Prime Farmland as land with the best combination of physical and chemical characteristics for the production of agricultural crops. Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. Farmland of Statewide Importance is characterized as land with a good combination of physical and chemical characteristics for agricultural use, having only minor shortcomings, such as less ability to store soil moisture, compared to Prime Farmland (CDC 2020).

The CDC, Division of Land Resource Protection, San Benito County Important Farmland Map designates the existing JSRL as Urban and Built-Up Land. The expansion area and the 101.3 acres of County-owned land located south of the JSRL are designated as Grazing Land, which is not considered Important Farmland under the definition in CEQA of "Agricultural Land" that is afforded consideration as to its potential significance (see CEQA Section 21060.1 [a]) (CDC 2020).

**Table 4.1-1**
**Land Capability Classification**

| Class | Definition |
|---|---|
| I | Soils have few limitations that restrict their use. |
| II | Soils have moderate limitations that reduce the choice of plants or require special conservation practices. |
| III | Soils have severe limitations that reduce the choice of plants, require conservation practices, or both. |
| IV | Soils have very severe limitations that reduce the choice of plants, require very careful management, or both. |
| V | Soils are not likely to erode but have other limitations; impractical to remove soils that limit their use largely to pasture or range, woodland, or wildlife habitat. |
| VI | Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, or range, woodland, or wildlife habitat. |
| VII | Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat. |
| VIII | Soils and landforms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife habitat or water supply, or to aesthetic purposes. |

Source: USDA, Natural Resources Conservation Service

## 4.1.2 REGULATORY SETTING

The Planning and Zoning Law of the California Government Code mandates that each city and county planning agency prepare and adopt a general plan establishing goals, policies and implementation programs intended to guide the future physical growth and development of the jurisdiction.

Zoning is generally considered to be the primary tool for implementing the general plan. Each general plan designation has corresponding zoning districts comprising detailed requirements for the physical development of allowed land uses.

### SAN BENITO COUNTY GENERAL PLAN

The San Benito County 2035 General Plan (San Benito County 2015) serves as a long-term guide for the orderly growth and development of the County. It forms the basis for zoning, subdivision regulation, and other planning decisions on the location, intensity and design of all private and public land uses and development.

A primary purpose of the 2035 General Plan goals and policies is to address and minimize the potentially significant environmental impacts of new development. These goals and policies seek to preserve and enhance the special environmental amenities of the County while providing for new development to serve the housing, economic, and social needs of the community and the region.

The 2035 General Plan includes multiple elements that each identify goals and policies applicable to development projects. These include the Land Use Element, Economic Development Element, Housing Element, Public Facilities and Services Element, Natural and Cultural Resources Element, Circulation Element, and Health and Safety Element. The goals and policies from these elements that are applicable to the proposed project are primarily described in the individual sections of this EIR, as appropriate (e.g., the policies included in the Noise Element are described in Section 4.5, Noise). The project-applicable 2035 General Plan goals and policies that are not specifically discussed in the resource sections are identified in Table 4.1-2.

### WILLIAMSON ACT CONTRACTS

In 1965, the California Legislature passed the California Land Conservation Act, which is commonly referred to as the Williamson Act. The act is a voluntary land conservation program that is administered by counties and cities, with technical assistance from the CDC.

Landowners enrolled in the Williamson Act are taxed at a lower rate using a value based on the agricultural use of the land under contract. In turn, landowners commit to restricting the use of their land to agriculture and open space uses for 10 years. The term of the contract is essentially indefinite and it is automatically renewed on the anniversary date of which the contract was entered. To exit the contract, landowners must initiate the non-renewal process, which allows the remainder of the contract term to lapse (the remaining 9 years), thereby rendering the contract null and void at the end of the term.

No portions of the project site are subject to Williamson Act contracts.

## 4.1.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

Consistent with State CEQA Guidelines Appendix G, an impact to land use is considered significant if the proposed project would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, a specific plan, the zoning ordinance, a habitat conservation plan or a natural community conservation plan) adopted for the purpose of avoiding or mitigating an environmental effect; or

- Physically divide an established community.

Pursuant to Appendix G of the State CEQA Guidelines, an impact to agricultural resources is considered significant if the proposed project would:

- Convert Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;

- Conflict with existing zoning for agricultural use, or a Williamson Act contract; or

- Involve other changes in the existing environment which, because of their location or nature, could result in conversion of Important Farmland to nonagricultural use.

### IMPACTS AND MITIGATION MEASURES

**IMPACT 4.1-1** **Consistency with Applicable Plans Adopted to Avoid Environmental Impacts.** *The proposed project would not conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore,* ***no impacts*** *associated with plan consistency would be anticipated.*

The proposed project is not located within a specific plan, community plan, a habitat conservation plan or a natural community conservation plan. As a result, the analysis of the consistency of the proposed project with applicable plans is focused on the San Benito County 2035 General Plan and Zoning Ordinance.

#### General Plan Consistency

The evaluation focused on those 2035 General Plan policies that relate to avoiding or mitigating environmental impacts and on assessing whether any inconsistency with those policies would create a significant physical impact on the environment. Only policies relevant and applicable to the proposed project are included.

As presented in Table 4.1-2, the proposed project is generally consistent with the relevant 2035 General Plan polices. Although the proposed project would convert agricultural land to public uses, the project site does not include Important Farmland and no Important Farmland would be converted.

In evaluating a project's consistency with the 2035 General Plan, the County seeks to balance the General Plan resource protection goals and policies with its goals and policies regarding providing necessary public facilities, by directing public facility uses, in this case the expansion of solid waste landfill facilities, to appropriate areas. The proposed expansion area is located adjacent to an existing landfill, which represents substantial operational efficiencies and takes advantage of prior solid waste facility siting determinations.

**Table 4.1-2**
**2035 General Plan Policy Consistency**

| 2035 General Plan Policy | Consistency Discussion |
|---|---|
| **LAND USE ELEMENT** | |
| **LU-1.3 Future Development Timing** The County shall ensure that future development does not outpace the ability of either the County or other public/private service providers to provide adequate services and infrastructure. The County shall review future development proposals for their potential to reduce the level of services provided to existing communities or place economic hardships on existing communities, and the County may deny proposals that are projected to have these effects. | **Consistent**. The proposed project would accommodate the solid waste disposal needs of existing and future development within the County by expanding the JSRL's waste disposal site life. |
| **LU-1.10 Development Site Suitability** The County shall encourage specific development sites to avoid natural and manmade hazards, including, but not limited to, active seismic faults, landslides, slopes greater than 30 percent, and floodplains. Development sites shall also be on soil suitable for building and maintaining well and septic systems (i.e., avoid impervious soils, high percolation or high groundwater areas, and provide setbacks from creeks). The County shall require adequate mitigation for any development located on environmentally sensitive lands (e.g., wetlands, erodible soil, archaeological resources, important plant and animal communities). | **Consistent**. The location for the JSRL was originally selected based on its suitability for solid waste activities and the expansion area was similarly selected based on this suitability for such uses. The proposed expansion site does not include any active seismic faults, landslides, or floodplains. Any steep slopes would be stabilized as part of the landfill module excavation activities. The project site does not include the use of any onsite wells for water supply purposes or septic systems. The project site does not include any archaeological resources or important plant communities. In addition, mitigation measures have been identified in this Draft EIR for impacts on important animal communities. |
| **LU-3.13 Illegal Dumping:** The County shall work with property owners, waste collection providers, and law enforcement to find solutions to illegal dumping on agricultural properties such as offering free trash drop-off days and increased penalties for illegal dumping | **Consistent**. The proposed project may provide opportunities for the County to find solutions to illegal dumping on agricultural properties. |
| **PUBLIC FACILITIES AND SERVICES ELEMENT** | |
| **PFS-3.9 Sufficient Water Supply for New Development** The County shall require new development to prepare a source water sufficiency study and water supply analysis for use in preparing, where required, a Water Supply Assessment per SB 610 and a Source Water Assessment per Title 22. This shall include studying the effect of new development on the water supply of existing users. The County encourages the development of integrated regional water management plans or similar plans. | **Consistent**. A formal Water Supply Assessment per SB 610 is not required for this project, given the project's overall size. However, water supply needs are evaluated in Section 4.12, Public Services, Utilities and Energy of this Draft EIR. Based on this analysis, the proposed project would have less-than-significant impacts on local water supplies. |
| **NATURAL AND CULTURAL RESOURCES ELEMENT** | |
| **NCR-4.4 Open Space Conservation** The County shall encourage conservation and, where feasible, creation or restoration of open space areas that serve to protect water quality such as riparian corridors, buffer zones, wetlands, undeveloped open space areas, and drainage canals. | **Consistent**. The proposed project includes the potential establishment of habitat mitigation on County owned land located directly south of the JSRL. If utilized to satisfy required mitigation, this area would be preserved with a permanent conservation easement, which would provide for the restoration and preservation of this open space area. |

| **Table 4.1-2**<br>**2035 General Plan Policy Consistency** | |
|---|---|
| **2035 General Plan Policy** | **Consistency Discussion** |
| **NCR-4.5 Groundwater Recharge**<br>The County shall encourage new development to preserve, where feasible, areas that provide important groundwater recharge and stormwater management benefits such as undeveloped open spaces, natural habitat, riparian corridors, wetlands, and natural drainage areas | **Consistent**. The project site is located within a rural, largely undeveloped portion of the County. Although the proposed landfill expansion would reduce the area for groundwater recharge as landfill modules are constructed, the landfill footprint would represent a negligible portion of the surrounding undeveloped area. Substantial available acreage of undeveloped open space surrounding the project site and within proximity to the site would be available for groundwater recharge. Therefore, the proposed project would not alter groundwater recharge in the region. |
| **NCR-6.1 Local Renewable Energy**<br>The County shall strive to increase the supply of locally produced, renewable energy (e.g., solar, wind, geothermal, and biomass) in order to promote energy independence and efficiency. | **Consistent**. The proposed project includes the development of a renewable natural gas facility that would provide a local source of renewable energy. See Chapter 3, Project Description, for a detailed description of this facility. |
| Source: San Benito County 2035 General Plan | |

The General Plan land use designation for the expansion area is almost exclusively Rangeland (RG) with a small western segment identified as Agriculture (A). The proposed expansion of the solid waste landfill operations would be inconsistent with these land use designations. The proposed project includes a general plan amendment that would convert the Rangeland and Agriculture land use designations to Public Quasi Public, consistent with the existing landfill and the 101.3-acre County-owned property on the south side of John Smith Road. With implementation of the general plan amendment, the proposed solid waste activities would be consistent with the new land use designation. Therefore, the proposed project would not conflict with the General Plan land use designation.

Based on the analysis included in Table 4.1-2 and the analysis of the applicable General Plan goals and policies included in the resource sections of this EIR, the proposed project would not conflict with the 2035 General Plan policies that were adopted for the purpose of avoiding or mitigating an environmental effect and **no impact** associated with plan consistency would be anticipated.

#### Mitigation Measure 4.1-1 Consistency with Applicable Plans Adopted to Avoid Environmental Impacts

No mitigation measures would be necessary.

**IMPACT 4.1-2** **Physically Divide an Established Community.** *The proposed project would not be expected to physically divide an established community. Therefore, **no impact** on an established community would occur with project implementation.*

The proposed project includes the expansion of an existing landfill within a rural area of San Benito County. The project site is not located within an established community and does not include any physical components that would directly affect established communities within the County. Therefore, the proposed landfill expansion would not physically divide an established community and **no impact** on an established community would occur with project implementation.

#### Mitigation Measure 4.1-2 Physically Divide an Established Community

No mitigation measures would be necessary.

**IMPACT 4.1-3** **Important Farmland Conversion.** *The project site does not include important farmlands and would not convert important farmlands to non-agricultural land uses. In addition, the project would not involve changes in the existing environment, which could result in the conversion of important farmland to nonagricultural uses. Therefore,* ***no impact*** *on important farmlands would be anticipated with project implementation.*

The Farmland Mapping and Monitoring Program land classification map identifies the existing JSRL as Urban and Built-Up Land and the expansion area as Grazing Land. The 101.3 acres of County-owned land located south of the JSRL is also identified as Grazing Land. Neither of these land classifications is considered important farmland under CEQA. In addition, the project site does not include any lands with Class I soils. Because the project site does not include important farmland, it would not convert important farmland to non-agricultural uses.

The lands surrounding the JSRL are currently used to graze cattle. The existing landfill operations do not represent a constraint to these cattle operations. With expansion of the landfill, the grazing operations on the lands surrounding the expanded landfill are expected to continue. Similarly, use of a portion of the 101.3 acres of County-owned land for habitat mitigation purposes would not represent a constraint to grazing operations on surrounding lands. Therefore, the proposed project would not include changes in the existing environment that would result in the conversion of farmland on adjacent parcels to nonagricultural uses. **No impact** on important farmland would be anticipated with project implementation.

#### Mitigation Measure 4.1-3 Important Farmland Conversion

No mitigation measures are required.

**IMPACT 4.1-4** **Conflict with Zoning for Agricultural Use.** *The proposed project includes conducting solid waste operations on lands with agricultural zoning designations. These activities would be considered government functions that are conditionally permitted within these agricultural zoning designations. Therefore, if the County approves these uses on the project site, the proposed project would not conflict with lands zoned for agricultural uses. Therefore,* ***no impact*** *related to agricultural zoning would be anticipated with project implementation.*

The proposed project includes expanding the existing landfill and associated solid waste operations onto lands with Agricultural Rangeland (AR) and Agricultural Productive (AP) zoning designations. As identified in Sections 25.07.005 and 25.29.106 of the San Benito County Zoning Code (San Benito County 2020), the AR and AP zoning designations allow government enterprises and/or private enterprise performing governmental functions subject to a Conditional Use Permit. Because the site operator is conducting solid waste operations under contract to the County, these activities would constitute a private enterprise performing a county government function. This conclusion applies regardless of the underlying land ownership, a portion of which is owned by the County and a portion of which is owned by the project applicant.

In addition, the 101.3 acres of County-owned land located south of the JSRL is zoned AP. The project applicant proposes to use a portion of this property to establish a habitat conservation easement that would mitigate for the project's biological resource impacts. Because the establishment of this conservation easement would be necessary to secure the permits required to operate the expanded landfill, it is considered a necessary project component that would support the government function of solid waste management at the site.

The performance of government functions, such as solid waste management and associated habitat mitigation, would be permitted within the AR and AP zoning designations if they are deemed by the County to be essential or desirable to the public convenience or welfare, and they are in harmony with the various elements and objectives of the general plan. If the County approves the Conditional Use Permit application and General Plan amendment submitted for the project, the County would continue to contract for solid waste services at the project site and **no impact** related to agricultural zoning would occur.

#### Mitigation Measure 4.1-4 Conflict with Zoning for Agricultural Use

No mitigation measures are required.

| | |
|---|---|
| **IMPACT 4.1-5** | **Conflict with Adjacent Agricultural Uses.** *Consistent with current operations, the proposed expansion area would be surrounded by agricultural lands used for cattle grazing. The expanded solid waste operations would not include any grazing restrictions other than a 50-foot setback from operational areas of the landfill or areas containing waste. The grazing activities adjacent to the current landfill operations have continued unabated without any restrictions and would be expected to continue with project implementation. Therefore,* ***no impact*** *related to conflicts with adjacent agricultural uses would be anticipated with project implementation.* |

The existing JSRL is surrounded by agricultural land used for cattle grazing. Barbed-wire fencing surrounds the current landfill operations to ensure cattle do not wander onto the operating areas. As described in Section 8.6.3 of Appendix C, cattle grazing is currently allowed on the unused portion of the landfill property and has been an ongoing activity on the 388.05-acre expansion site. As the landfill footprint expands on the property, a 50-foot setback between the waste boundary and grazing cattle would be maintained, similar to the separation required between the waste and property line by the current landfill Waste Discharge Requirements (Order No. R3-2013-0047, Prohibition No. 6). The 50-foot setback requirement is considered safe for humans, thus it is considered safe for cattle grazing. Other than this setback requirement, which would ensure cattle do not enter operational areas of the landfill or areas containing waste, no other constraints would be placed on the grazing operations. The grazing activities adjacent to the current landfill operations have continued unabated without any restrictions and would be expected to continue with project implementation. Therefore, **no impact** related to conflicts with adjacent agricultural uses would be anticipated with project implementation.

#### Mitigation Measure 4.1-5 Conflict with Adjacent Agricultural Uses

No mitigation measures are required.

## 4.1.4 REFERENCES


California Department of Conservation (CDC), Important Farmland Maps of the Farmland Mapping and Monitoring Program. 2020. Available: https://www.conservation.ca.gov/dlrp/fmmp.

EMC. 2015 (March 16). Revised Draft Environmental Impact Report, San Benito County 2035 General Plan Update. SCH# 2011111016. Prepared for County of San Benito Planning & Building Department.

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# 4.2 TRAFFIC AND TRANSPORTATION

This section provides an evaluation of the traffic and transportation impacts associated with implementation of the proposed project. It is based on the John Smith Road landfill Expansion Traffic Study prepared by PHA Transportation Consultants (June 2022) as well as other available information. This section addresses the existing commercial truck haul route as well as the proposed haul route. Two possible alternative haul routes are addressed at a project level in Chapter 6, Alternatives, of this Draft EIR.

## 4.2.1 EXISTING SETTING

Out-of-County waste haul vehicles coming south on State Route 25 (SR 25) currently take Shore Road and continue on Fairview Road to access John Smith Road. The vast majority of in-County vehicles access the site from Fairview Road coming from both the north and south of John Smith Road. A very small number of self-haul vehicles access the site from the east via Santa Ana Valley Road to John Smith Road. The project would establish a haul route for out-of-County commercial vehicles that would direct them further south on SR 25 to Wright Road-McCloskey Road. They would continue east and turn right from McCloskey Road onto Fairview Road to access John Smith Road. Empty commercial vehicles departing the site would remain on northbound Fairview Road and Shore Road to access SR 25, as they do currently.

### ROADWAY NETWORK

**Current Haul Route**

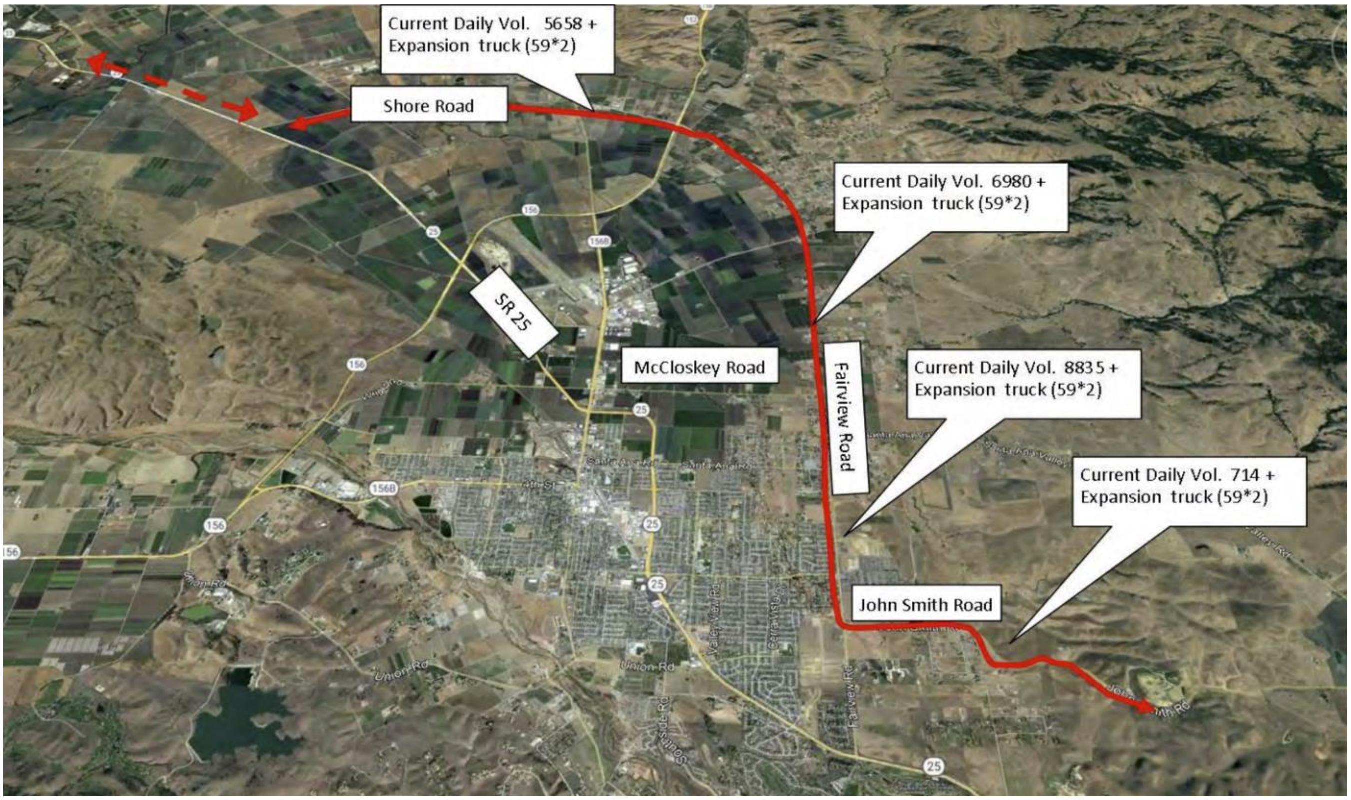
The current out-of-County commercial vehicle haul route consists of Shore Road, Fairview Road, and John Smith Road (Figure 4.2-1). It begins at the SR 25 and Shore Road intersection and ends at the landfill. The entire route measures 30 miles long (round trip) with one travel lane in each direction plus additional turn lanes at major intersections. A section of Fairview Road between Hillcrest Road and Sunnyslope Road has two southbound lanes. Traffic at intersections at SR 156, McCloskey Road, Santa Ana Road, and Sunnyslope Road are controlled by traffic signals, while other side streets along the route are controlled either by stop signs or no signs. Road shoulders along its length are mostly unpaved and limited at some segments. Travel lanes are generally the standard 12-foot lane along Shore Road and Fairview Road but with no bike lanes or sidewalks. There are intermittent shoulders; some are paved while others are not. Travel lanes along John Smith Road are about 10 feet wide with limited and intermittent unpaved shoulders. The speed limit on the Shore and Fairview Road segments to John Smith Road is 55 mph. The recorded vehicle speeds along the route are generally above 55 mph. Sight distance along the route generally is the speed limit on John Smith Road. There were 97 reported collisions along the entire route between 2016 and 2020, or 19.4 on average annually.

A traffic operational constraint for this route is that the Fairview intersection at John Smith Road does not have a sufficient left-turn lane in the southbound direction to accommodate left-turning landfill-bound trucks. This can result in landfill-bound haul trucks blocking southbound traffic on Fairview Road as they wait for a gap in the traffic to make the left turn onto John Smith Road.

John Smith Road, between Fairview Road and the landfill, was re-paved in 2016. Consequently, the pavement condition is good. Segments, but not the entirety, of Fairview Road have been re-constructed during the past few years. The older roadway segments have conditions varying from poor to good, with some segments requiring re-pavement in the near future.

**Proposed Haul Route**

The proposed haul route is about 28 miles long (round trip) between the SR 25/Shore Road intersection and the landfill and consists of SR 25 to Wright Road to McCloskey Road to Fairview Road to John Smith Road inbound;



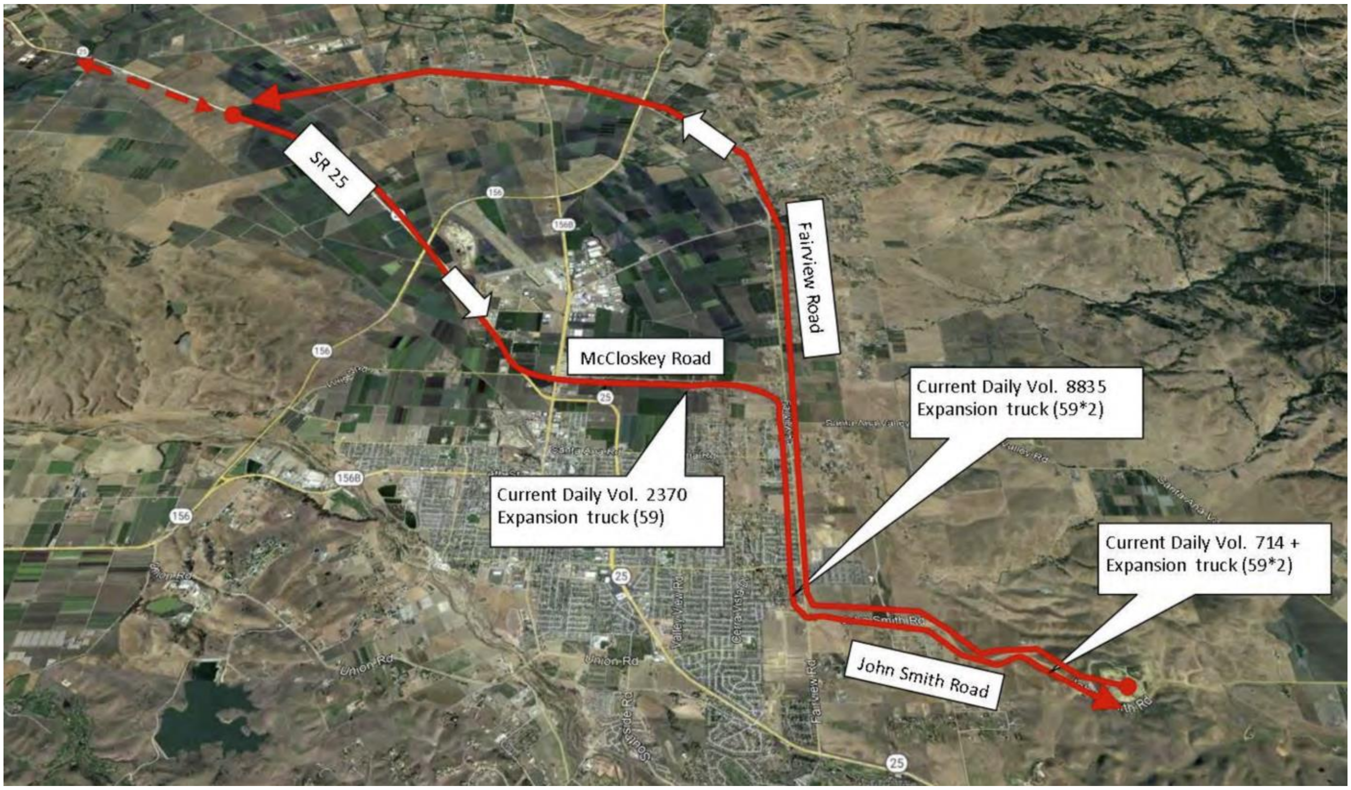
Source: PHA 2022

**Existing Out-of-County Commercial Vehicle Haul Route** **Figure 4.2-1**

and John Smith Road to Fairview Road to Shore Road to SR 25 outbound (Figure 4.2-2). SR 25 is a state highway with one travel lane in each direction and paved shoulders plus turn lanes at major intersections. Traffic at the intersection with SR 156 is controlled by a traffic signal while traffic at other intersections is controlled by stop signs on side streets. A section of SR 25 near the intersection with SR 156 is widened and has two travel lanes in each direction. The posted speed is 55 mph. Wright Road-McCloskey Road has one travel lane in each direction with unpaved shoulders but no bike lanes or sidewalks. Traffic is controlled by traffic signals at the intersections of SR 156 and Fairview Road, while side streets are controlled by stop signs or no signs at all. There is no posted speed limit along the segment but the prima face speed limit is 40 mph and the recorded speed is above 55 mph. Sight distance is generally good as there are no curves along this segment. The remainder of the route consists of Fairview Road and John Smith Road as discussed in the current haul route.

There are three potential constraints with this route. First, the McCloskey Road approach to Fairview Road does not have an exclusive right-turn lane to accommodate the right-turning landfill-bound trucks; additionally, haul trucks may not be able to negotiate the right turn due to the presence of a traffic signal pole and the utility pole at the southwest corner. Second, the southbound Fairview Road approach to John Smith Road does not have a sufficient left-turn lane for left-turning landfill trucks, which could result in traffic blockage on Fairview Road as described for the current haul route. This will become an issue as more approved and cumulative development projects occur and add traffic to Fairview Road. Finally, Write-McCloskey Road pavement is in poor condition and would require reconstruction to accommodate additional truck traffic (PHA 2022). It is scheduled for re-paving in 2026.

There were 121 reported collisions along this route between 2016 and 2020, representing an average of 24.2 collisions annually. Both Wright Road and McCloskey Roads along the proposed haul route have older roadway segments that will require pavement reconstruction in the near future.




Source: PHA 2022

**Proposed Out-of-County Commercial Vehicle Haul Route** **Figure 4.2-2**

Table 4.2-1 summarizes the current traffic volumes, capacities, and travel speed of the current and proposed future access road segments leading to the John Smith Road landfill. As indicated, all these roads are currently operating well under their estimated capacities.

**Table 4.2-1**
**Current Traffic Volumes and Speeds**

| | Environmental Capacities (VPD) | Current Volumes (ADT) | 85thPercentile Speed (mph) |
|---|---|---|---|
| John Smith Road – East of Fairview Road | 6000 | 1071 | 60 |
| John Smith Road – West of Landfill | 6000 | 714 | 52 |
| Fairview Road – North of McCloskey Road | 12,500-15,000 | 6980 | 63 |
| Fairview Road – South of Hillcrest Road | 12,500-15,000 | 8835 | 53 |
| McCloskey Road | 6000 | 2370 | 58 |
| Shore Road (East of San Felipe Road) | 12,500-15,000 | 5658 | 65 |
| State Route 25 | N.A. | 29500 | N.A. |

Traffic volume and speed data were collected in the field by IDAX Traffic Solution in March 2022
VPD = Vehicles per day
ADT = Average Daily Trips
mph = Miles per Hour

### County Truck Route Policy

The Circulation Element of the San Benito County 2035 General Plan states that "The County shall designate truck routes for the transport of goods throughout the County and shall adopt regulations for designated truck routes" and "shall encourage inter- and intra-regional truck traffic to use State and federal highways, to maintain the primary role of County roads as serving local and agricultural traffic" (San Benito County 2015). SR 25 through San Benito County is a California Legal Advisory Truck Route[1]. Fairview Road and Shore Road are identified as proposed Surface Transportation Assistance Act truck routes in the 2040 San Benito Regional Transportation Plan (Council of San Benito County Governments 2018)[2].

### Existing Landfill Traffic

John Smith Road Landfill is permitted to receive 600 vehicles a day. The landfill is open 7 days a week. On Mondays through Fridays, the landfill accepts solid waste and debris from in-County trucks, out-of-County trucks, and San Benito County residents (self-haulers). On Saturdays and Sundays, the landfill receives San Benito County local residential self-haulers and also receives a small number of in-County and out-of-County commercial trucks (before March 31, 2022).

The landfill receives waste materials and debris from three sources: out-of-County commercial, in-County commercial, and local in-County residential (self-haul). The out-of-County commercial is solid waste transported from various jurisdictions mostly from Northern California. The in-County commercial vehicles are primarily Recology trucks originating in Gilroy that pick up solid waste and debris along their routes within the county, mostly in Hollister, and then transport them to the landfill. The in-County self-haul are residential solid waste materials and debris dropped off by residents from within the county, mostly in Hollister.

The 2020 incoming vehicle record indicates the landfill received a total of 255 vehicles on average weekdays from out-of-County waste haul trucks, in-County waste trucks, and local residential self-haul vehicles; and a peak of 469 vehicles on Saturdays and special event days (peak days), which occur 20 times a year. Fewer than 10 vehicles/week enter the facility only to recycle without crossing the scales (and being counted). With the addition of roughly 15 employee trips and deliveries per day, the average trips are 270 per day. Table 4.2-2 shows current and proposed project non-employee vehicle generation.

### Existing Landfill Queuing

The landfill currently has one access gate for checking in and weighing incoming vehicles. The queuing lane between the check-in point and John Smith Road measures about 850-900 feet long. The average incoming vehicle count for January to March 2022 was about 247 vehicles on average days and 297 on weekends (including special event days), while the maximum was 421 vehicles occurring on Saturday, January 29 (a special event day). According to the landfill operator, the normal processing time (check-in) for each incoming vehicle is between 1 and 3 minutes.

According to field observations conducted on Saturday morning April 23, 2022, landfill customers began arriving shortly after 8 am. There were about 20 vehicles (mostly pickup trucks with trailers) waiting in the queuing lane before the check-in gate opened at 9 am. The vehicle queue extended to the end of the queuing lane plus two

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[1] A California Legal Advisory Truck Route is designated to accommodate California-Legal trucks only; however, travel is not advised if truck length is over posted value. Advisories range from 30 to 38 feet (kingpin to rear axle). (https://www.sjgov.org/commdev/cgi-bin/cdyn.exe/file/Planning/Other/CALTRANS%20-%20TRUCK%20MAP%20LEGEND.pdf).

[2] The Surface Transportation Assistance Act (STAA) of 1982 allows large trucks to operate on the Interstate and certain primary routes called collectively the National Network. These trucks, referred to as STAA trucks, are longer than California legal trucks.

vehicles waiting in the left-turn lane on John Smith Road. Once the check-in point opened, the queues began to dissipate. Over the five-hour observation period between 8 am and 1 pm, no vehicle queues extended beyond the queuing lane onto John Smith Road. As observed, the queue rarely exceeded the 650 feet mark, which is the end of the raised median just east of the gate fence. Links to the survey videotapes are included in the Traffic Report appendices (PHA 2022). However, the County reports that queuing onto John Smith Road has occurred on the annual free Disposal Day and weekend special-event days, as well as other times on weekends (PHA 2022).

**Table 4.2-2**
**Current and Proposed Project Vehicle Generation**

| Daily Permitted Vehicles | Current 2020 | W/ Expansion 50-year | Change Vehicles (%) |
|---|---|---|---|
| | 600 | 600 | 0 (0%) |
| **Average Days** (weekdays) | | | |
| Daily in-County commercial trucks | 31 | 37 | +6 (20%) |
| Daily out-of-County commercial trucks | 36 | 95 | +59 (164%) |
| Daily in-County residential self-haul vehicles | 188 | 222 | +34 (18%) |
| **Total** | **255** | **354** | **+99 (43%)** |
| **Saturday Days/Special Event Days** (20 times a year on Saturdays and Sundays only) | | | |
| Daily in-County commercial trucks | 9 | 11 | +2 (22%) |
| Daily out-of-County commercial trucks | 27 | 34 | +7 (26%) |
| Daily in-County residential self-haul vehicles | 433 | 533 | +100 (23%) |
| **Total** | **469** | **578** | **+109 (23%)** |

Source: John Smith Road Landfill Design Basis Report, Lawrence Associates 2021.
The above data includes employee vehicles. According to the landfill gate record, vehicle volumes are highest on regular Saturdays, not the special event days.

### TRANSIT SERVICE

Transit service to the project vicinity is provided by San Benito County Express Transit System, operated by the Council of San Benito County Governments. County Express operates several fixed-route buses in Hollister and San Benito County. However, none of the routes operate on roadways that are within walking distance of the project site. As of August 2017, the County Express fleet included 20 vehicles. All vehicles are ADA compliant and equipped with wheelchair lifts/ramps and bicycle racks (Council of San Benito County Governments 2018).

County Express also provides Dial-a-Ride service to Northern San Benito County, including Hollister, San Juan Bautista and Tres Pinos, on weekdays from 6 am to 6 pm and weekends between 9 am and 3 pm. Two types of Dial-a-Ride service are available: general public and paratransit. General public Dial-a-Ride serves those persons whose trips begin or end in a location more than three-quarters of a mile from the fixed route. Paratransit service provides rides to persons who have been determined to be Americans with Disabilities Act (ADA) eligible through the Local Transit Authority application process. Appointments for Dial-a-Ride service can be made up to 14 days in advance or on the day of the ride. However, same day scheduling is subject to a convenience fee and availability (Council of San Benito County Governments 2018).

### BICYCLE AND PEDESTRIAN FACILITIES

Bicycle facilities are divided into three classes of relative significance. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations (San Benito County 2015).

The project site is not served directly by any bicycle facilities. The closest bike facilities include Class II bike lanes on Fairview Road between Sunnyslope Road and Hillcrest Road. Class II bike lanes are planned to be installed on the remaining portions of Fairview Road (San Benito County 2015).

John Smith Road and much of Fairview Road includes undeveloped roadway frontages without sidewalks or developed shoulders that would support pedestrian and bicycle usage. The lack of these facilities discourages pedestrian and bicycle travel between the project site and the City of Hollister, although some recreational cyclists currently use John Smith Road.

## 4.2.2 REGULATORY SETTING

### FEDERAL REGULATIONS

There are no federal laws or regulations that are relevant to potential transportation impacts of the proposed project.

### STATE REGULATIONS

#### Senate Bill 743

Senate Bill 743, passed in 2013, required the California Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address traffic metrics under CEQA. As stated in the Legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any." OPR updated its CEQA Guidelines to implement SB 743 in 2018 and identified Vehicle Miles Travelled (VMT) as the primary metric to be used in identifying transportation impacts for CEQA analyses.

Section 15064.3(a) and (b) of the State CEQA Guidelines identify the considerations for evaluating a project's transportation impacts and the criteria for analysis respectively as follows:

*Section 15064.3(a) Purpose.*

*This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.*

*Section 15064.3(b) Criteria for Analyzing Transportation Impacts.*

*(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.*

*(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.*

(4) *Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.*

## LOCAL REGULATIONS

### 2040 San Benito County Regional Transportation Plan

The 2040 San Benito Regional Transportation Plan (Plan) presents a blueprint for addressing region-wide issues, The Plan identifies the existing transportation conditions and plans future improvements based on growth, approved plans, public input, stakeholder collaboration and Council of Governments Board direction. The Plan is a 22-year planning document that guides the development of the transportation system in the San Benito region. The Plan includes programs to better maintain, operate, and expand transportation. The Plan envisions a future in which safe and efficient transportation choices are provided to a variety of trip destinations including jobs, educational institutions, healthcare facilities, and others.

As the region's comprehensive transportation planning document, the Plan also serves as a guide for achieving public policy decisions that will result in balanced investments for a wide range of multimodal transportation improvements. A Regional Transportation Plan communicates the vision of a community. In particular, the Plan looks into the future and considers the potential impact of projected housing, population, and employment growth on the transportation network and identifies solutions to meet the increased demand on all modes, including highways, local roads, bicycle, pedestrian, and public transit.

### San Benito County 2035 General Plan

The San Benito County 2035 General Plan includes the following goals and policies from the Circulation Element that are applicable to the proposed project:

- **Goal C-1:** To provide an adequate road system that is safe, efficient, reliable, and within the County's ability to finance and maintain.
- **Policy C-1.3: Roadway Improvement Aesthetics.** The County shall require roadway improvements, such as roadway alignment and grading, landscaping, and/or other treatments, to reflect a context sensitive approach and be based on the intended character, whether urban or rural, of a particular location to be designed to conform to existing landforms and to include landscaping and/or other treatments to ensure that aesthetics are preserved, including the County's rural character.
- **Policy C-1.4: Funding Sources.** Prior to approving new development, the County shall identify, develop, and/or maintain a variety of funding sources to implement the improvements on the Circulation Diagram or other improvements deemed necessary to accommodate the new development at applicable levels of service. These funding sources may include County capital funds as available, building and traffic impact fees for new development or designated benefit areas, developer/subdivider improvements, offers of dedication of rights-of-way, assessment/improvement districts, and gas taxes or other measures.
- **Policy C-1.5: Mitigating Transportation Impacts.** The County shall assess fees on all new development to ensure new development pays its fair share of the costs for new and expanded transportation facilities, as applicable, to County, City, regional and/or State facilities.

- **Policy C-1.6: Review of General Plan Amendments.** The County shall submit all proposed General Plan amendments to SBCOG, Caltrans, and the cities of San Juan Bautista and Hollister for review and comment.

- **Policy C-1.9: Dedicate Rights-of-Way.** The County shall require project applicants with property fronting along planned road improvements, as a condition of project approval, to dedicate right-of-way and/or construct improvements in accordance with the Circulation Diagram when (1) a nexus can be established between the proposed project and the dedication and/or construction; and (2) the dedication and/or construction would be roughly proportional to the project's impacts.

- **Policy C-1.12: Level of Service (LOS) Standard.** The County shall endeavor to maintain a General Plan target goal of LOS D at all locations. If a transportation facility is already operating at an LOS D or E, the existing LOS should be maintained. Exceptions should be considered where achievement of these levels of service would cause unacceptable impacts to other modes of transportation, the environment, or private property.

- **Policy C-1.16: Roads on Hillsides:** The County shall require that new public and private roads on hillsides minimize visual impact by blending with natural landforms and by following the natural contours of the land as much as possible and that driveway access in hillside areas be consolidated where possible and limited to areas where adequate sight distance is available for all approaches.

- **Policy C-1.17: Grades on Hillsides:** The County shall require that new roads on hillsides do not exceed a 15 percent grade. The County may allow grades on hillsides of up to 20 percent for distances of up to 400 feet. Grades over 15 percent must have all weather surfaces, such as asphalt or concrete.

- **Goal C-2:** To provide a safe, continuous, and accessible system of facilities for bicycle and pedestrian travel in appropriate areas of the county.

- **Policy C-2.1: Bicycle, Pedestrian, and Equestrian Systems.** The County shall encourage complete, safe, and interconnected bicycle, pedestrian, and equestrian systems, as appropriate to the context, that serve both commuter travel and recreational use, and provide access to major destinations in the county.

- **Goal C-3:** To promote a safe and efficient public transit system that provides a viable travel alternative to automobiles, maximizes mobility, and reduces roadway congestion and greenhouse gas emissions.

- **Policy C-3.9: Consistency with RTP.** The County shall require all new development proposals to be consistent with and implement the San Benito County Regional Transportation Plan transit policies.

- **Goal C-5:** To provide for the safe and efficient movement of goods to support commerce while maintaining safety and quality of life in the County.

- **Policy C-5.4: Truck Routes.** The County shall designate truck routes for the transport of goods throughout the County and shall adopt regulations for designated truck routes.

- **Policy C-5.5: County Roads for Local Traffic.** The County shall encourage inter- and intra-regional truck traffic to use State and Federal highways, to maintain the primary role of County roads as serving local and agricultural traffic.

In addition, the Public Facilities and Safety Element of the San Benito County 2035 General Plan includes the following policy applicable to the proposed project:

- **Policy PFS-1.12: New Development Requirements.** The County shall require new development, in compliance with local, State, and federal law, to mitigate project impacts associated with public facilities and services, including, but not limited to, fire, law enforcement, water, wastewater, schools, infrastructure, roads, and pedestrian and bicycle facilities through the use of annexation fees, connection fees, facility construction/expansion requirements, or other appropriate methods.

## 4.2.3 IMPACTS AND MITIGATION MEASURES

### METHOD OF ANALYSIS

Senate Bill 743 (Steinberg, 2013), which was codified in Public Resources Code section 21099, required changes to the guidelines implementing CEQA (CEQA Guidelines) (Cal. Code Regs., Title 14, Div. 6, Ch. 3, § 15000 et seq.) regarding the analysis of transportation impacts. Automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA (Pub. Resources Code, § 21099, subd. (b)(3)).

Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT) (OPR 2018) but their inclusion is not required. For purposes of the VMT impact evaluation in this section, the assessment is focused on the effects of automobile VMT. However, heavy truck VMT also is provided below for informational purposes.

This section also assesses roadway safety based on past accident history. Pavement condition also is discussed based on information provided by the San Benito County Public Works Department.

### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, the project would result in a significant effect on the environment if it would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

In addition, the County has added the following significance threshold:

- Substantially increase roadway wear on degraded road segments.

For the CEQA Guidelines Section 15064.3 threshold, OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold. However, this threshold is generally applicable only to residential and office projects. OPR identifies a significance threshold for retail projects of no net increase in VMT. OPR does not identify a threshold for other project types such as public facility projects and does not identify a threshold for landfill or solid waste projects. (OPR 2018.) However, this same approach cannot be applied to a landfill because it is not contributing to the population base. Also, because the proposed operations would generate very few additional employees, a per employee VMT comparison would not be informative. Therefore, for purposes of this analysis, a qualitative discussion of the proposed project's contribution to automobile (i.e., cars/light trucks) VMT is provided and compared to the pre-March 31, 2020 baseline conditions.

### IMPACTS AND MITIGATION MEASURES

| IMPACT 4.2-1 | **Circulation Element Policy Consistency.** *The proposed project would not conflict with circulation policies included in the San Benito County 2035 General Plan or the 2040 San Benito Regional Transportation Plan. Therefore, there would be no conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and there would be* ***no impact****.* |
|---|---|

For Circulation Element Policy C-1.12, which specifically addresses level of service standards, the changes in the CEQA Guidelines required by Senate Bill 743 altered the assessment of traffic metrics under CEQA. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA (Pub. Resources Code, § 21099, subd. (b)(3)). Because level of service impacts would not constitute a significant impact, any conflict with this policy would not constitute a significant impact for CEQA purposes.

The renovation of the facility entrance would be expected to comply with the policies in the Circulation Element related to aesthetics, the dedication of rights-of-way, constructing roads on hillsides, and ensuring adequate sight distances. The 2040 San Benito Regional Transportation Plan identifies existing and proposed bikeways within the region but no bikeways are proposed on John Smith Road (2040 San Benito Regional Transportation Plan, Figure 4-9) (Council of San Benito County Governments 2018). Therefore, the realignment of the landfill entrance would have no effect on existing or proposed bikeways within the County. The increased number of haul trucks and automobiles accessing the site would slightly increase the potential for conflicts with recreational cyclists on John Smith Road, however, given the small number of additional vehicles spread out throughout the day, this impact would not be significant.

The commercial vehicles accessing the site would use McCloskey Road to Fairview Road to connect with John Smith Road inbound and John Smith Road to Fairview Road to Shore Road outbound. Fairview and McCloskey Roads are identified as proposed Surface Transportation Assistance Act truck routes in the 2040 San Benito Regional Transportation Plan (Council of San Benito County Governments 2018), the increased use of these roadways by trucks associated with the proposed project would not result in a conflict with the 2040 San Benito Regional Transportation Plan. John Smith Road is not a designated truck route but is the only possible access to the landfill.

Transit service is not provided to the project site and would not be affected by project implementation, as transit policies do not apply to the transport of materials to and from landfills. Nor is transit typically utilized by the public to haul waste. Therefore, the proposed project would not conflict with the transit policies included in the 2040 San Benito Regional Transportation Plan.

The proposed project would not conflict with circulation policies included in the San Benito County 2035 General Plan or the 2040 San Benito Regional Transportation Plan. Therefore, there would be no conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities and there would be **no impact**.

#### Mitigation Measure 4.2-1 Circulation Element Policy Consistency

No mitigation measures would be necessary.

**IMPACT 4.2-2** **CEQA Guidelines Section 15064.3 Consistency.** *The proposed project would be expected to increase automobile VMT when compared to current operations; however, the additional VMT would be below the significance screening threshold. This impact would be considered* ***less than significant****.*

The implementation of SB 743 requires land development projects to evaluate Vehicle Miles Travelled (VMT) instead of the delay and level-of-Service at streets and intersections. The December 2018 "Technical Advisory on Evaluating Transportation Impacts in CEQA" issued by the Governor's Office of Planning and Research, suggests that the following types of projects may be screened out from VMT impacts or analysis as they may generally be assumed to cause less than significant VMT impacts. One of these screening criteria is small projects that generate less than 110 average daily trips (ADT).

The expansion would increase the current weekday automobile/light truck count from 188 to 222 average vehicles per day by 2050. This represents 34 automobiles/light trucks or 68 ADT (one-way). The expansion also would add 2 employees or 4 daily one-way trips. As a result, the expansion would add a total of 72 ADT, which would be under the 110 ADT screening threshold. While the expansion project itself is not a "small" project in acreage, the nature of the project is not VMT generating like a residential or commercial project of similar acreage. As such, for purposes of VMT, it would be considered a small project and is therefore **less-than-significant**.

The expansion also would add an average of 6 in-County commercial haul trucks and 59 out-of-County commercial haul trucks daily on weekdays. However, CEQA does not require that heavy-duty trucks be included in the VMT analysis. As noted in OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA, "For this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." As the Technical Advisory explains, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks (SUVs and pick-up trucks). In changing from LOS to VMT as the metric by which transportation impacts are analyzed for CEQA, SB 743 focused on passenger vehicles with a goal to reduce VMT through the use of public transit, walkable communities, biking, mixed use development, and other development strategies that reduced passenger travel to and from residences, workplaces, and commercial opportunities.

With a project, such as a landfill, that would create conflicts if placed adjacent to heavily developed communities and thereby reduce VMT of haul trucks, analysis under the principles and goals of SB 743 does not provide meaningful information. Therefore, the County has determined that inclusion of heavy-duty trucks for VMT would not be consistent with SB 743. Instead, the environmental impacts from the heavy-duty trucks, including the mileage traveled by those heavy-duty trucks, is analyzed in the Air Quality, Greenhouse Gas and Climate Change, and Noise sections of this Draft EIR. In addition, potential accident and safety hazards of the additional truck trips as well as impacts to the haul route roads from the heavy-duty trucks are addressed in this section. Therefore, all potential physical environmental effects of the additional truck trips have been addressed in this Draft EIR.

**Mitigation Measure 4.2-2 CEQA Guidelines Section 15064.3 Consistency**

No mitigation measures would be necessary.

**IMPACT 4.2-3** **Potential Roadway Hazards.** *The proposed project would increase the number of trucks passing through the Fairview Road/McCloskey Road intersection, which has several constraints. In addition, the project does not include a left turn lane from John Smith Road to the new project entrance. Therefore, the proposed project could substantially increase hazards of traffic conflicts, and this impact would be considered* ***potentially significant****.*

The proposed commercial vehicle haul route includes traveling from SR 25 to Wright Road to McCloskey Road to Fairview Road to John Smith Road inbound and traveling from John Smith Road to Fairview Road to Shore Road to SR 25 outbound (Figure 4.2-2). SR 25 is a state highway with one travel lane in each direction and paved shoulders plus turn lanes at major intersections. There are two potential circulation constraints associated with this route. First, the McCloskey Road approach to Fairview Road does not have sufficient capacity to accommodate an exclusive right-turn lane to accommodate the right-turning landfill-bound trucks and the haul trucks may not be able to negotiate the right turn due to the presence of a traffic signal pole and a utility pole at the southwest corner. Second, the southbound Fairview Road approach to John Smith Road does not have a left-turn lane of sufficient length to accommodate left-turning landfill trucks, which could result in increased traffic blockage and conflicts on Fairview Road. This would become an issue as more approved and cumulative development projects occur and add traffic to Fairview Road.

PHA also conducted a queuing analysis for the project (PHA 2022). The landfill currently receives 255 vehicles daily on average days and a peak of 469 vehicles on Saturdays and special event days that occur also on Saturdays (special event days occur approximately 20 times each year on Saturdays only). With the proposed expansion, daily incoming vehicles would gradually increase by 23% to 578 on Saturdays and special-event days; the landfill also would add another check-in gate and would have 2 internal queuing lanes, each 850 feet long, for a total of 1,700 feet in length. Assuming the same incoming vehicle arrival, queuing patterns and vehicle mix after the expansion, the projected vehicle queues would likely be about 1,000 feet long with one check-in point. With two check-in points, the vehicle queue could be cut in half, to 500 feet.

Viewed more conservatively, assuming a uniform 35-foot space for each vehicle and 54 vehicles waiting ahead of the check-in point before it opens, the queue length would be 1,890 feet long. Additional queuing analyses conducted using a computer model indicated that with the current condition, at an average of 2-minute check-in time, the queue on the average would be 12 vehicles and the average wait time would be 22 minutes for each vehicle, assuming between 30 and 40 hourly incoming vehicles. With a 1-minute check-in time (to assume two checkpoints working simultaneously), the queue would be about 6 vehicles, assuming about 40 hourly incoming vehicles. Based on these assumptions, the new two-check-in and two queuing lanes with 850 feet each can adequately handle the projected vehicle queues.

The PHA report and County staff determined that a minimum of 550-foot sight distance at the entrance should be provided and the PHA report recommends truck route signs along the selected haul route. These recommendations have been added to Mitigation Measure 4.2-3 to avoid any potential roadway hazards.

While this entrance configuration would substantially reduce the likelihood of queuing, the lack of a left-turn lane could result in queuing behind trucks waiting to turn left from John Smith Road into the new entrance. Given the speeds of vehicles on John Smith Road, this could result in conflicts with non-landfill related east-bound traffic. This could result in a **potentially significant** impact.

#### Mitigation Measure 4.2-3 Potential Roadway Hazards

In order to reduce roadway hazards to a less-than-significant level, the measures set forth below shall be implemented. Generally, and notwithstanding any specific timing provisions set forth below, the following measures shall be implemented on a schedule to be specified by the County, and agreed by the County and the applicant, such that the measures will be constructed or installed prior to the occurrence of the impact requiring the mitigation. Also, such measures shall be implemented to the extent that existing public right-of-way is available for such measures (based on preliminary analysis such right of way does appear available, this will be confirmed in connection with specific design of the measures, and comparable and equally effective or superior revised mitigation shall be developed if there is any insufficiency of public right of way).

- **John Smith Road/Project Entrance Intersection:** The applicant shall construct (or ensure the construction of) a left-turn lane at the proposed new project entrance on John Smith Road to provide for left-turn access to the site that is a minimum of 70 feet in length before the new entrance is open for public use. Any required roadway right-of-way would be taken from the north side of the John Smith Road, generally within the boundaries of the project site. Additionally, the applicant shall install a stop sign for the landfill exit lane onto John Smith Road before the new entrance is open for public use. The applicant shall submit project plans for the intersection improvements to the County for approval prior to construction. The applicant shall provide and maintain a minimum sight distance of 550 feet in both directions at the new landfill entrance, including regular maintenance and vegetation trimming on property that is either owned by the applicant or the County or is located within a public right-of-way, to ensure minimum sight distance.

- **Fairview Road/John Smith Road Intersection**: Within three years of project approval or prior to exceeding 1,000 tons per day of waste for burial, whichever occurs first, the applicant shall construct (or ensure the construction of), the restriping of the northbound left-turn pocket to St. Benedict Lane to accommodate a southbound left turn pocket on the Fairview Road approach to John Smith Road that it is a minimum of 105 feet in length. Any roadway widening that may be necessary to accommodate this larger southbound turn lane will occur within the existing right-of-way on the east side of Fairview Road. The applicant shall submit project plans for the intersection improvements to the County for approval prior to construction.

- **Fairview Road/McCloskey Road Intersection**: Within three years of project approval or prior to exceeding 1,000 tons per day of waste for burial, whichever occurs first, the applicant shall construct (or ensure the construction of), the relocation of the existing traffic light pole at the southwest corner of Fairview Road and McCloskey Road, so that it does not impede right turns at this intersection, and for the installation of guard railing around the existing utility pole and box. Within three years of project approval or prior to exceeding 1,000 tons per day of waste for burial, whichever occurs first, the applicant shall also construct (or ensure the construction of) the installation of ten feet of widened pavement at the southwest corner of Fairview Road and McCloskey Road to accommodate right turns from McCloskey Road onto Fairview Road. The applicant shall submit project plans for the intersection improvements to the County for approval prior to construction.

- **Haul Route:** Within three years of project approval or prior to exceeding 1,000 tons per day of waste for burial, whichever occurs first, the applicant shall install or ensure the installation of truck route and speed limit signage along the commercial vehicle haul route consistent with the most current version of the Caltrans Manual on Uniform Traffic Control Devices.

### Level of Significance after Mitigation

Implementation of Mitigation Measure 4.2-3 would reduce the potential for traffic hazards on McCloskey Road, Fairview Road and John Smith Road. This impact would be considered **less than significant** with implementation of the identified mitigation measure.

| IMPACT 4.2-4 | **Roadway Pavement Hazards.** *The addition of project-related truck trips to the local roadway network could increase road maintenance requirements, which if not regularly conducted, could contribute to roadway hazards. Therefore, this impact would be considered* ***significant****.* |
|---|---|

The proposed project would increase truck trips on local roadways accessing the project site. Because the longevity of roadway surfaces is primarily affected by the level of heavy truck traffic using the roadway, an increase in heavy truck trips is expected to increase local roadway maintenance requirements. As Table 5 in the Traffic Report demonstrates (PHA 2022), the road segments utilized for the haul route would increase truck load impacts to the roadway pavement. If roadway maintenance is not regularly conducted, poor pavement conditions could contribute to roadway hazards. The local roadways that would be affected include primarily John Smith Road, Fairview Road, Shore Road, and McCloskey Road.

Public Facilities and Safety Element Policy PFS-1.12 requires new development to mitigate project impacts associated with public facilities and services, including roads, through the use of annexation fees, connection fees, facility construction/expansion requirements, or other appropriate methods. Previously, the landfill operator paid a Road Impact Payment of $1.00 per ton to the County under the Landfill Operating Agreement to fund roadway pavement improvements associated with the truck trips generated by the existing landfill operations. Under the terms of the Landfill Operating Agreement, the landfill operator's obligation to pay that Road Impact Payment ceased when the operator ceased accepting out-of-County waste. The Landfill Operating Agreement also provides that the Road Impact Payment ceases upon approval of this expansion project.

Fee programs are one of the various methods that the County uses for financing roadway improvements, as referenced in Policy PFS-1.12 and Circulation Element Policy C.1-4: Funding Sources. The intent of the fee is to provide an equitable means of ensuring that future development contributes their fair share of roadway pavement improvements over the life of the project, so that the County's 2035 General Plan Circulation Element policies and quality of life can be maintained. A fee correlated to the tonnage received at the site is one appropriate means to calculate such a fee because an increase in tonnage associated with project implementation would result in an associated increase in fee payments.

Although the 2040 San Benito Regional Transportation Plan (Plan) acknowledges that a shortage of funding has impacted the ability of San Benito County and the City of Hollister to provide adequate rehabilitation and maintenance of the existing local roadway system, the Plan identifies improvements to local roadways including the widening of Fairview Road by 2040. Fairview Road is a primary access route for the proposed project. The Plan also identifies that Senate Bill 1, the Road Repair and Accountability Act approved in 2017, provides over $51 million to the San Benito County region over the next 22 years for local road rehabilitation and maintenance needs (Council of San Benito County Governments 2018). These additional funds are expected to supplement existing local funding sources and expand the capacity of local governments to rehabilitate and maintain local roadways.

A fair share fee would be expected to supplement the other road maintenance funding available in the region (e.g., Senate Bill 1) to ensure that maintenance of the road surface along the site access routes is conducted on a regular basis and that no traffic hazards are created. Funding is also available via payments for the realignment of the John Smith Road/Fairview Road intersection, made by the applicant to the County in compliance with the Landfill Operating Agreement. Under that provision of the Landfill Operating Agreement, if the expansion project is approved, the landfill operator would pay $2,000,000 to fund the realignment project and, if the County determines that the realignment project is not practical or cost-effective, the County may spend the sum on other improvements to the landfill haul route. Because a per-ton funding program for road maintenance is not currently in place, the proposed project would be expected to result in deferred roadway maintenance such that it could cause roadway hazards and this impact would be considered **significant**.

#### Mitigation Measure 4.2-4 Roadway Pavement Hazards

Prior to waste being placed in the first expansion cell, the applicant and County shall execute an agreement obligating the applicant to pay a fair share fee toward roadway maintenance and rehabilitation along the haul route for the life of the expansion project. The tonnage accepted at the site shall be factored into the fair share fee so that an increase in waste tonnage deliveries to the site would result in a corresponding increase in road maintenance funding for the County.

## Level of Significance after Mitigation

The project's contribution to roadway pavement hazards would be reduced to **less than significant** with implementation of the funding mechanism identified in Mitigation Measure 4.2-4. Therefore, the project would not be expected to result in deferred roadway maintenance such that it would cause roadway hazards.

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| **IMPACT 4.2-5** | **Emergency Access.** *The proposed project would include the expansion of the site entrance, which would be expected to improve emergency vehicle access. Therefore, there would be **no impact** on emergency access due to project implementation.* |

The proposed project includes entrance improvements that would be expected to enhance emergency access at the site and in the area. Instead of the two-lane roadway that currently provides ingress and egress at the site, the proposed project includes an expansion of the site entrance to include a total of three lanes. These would include two entrances lanes and one exit lane. In addition, a bypass lane is proposed adjacent to the two entrance lanes to accommodate entering vehicles that do not need to be weighed at the two new scales. With additional entrance roadway capacity, the ability for emergency vehicles to access the site would be improved.

During peak traffic conditions at the site on weekends when large numbers of primarily self-haul vehicles are accessing the site, vehicles queuing on the site entrance road can back up onto John Smith Road. If vehicles queue on John Smith Road, vehicles traveling through the area can be delayed including emergency vehicles accessing rural residences in the area. The new entrance would provide 820 feet of vehicle queuing space on the site for each lane, or a total of 1,640 feet of vehicle queuing space. This would more than double the current 800 feet of queuing space on the site. The new entrance would also include a second scale house, which would double the throughput at the entrance.

Although the proposed project would be expected to increase the number of vehicles arriving at the site daily, the majority of these new trips would be associated with commercial haulers arriving during the week when self-haul vehicle trips are relatively low. The growth in self-haul vehicles would be expected to correspond with overall population growth in the County. Because the proposed entrance improvements would more than double the onsite vehicle queuing capacity, it would be expected to largely eliminate vehicle queuing on John Smith Road. Therefore, the proposed project would not adversely affect emergency access and there would be **no impact** with project implementation.

### Mitigation Measure 4.2-5 Emergency Access

No mitigation is necessary.

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| **IMPACT 4.2-6** | **Pavement Integrity.** *The current pavement integrity on the ingress and egress routes would be inadequate for out-of-County commercial haul trucks. This could result in premature wear to the roadways that could lead to potholes and roadway cracking. This would be a **potentially significant impact**.* |

The pavement study in the PHA Traffic Impact Assessment found degraded pavement integrity along portions of McCloskey, Shore, and Fairview Roads. The increased use of these roadways by heavy out-of-County commercial haul trucks could exacerbate roadway degradation, potentially resulting in potholes and cracking, hastening the need for re-paving.

Wright-McCloskey Road within the proposed project limits includes older roadway segments and has pavement condition index (PCI) ratings that range from 9 to 19, with 100 being the best and 0 being the worst. These roadways will require pavement reconstruction in the near future. The current condition of these roadways is insufficient to handle heavy duty trucks on a regular basis, and the County does not have plans to reconstruct the roads until 2026.

Under current PCI conditions, the remainder of the roads for the proposed and alternative haul routes are sufficient to handle heavy duty trucks and Mitigation Measure 4.2-4 Roadway Pavement Hazards would ensure sufficient funding to maintain and repair impacts to the roads from haul trucks for the life of the project. This would be **a potentially significant** impact.

#### Mitigation Measure 4.2-6 Pavement Integrity

The applicant shall ensure that funding is provided for the reconstruction of portions of Wright Road and McCloskey Road used for the proposed haul route. The applicant and County will enter into a reimbursement agreement that will reimburse the applicant for reconstruction costs in excess of the applicant's fair share. This measure shall be implemented on a schedule to be specified by the County, and agreed by the County and the applicant, such that the reconstruction shall occur prior to use of the Wright Road and McCloskey Road haul route by out-of-County commercial vehicles.

### Level of Significance after Mitigation

The proposed project would have a **less-than-significant** impact on roadway degradation with implementation of the mitigation measure.

## 4.2.4 REFERENCES


Council of San Benito County Governments. 2018 (June 21). *2040 San Benito Regional Transportation Plan*. Available at: http://sanbenitocog.org/wp-content/uploads/2018/08/Final-2040-San-Benito-RTP.pdf.

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Governor's Office of Planning and Research (OPR). 2018 (December). *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Available at: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

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# 4.3 AIR QUALITY

This section includes a summary of applicable regulations, existing air quality conditions, and an analysis of potential short-term and long-term air quality impacts of the proposed project. The method of analysis of short-term construction, long-term regional (operational), local mobile sources, and toxic air emissions is consistent with the recommendations of the Monterey Bay Air Resources District (MBARD). In addition, mitigation measures are identified, as necessary, to reduce significant air quality impacts. The section is based on the *Calculations for Air Quality and Greenhouse Gas/Climate Change* prepared by Lawrence & Associates included as Appendix C.

## 4.3.1 EXISTING SETTING

The proposed project site is located within the North Central Coast Air Basin (NCCAB), which includes portions of Monterey, Santa Cruz, and San Benito Counties. The NCCAB is under the local jurisdiction of the MBARD.

### TOPOGRAPHY, CLIMATE, AND METEOROLOGY

The ambient concentrations of air pollutant emissions are determined by the amounts of emissions released by pollutant sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the quantity of emissions released by existing air pollutant sources, as discussed separately below.

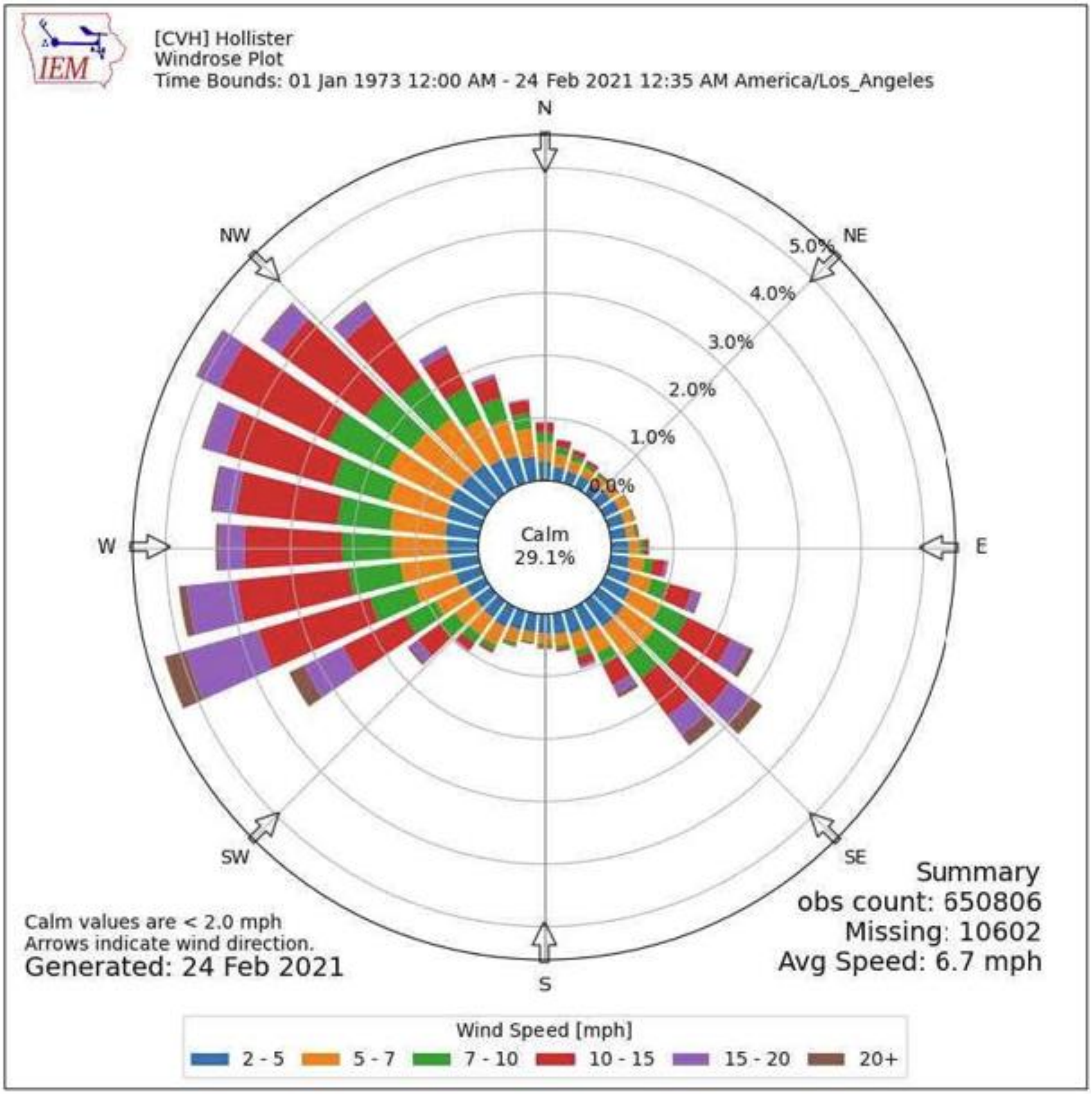
The generally northwest-southeast orientation of mountainous ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure, which intensifies the onshore air flow during the afternoon and evening.

In the fall, the surface winds become weak and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement and the relatively stationary air mass is held in place by the Pacific High-pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the North Central Coast Air Basin.

During the winter, the Pacific High migrates southward and has less influence on the air basin. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the basin in winter and early spring.

Hollister, at the northern end of the San Benito Valley, experiences west winds nearly one-third of the time. The prevailing air flow during the summer months probably originates in the Monterey Bay area and enters the northern end of the San Benito Valley through the air gap through the Gabilan Range occupied by the Pajaro River. In addition, a northwesterly air flow frequently transports pollutants into the San Benito Valley from the Santa Clara Valley.

Figure 4.3-1 shows the annual average wind direction and velocity. During the spring, summer, and fall, the wind is predominantly from the west-northwest blowing from the City of Hollister toward the John Smith Road Landfill (JSRL). In the winter months, the wind is more commonly from the southeast from the JSRL towards the City of Hollister but at a lower average speed.




Source: Iowa State University 2021

**Wind Direction and Speed Distribution in Hollister** **Figure 4.3-1**

### EXISTING CRITERIA AIR POLLUTANTS

Background air quality data for criteria pollutants (as described below) is available from the California Air Resources Board (CARB) Air Quality Management Information System website. Data for particulate matter ($PM_{10}$ and $PM_{2.5}$) and ozone ($O_3$) are measured at the Fairview monitoring station located at 1979 Fairview Road in Hollister, approximately 2.5 miles west-northwest of the project site. The nearest monitoring station for carbon monoxide (CO), oxides of nitrogen ($NO_x$), and nitrogen dioxide ($NO_2$) is located at the Salinas High School, approximately 22 miles southwest of the project site. The maximum background concentrations for these pollutants within the project area are summarized in Table 4.3-1.

As described in the MBARD 2012-2015 Air Quality Management Plan, dated March 14, 2017, the NCCAB was nonattainment for the California Ambient Air Quality Standards (CAAQS) for $PM_{10}$. The CAAQS for particulate matter (dust) of 10 micrometers or less in size ($PM_{10}$) is an annual average of 20 micrograms per cubic meter of air ($\mu g/m^3$) and a 24-hour average of 50 $\mu g/m^3$. The National Ambient Air Quality Standards (NAAQS) for $PM_{10}$ is 150 $\mu g/m^3$. According to CARB, as of August 2019, the NCCAB (along with most of California) was designated as nonattainment for $PM_{10}$.

The major sources of $PM_{10}$ within the project vicinity are fugitive road dust, windblown dust, farming operations, agricultural waste burning, construction, mobile sources, and industrial processes. $PM_{10}$ levels in the area are primarily due to farming operations, grading, construction, and motor vehicle emissions. Table 4.3-2 summarizes the daily annual exceedances of the CAAQS for $PM_{10.}$ During years when the 50 $\mu g/m^3$ state standard was exceeded, the exceedance occurred during the late summer/fall months. These months are the driest months of the year and after most crops have been harvested and irrigation ceases. Other months of the year tend to have higher antecedent moisture conditions that tend to reduce dust mobilization. During 2018 through 2020, portions of the Santana Ranch subdivision were constructed adjacent to the monitoring station and the construction may have had a local effect on the readings at the station by increasing local $PM_{10}$ emissions from construction dust. Additionally, regional and local wildfires may have affected the air quality readings at the station.

## EXISTING AIR QUALITY

### Toxic Air Contaminants

According to MBARD (2008, Section 9.0), toxic air contaminants (TACs) are pollutants which may be expected to result in an increase in mortality or serious illness or which may pose a present or potential hazard to human health. According to the California Almanac of Emissions and Air Quality (CARB 2006), most of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being diesel particulate matter (DPM) from diesel-fueled engines as described later in this section. The existing sources of TACs in the project vicinity include both stationary and mobile sources.

According to the United States Environmental Protection Agency (USEPA) Toxic Release Inventory map viewer website, there are no major stationary TAC emitters within a one-mile radius of the project site; however, KMG Electronic Chemicals Inc., Pacific Scientific Energetics Materials Co., and Royal Circuit Solutions Inc. are identified to be within a 5-mile radius. Mobile sources of TACs include vehicles with diesel-fueled internal combustion engines traveling on nearby roadways and at construction sites.

### Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which one person can become desensitized to almost any odor and recognition only occurs with an alteration of intensity.

| Table 4.3-1<br>Maximum Background Concentrations for the Project Area | | | | | |
|---|---|---|---|---|---|
| **Pollutant** | **Averaging Time** | **Data Source** | **Calendar Year** | | |
| | | | **2018** | **2019** | **2020** |
| Ozone, ppm | Maximum 1-hour Concentration | Fairview | 0.088 | 0.079 | 0.090 |
| | Maximum 8-hour Concentration | Fairview | 0.072 | 0.067 | 0.074 |
| | Days > 0.09 ppm State 1 hr. Standard | Fairview | 0 | 0 | 0 |
| | Days > 0.12 ppm Fed 1 hr. Standard | Fairview | 0 | 0 | 0 |
| | Days > 0.08 ppm Fed 8 hr. Standard | Fairview | 0 | 0 | 0 |
| $PM_{10}$, µg/m$^3$ | Maximum 24-hour Concentration | Fairview | 95.9 | 130.7 | 159.1 |
| | Annual[1] | Fairview | 20.63 | 17.30 | 23.17 |
| | Third Highest Annual (background) | Fairview | 80.20 | 57.90 | 111.7 |
| | Third Highest April-July (background) | Fairview | 36.3 | 32.3 | 42.9 |
| | Days > 50 µg/m$^3$ State 24 hr. Standard | Fairview | 13 | 7 | 31 |
| | Days > 150 µg/m$^3$ Fed 24 hr. Standard | Fairview | 0 | 0 | 1 |
| $PM_{2.5}$, µg/m$^3$ | 24-Hour | Fairview | 52.8 | 19.3 | 89.0 |
| | Annual[1] | Fairview | 7.15 | 5.0 | 6.8 |
| | Days > 65 µg/m$^3$ Fed 24 hr. Standard | Fairview | 0 | 0 | 0 |
| CO, ppm | 1-hour | Salinas High School | 35.000 | 35.000 | 1.6 |
| | 24-hour | Salinas High School | 1.813 | 1.813 | 1.074 |
| | Days > 9.0 ppm State 8 hr. Standard | Salinas High School | 0 | 0 | 0 |
| | Days > 9.0 ppm State 8 hr. Standard | Salinas High School | 0 | 0 | 0 |
| $NO_x$, ppm | 1-hour | Salinas High School | 0.08 | 0.58 | 0.56 |
| | 24-hour | Salinas High School | 0.018 | 0.018 | 0.016 |
| $NO_2$, ppm | 1-hour | Salinas High School | 0.047 | 0.030 | 0.032 |
| | 24-hour | Salinas High School | 0.015 | 0.014 | 0.014 |
| | Days > 0.25 ppm State 1 hr. Standard | Salinas High School | 0 | 0 | 0 |
| | Days > 0.1 ppm Fed1 hr. Standard | Salinas High School | 0 | 0 | 0 |
| $SO_2$ | No Data Available | | | | |
| Source: Lawrence & Associates 2022<br>Notes 1: Data Downloaded and Averaged<br>ppm = parts per million; µg/m$^3$ = micrograms per square meter | | | | | |

| Table 4.3-2<br>$PM_{10}$ Data Summary Fairview Road, Hollister Station | | | | | | |
|---|---|---|---|---|---|---|
| **Year** | **Days Exceeding 50 µg/m$^3$** | **Average Annual, µg/m$^3$** | **Days Exceeding 50 µg/m$^3$ in August** | **Days Exceeding 50 µg/m$^3$ in September** | **Days Exceeding 50 µg/m$^3$ in October** | **Days Exceeding 50 µg/m$^3$ in November** |
| 2015 | 0 | 16.42 | 0 | 0 | 0 | 0 |
| 2016 | 0 | 15.99 | 0 | 0 | 0 | 0 |
| 2017 | 11 | 18.91 | 0 | 2 | 9 | 0 |
| 2018 | 13 | 20.63 | 1 | 0 | 0 | 12 |
| 2019 | 7 | 17.27 | 0 | 0 | 6 | 1 |
| 2020 | 31 | 23.15 | 8 | 9 | 13 | 1 |
| Source: Lawrence & Associates 2022<br>µg/m$^3$ = micrograms per square meter | | | | | | |

Based on a review of the landfill's complaint log, no odor complaints have been documented within the last three years. The last odor complaint was received by the landfill operator on May 23, 2017. The odor was caused by a landfill gas leak, which was repaired. No odor complaints were found in the reviewed CalRecycle Inspection Reports for the 2020 calendar year. A query was made to the MBARD for complaints of any kind during 2019, 2020, and up to the date of the Notice of Preparation on February 22, 2021, and the MBARD found no complaints in their files.

## 4.3.2 REGULATORY SETTING

Air quality within San Benito County is regulated by agencies such as the USEPA, CARB, and MBARD. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislations. Although USEPA regulations may not be superseded, both state and local regulations may be more stringent.

### OVERVIEW

Under the Clean Air Act of 1970 (Clean Air Act), the USEPA and CARB regulate human-generated emissions. In addition to being subject to the requirements of the Clean Air Act, air quality in California is also governed by regulations under the California Clean Air Act of 1988 (CCAA). Implementation of the Federal Clean Air Act in California is the shared responsibility of the CARB, its 35 air-pollution control agencies (districts), and USEPA, Region 9. CCAA implementation is regulated by CARB and by the local and regional districts.

At the local level, the MBARD is under the oversight of CARB and in some cases (Title V Permits), USEPA Region 9. MBARD is designated by law to adopt and enforce State and Federal regulations to achieve and maintain ambient air quality standards. In addition, the MBARD adopts and enforces controls on stationary sources of air pollutants. All projects in San Benito County are subject to applicable MBARD rules and regulations.

### FEDERAL REGULATIONS

#### Criteria Pollutants

The Federal Clean Air Act required the USEPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants, also known as "criteria air pollutants," including ground-level ozone, particulate matter ($PM_{10}$ and $PM_{2.5}$), carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide (USEPA 2020), and determine what areas in the United States meet the standards termed, "attainment," and which areas do not meet the standards, termed "nonattainment." Table 4.3-3 summarizes the characteristics of these criteria pollutants.

The USEPA requires that states develop State Implementation Plans (SIPs) also known as Clean Air Plans that address the Federal Clean Air Act mandates for nonattainment areas. SIPs are comprehensive plans that describe how an area will attain NAAQS. SIPs are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations and federal controls.

#### Air Toxics

The USEPA regulates hazardous air pollutants (HAPs). In general, for those HAPs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Instead, the EPA regulates HAPs through statutes and regulations that generally require the use of the maximum or best available control technology (MACT or BACT) for toxics to limit emissions. These, in conjunction with additional rules set forth by state and local districts, establish the regulatory framework for HAPs.

| Table 4.3-3<br>Description of Federal Criteria Pollutants | |
|---|---|
| **Pollutant** | **Characteristic** |
| Ozone | Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and oxides of nitrogen ($NO_x$) in the presence of sunlight. ROGs are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. $NO_x$ is a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels. Human Health & Welfare Effects: Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes. |
| Carbon Monoxide | Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. The highest concentrations are generally associated with cold stagnant weather conditions that occur during the winter. In contrast to ozone, which tends to be a regional pollutant, CO problems tend to be localized. Human Health & Welfare Effects: Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death. |
| Nitrogen Dioxide | Nitrogen dioxide ($NO_2$) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of $NO_2$ are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form $NO_2$. The combined emissions of NO and $NO_2$ are referred to as oxides of Nitrogen, or $NO_x$, which are reported as equivalent $NO_2$. Because $NO_2$ is formed and depleted by reactions associated with photochemical smog (ozone), the $NO_2$ concentration in a particular geographical area may not be representative of the local $NO_x$ emission sources. Human Health & Welfare Effects: Respiratory irritant. Aggravates lung and heart problems. |
| Sulfur Dioxide | Sulfur dioxide ($SO_2$) is produced by such stationary sources as coal and oil combustion, steel mills, refineries, pulp, and paper mills. The major adverse health effects associated with $SO_2$ exposure pertain to the upper respiratory tract. Human Health & Welfare Effects: Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Impairs visibility. Precursor to acid rain. |
| Particulate Matter | Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as $PM_{10}$. $PM_{10}$ consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by condensation and/or transformation of $SO_2$ and ROG. Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. Human Health & Welfare Effects: Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze). |
| Lead | Metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries. Human Health & Welfare Effects: Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems. |
| Source: USEPA, 2020. | |

The USEPA has programs for identifying and regulating HAPs. Title III of the California Clean Air Act directed the USEPA to promulgate National Emission Standards for HAPs (NESHAP). The NESHAP may differ for major sources and for area sources of HAPs. Major sources under this program are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any single HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources. The emission standards were promulgated in two phases. In the first phase (1992-2000), the USEPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum achievable control technology, or MACT. For area sources, the standards may be different, based on generally available control technology or GACT. In the second phase (2001-2008), the USEPA was required to promulgate health risk-based emission standards, where deemed necessary, to address risks remaining after implementation of the technology-based NESHAP standards. The Clean Air Act also requires the USEPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, including benzene and other hydrocarbons such as 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, and napthalene. In addition, Section 219 requires the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

## STATE REGULATIONS

### Criteria Pollutants

The California Clean Air Act requires CARB to establish CAAQS, as discussed below. In addition to California law, for the federally regulated criteria air pollutants described above, the CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulate matter. In most cases the CAAQS are more stringent than the NAAQS. The difference in the standards is generally explained by the health effects studies considered during the standard setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources. Districts that do not meet the stated CAAQS for State-regulated criteria pollutants are required to prepare state-regulated SIPs. Table 4.3-4 summarizes the current state and federal ambient air quality standards.

### Vehicle Emissions

**Vehicles** – As described in Title 13 CCR, Division 3, the State of California is responsible for regulating emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven for on-road vehicles. In other words, the regulations focus on the reductions needed rather than on the way they are achieved. CARB has adopted regulations which require auto manufacturers to phase in less polluting vehicles and standards for motor vehicle fuels.

**California Diesel Risk Reduction Plan** – In September 2000, CARB adopted the Diesel Risk Reduction Plan, which recommends many control measures to reduce the risks associated with DPM (described below) and achieve a goal of 85 percent reduction in human health cancer risk associated with DPM emissions by 2020. The plan incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. CARB's ongoing efforts to reduce diesel-exhaust emissions from these sources includes the development of specific statewide regulations, which are designed to further reduce DPM emissions. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions. Since the initial adoption of the Diesel Risk Reduction Plan in September 2000, CARB has adopted numerous rules related to the reduction of DPM from mobile sources, as well as the use

**Table 4.3-4**
**Current State and Federal Ambient Air Quality Standards**

| Pollutant | Averaging Time | California[1] | National Standards[2,] | |
|---|---|---|---|---|
| | | Concentration[3] | Primary[3,5] | Secondary[3,6] |
| Ozone[8] | 1-hour | 0.09 ppm (180 μg/m³) | –[8] | Same as Primary Standard |
| | 8-hour | 0.07 ppm (137 μg/m³) | 0.07 ppm (137 μg/m³) | |
| Particulate Matter ($PM_{10}$) | 24-hour | 50 μg/m³ | 150 μg/m³ | Same as Primary Standard |
| | Annual Arithmetic Mean | 20 μg/m³ | – | |
| Particulate Matter ($PM_{2.5}$) | 24-hour | – | 35 μg/m³ | Same as Primary Standard |
| | Annual Arithmetic Mean | 12 μg/m³ | 12 μg/m³ | |
| Carbon Monoxide (CO) | 1-hour | 20 ppm (23 mg/m³) | 35 ppm (40 mg/m³) | – |
| | 8-hour | 9 ppm (10 mg/m³) | 9 ppm (10 mg/m³) | |
| Nitrogen Dioxide ($NO_2$) | 1-hour | 0.18 ppm (339 μg/m³) | 100 ppb (188 μg/m³) | – |
| | Annual Arithmetic Mean | 0.030 ppm (57 μg/m³) | 0.053 ppm (100 μg/m³) | Same as Primary Standard |
| Sulfur Dioxide ($SO_2$)[11] | 1-hour | 0.25 ppm (655 μg/m³) | 75 ppb (196 μg/m³) | – |
| | 3-hour | – | – | 0.5 ppm (1,300 μg/m³) |
| | 24-hour | 0.04 ppm (104 μg/m³) | 0.14 ppm (for certain areas)[11] | – |
| | Annual Arithmetic Mean | – | 0.030 ppm (for certain areas)[11] | – |
| Lead[12,13] | 30-day Average | 1.5 μg/m³ | – | – |
| | Calendar Quarter | – | 1.5 μg/m³ (for certain areas)[12] | Same as Primary Standard |
| | Rolling 3-month Average | – | 1.5 μg/m³ | |
| Visibility-Reducing Particles[14] | 8-hour | See footnote 14 | **No National Standards** | |
| Sulfates | 24-hour | 25 μg/m³ | | |
| Hydrogen Sulfide | 1-hour | 0.03 ppm (42 μg/m³) | | |
| Vinyl Chloride[12] | 24-hour | 0.01 ppm (26 μg/m³) | | |

1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter ($PM_{10}$, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For $PM_{10}$, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

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

**Table 4.3-4**
**Current State and Federal Ambient Air Quality Standards**

| Pollutant | Averaging Time | California[1] | National Standards[2,] | |
|---|---|---|---|---|
| | | Concentration[3] | Primary[3,5] | Secondary[3,6] |

4 Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7 Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.
8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m$^3$ to 12.0 μg/m$^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m$^3$, as was the annual secondary standard of 15 μg/m$^3$. The existing 24-hour $PM_{10}$ standards (primary and secondary) of 150 μg/m$^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11 On June 2, 2010, a new 1-hour $SO_2$ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12 CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13 The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14 In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
Source: Lawrence & Associates 2022
ppm = parts per million; μg/m$^3$ = micrograms per square meter; mg/m$^3$ = milligrams per square meter

of cleaner-burning fuels. Transportation sources addressed by these rules include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty equipment.

Title 13 CCR Section 2449 describes the phaseout of older Tier 0, Tier 1, and Tier 2 engines from off-road vehicles and transition to the lowest emissions category, Tier 4F for diesel powered engines over 50 horsepower. The phase out of older more polluting engines to newer less-polluting engines is based on fleet size (large, medium, and small). As of 2023, all vehicles added to a fleet (of any size) must be Tier 3 or higher. The manufacture of Tier 3 engines ended in 2018 and since then, only Tier 4 engines have been manufactured. As older equipment wears out and is replaced with new equipment, only Tier 4 engines will be available.

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) provides grant funding for cleaner-than-required engines, equipment, and other sources of air pollution for both off-road and on-road equipment.

**Executive Order (EO N-79-20) –** The Executive Order sets forth the following goals:

- 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035.

- 100 percent of medium- and heavy-duty vehicles in the State will be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks.[1]

- Transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

It assumed that EO N-79-20 would be partially implemented by 2045 and that approximately 60 percent of the vehicles would be zero emissions and 40 percent would have 2050 EMFAC calendar year emission factors.

### Air Quality Standard Attainment Status

CARB and the USEPA establish ambient air quality standards for major pollutants at thresholds intended to protect public health. Federal and state standards have been established for ozone, carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), lead, $PM_{10}$, and $PM_{2.5}$. Table 4.3-4 summarizes the CAAQS and the NAAQS for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except for lead and the eight-hour average for CO. Depending on whether the standards are met or exceeded, the local air basin is classified as in “attainment” or “nonattainment.” Some areas are unclassified, which means no monitoring data are available. Unclassified areas are considered to be in attainment. Table 4.3-5 summarizes the state and federal attainment status for criteria pollutants in the NCCAB.

Criteria air pollutant concentrations are measured at several monitoring stations in the North Central Coast Air Basin. The nearest monitoring stations to the project site are the Hollister-Fairview Road station and the Pinnacles National Monument station. Both stations monitor ozone and $PM_{2.5}$ concentrations. The Hollister station, nearest to the project site also records $PM_{10}$, $PM_{2.5}$, and ozone. As described in Tables 4.3-1 and 4.3-2, measured concentrations at the Fairview Station have exceeded the CAAQS numerous times in recent years and the NAAQS once. Neither the CAAQS nor NAAQS have been exceeded for ozone at the Fairview monitoring station in the last three years.

### Air Toxics

In 1987 the Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) was enacted and requires stationary sources to report the types and quantities of certain substances released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels (CARB 2020a). The act establishes a formal air toxics emission inventory risk quantification program, which is managed by California air districts.

Toxic air contaminants (TACs; the California equivalent of USEPA HAPs, described above) in California are primarily regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified over 21 TACs and adopted the EPA’s list of HAPs as TACs. Most recently, DPM was added to the CARB list of TACs.

Once a TAC is identified, the CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions.

[1] According to the USEPA, drayage trucks are generally diesel-fueled, heavy-duty (Class 8) trucks that transport containers and bulk freight between the port and intermodal rail facilities, distribution centers, and other near-port locations.

| Table 4.3-5<br>Attainment Status for North Central Coast Air Basin | | |
|---|---|---|
| **Pollutant** | **State Standard** | **Federal Standard** |
| Ozone ($O_3$) | **Non-attainment** | Attainment/Unclassified |
| Particulates ($PM_{10}$) | **Non-attainment** | Attainment |
| Particulates ($PM_{2.5}$) | Attainment | Attainment/Unclassified |
| Carbon Monoxide (CO) | Attainment (Monterey County) | Attainment/Unclassified |
| Nitrogen Dioxide ($NO_x$) | Attainment | Attainment/Unclassified |
| Sulfur Dioxide ($SO_x$) | Attainment | Attainment |
| Lead | Attainment | Attainment/Unclassified |
| Source: Lawrence & Associates 2022 | | |

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. The guidelines for risk assessment are described in the California Office of Environmental Health Hazard Assessment (OEHHA), Risk Assessment Guidelines (OEHHA 2015).

### Diesel Exhaust and Diesel Particulate Matter

DPM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. According to CARB, diesel exhaust is a complex mixture of air pollutants, including both gaseous and solid material (CARB 2020a). According to CARB, "In 1998, CARB identified [diesel particulate matter] DPM as a toxic air contaminant based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. In 2012, additional studies on the cancer-causing potential of diesel exhaust published since CARB's determination led the International Agency for Research on Cancer (IARC), a division of the World Health Organization, to list diesel engine exhaust as 'carcinogenic to humans.' (*Ibid.*) This determination is based primarily on evidence from occupational studies that show a link between exposure to DPM and lung cancer induction, as well as death from lung cancer."

According to CARB, more than 90% of DPM is less than 1 µm in diameter (about 1/70th the diameter of a human hair), and thus is a subset of particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). $PM_{2.5}$ is the size of ambient particulate matter air pollution most associated with adverse health effects of the air pollutants that have ambient air quality standards. These health effects include cardiovascular and respiratory hospitalizations, and premature death. As a California statewide average, DPM comprises about 8% of $PM_{2.5}$ in outdoor air, although DPM levels vary regionally due to the non-uniform distribution of sources throughout the state. Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.[2]

Unlike the other TACs, no ambient monitoring data are available for DPM because no routine measurement method currently exists. However, the CARB has made preliminary concentration estimates based on a PM exposure method. This method uses CARB emissions inventory's $PM_{2.5}$ database, ambient $PM_{2.5}$ monitoring data, and the results from several studies to estimate concentrations of DPM. In addition to DPM, benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde,

[2] California Air Resources Board (CARB). *Overview: Diesel Exhaust & Health.* Accessed at: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health

methylene chloride, and perchloroethylene pose the greatest existing ambient risk, for which data are available, in California.

As described above, CARB has adopted and implemented a California Diesel Risk Reduction Plan, which has and will result in a reduction of DPM.

### Asbestos

Asbestos is the common name for a group of naturally occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally occurring asbestos (NOA), which was identified as a TAC in 1986 by the CARB, is located in many parts of California, including San Benito County, and are commonly associated with serpentine (an ultramafic metamorphic rock).

For individuals living in areas of NOA, there are many potential pathways for airborne exposure. Exposures to soil dust containing asbestos can occur under a variety of scenarios, including children playing in the dirt, dust raised from unpaved roads and driveways covered with crushed serpentine, uncontrolled quarry emissions, grading and construction associated with development of new housing, gardening, and other human activities. For homes built on asbestos outcroppings, asbestos can be tracked into the home and can also enter as fibers suspended in outdoor air. Once such fibers are indoors, they can be entrained into the air by normal household activities, such as vacuuming (as many fibers will simply pass through vacuum cleaner bags).

The public, when exposed to low levels of asbestos, may be at elevated risk (e.g., above background rates) of lung cancer and mesothelioma. The risk is proportional to the cumulative inhaled dose (number of fibers) and increases with the time since first exposure. Although there are several factors that influence the disease-causing potency of any given asbestos, such as fiber length and width, fiber type, and fiber chemistry, all forms are carcinogens.

The JSRL and proposed expansion area are not located in an area of ultramafic rock, and therefore, asbestos is unlikely to be present and no asbestos emissions from soil disturbing activities are anticipated.

### Crystalline Silica

Respirable Crystalline Silica – Respirable crystalline silica (RCS) refers to crystalline silicon dioxide with aerodynamic diameter less than four (4) microns (i.e., 0.0004 cm). Crystalline silica or quartz is ubiquitous in nature. According to the U.S. Department of Labor, "breathing in very small ("respirable") crystalline silica particles, causes multiple diseases, including silicosis, an incurable lung disease that leads to disability and death. RCS also causes lung cancer, chronic obstructive pulmonary disease (COPD), and kidney disease. Exposure to respirable crystalline silica is related to the development of autoimmune disorders and cardiovascular impairment. These occupational diseases are life-altering and debilitating disorders that annually affect thousands of workers across the United States.

The Centers for Disease Control and Prevention (1996) lists the following construction activities that have the potential to expose construction workers to RCS:

- Chipping, hammering, and drilling of rock
- Crushing, loading, hauling, and dumping of rock
- Abrasive blasting using silica sand as the abrasive
- Sawing, hammering, drilling, grinding, and chipping of concrete or masonry
- Demolition of concrete and masonry structures
- Dry sweeping or pressurized air blowing of concrete, rock, or sand dust

Construction activities associated with the landfill operations do not include any of the above. Most dust generated by typical construction activities (e.g., earthmoving, grading, etc.) produce dust particles larger than 4 microns. These particles are too large to reach the alveoli of the lungs, which are the target organ. Thus, RCS constitutes a tiny fraction of the dust from these sources and does not represent a significant health risk to neighbors of these types of projects. To result in toxic effects, the silica needs to be crystalline, smaller than 4 microns, inhaled, and not exhaled. Therefore, potential impacts from RCS are not analyzed further in this EIR.

### Landfill Gas Emissions

Regulations describing the control of landfill gas (LFG) emissions are described in detail in Section 4.4, Greenhouses Gas and Climate Change, of this Draft EIR. Assembly Bill (AB) 32 requires collection and flaring of landfill gas to reduce the emissions of greenhouses gases. AB 32 requires periodic surface emissions monitoring and leak detection monitoring to verify adequate LFG collection of methane to minimize uncontrolled (fugitive) methane emissions. The requirement for greenhouse gas emission control has the added benefit of reducing emissions of volatile organic compounds (VOCs) or trace gases into the atmosphere.

Promulgated in 2016, Senate Bill (SB) 1383 set a target for a 50 percent reduction of organics (e.g., green waste, lawn clippings, wood, cloth) landfilled by 2020 from 2014 levels and 75 percent reduction by 2025. In addition, SB 1383 requires that 20 percent of disposed edible food be recovered for human consumption by 2025. These organic waste streams are required to be diverted from landfills through edible food recovery programs, composting, in-vessel digestion, or other similar processes. CalRecycle has recently completed development of rules for implementation of SB 1383 under Title 14 CCR, Division 7, Chapter 3, Section 17402 et seq. Regulation implementation started January 1, 2022, with the food-waste diversion being phased in based on business category (larger businesses first). San Benito County has obtained a rural exemption that expires December 31, 2026, or until CalRecycle determines that the statewide disposal of organic waste has not been reduced to 50% of the level disposed in 2014 calendar year, whichever is later. Organics are the primary substances that generate LFG. Removing them from the waste stream will reduce future LFG emissions and the quantities of associated VOCs that are created when waste decays or are present in the waste stream.

## LOCAL REGULATIONS

### Criteria Pollutants

As described earlier, the CCAA requires districts that have nonattainment status for state criteria pollutants to prepare SIP's. Table 4.3-5, above, indicates the region is in nonattainment for both Ozone and $PM_{10}$.

In 2005, MBARD developed the 2005 Report on Attainment of the California Particulate Matter Standards in the Monterey Bay Region (MBARD 2005) in response to Senate Bill (SB) 656 passed in 2003. SB 656 required that districts "*adopt a list of the most readily available, feasible, and cost effective control measures that could be implemented by air pollution control districts to reduce ambient levels of particulate matter in their air basins*." The document presented measures to control fugitive dust and reiterated that existing district rules addressed particulate matter.

Because portions of the MBARD district were nonattainment for ozone, as required by the CCAA, the MBARD adopted the 1991 Air Quality Management Plan (AQMP; a type of SIP) for the Monterey Bay Region with subsequent updates every three years. Ozone is created when oxides of nitrogen ($NO_x$) and reactive organic gases (ROG) interact in the presence of sunlight. A significant source of these constituents is vehicle exhaust. The 1991 AQMP addressed planning requirements to meet the ozone standard mandated by the CCAA and included measures to control emissions of VOCs from stationary and mobile sources. Since the 1991 AQMP was adopted, control requirements have been reduced. The AQMP was most recently updated in 2017 and indicated progress towards attainment (MBARD 2017). The AQMP focused on ozone and indicated that ozone in the Pinnacles area, located nearby and south of the project site, is significantly impacted by Bay Area $NO_x$ emissions. The emission reduction strategy described in the document focused on regional planning and reduction of vehicle emissions including electrical vehicle (EV) infrastructure.

As mentioned above, the MBARD adopts rules and regulations. All projects are subject to MBARD rules and regulations in effect at the time of project implementation. Specific rules applicable to the construction of the proposed project may include, but are not limited to:

- ***Rule 200-Permits Required:*** No person shall build, erect, alter, or replace any article, machine, equipment, or other contrivance which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants unless the facility owner or operator has obtained a separate written Authority to Construct for each permit unit from the Air Pollution Control Officer. An Authority to Construct shall remain in effect until the Permit to Operate the equipment for which the application was filed is granted or denied or the application is cancelled.

- ***Rule 400-Visible Emissions:*** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods of aggregation more than three minutes in any one hour which is as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

- ***Rule 402-Nuisances:*** No person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or which endanger the comfort, repose, health, or safety of any such person or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property.

- ***Rule 403-Particulate Matter:***

  - **Concentration:** A person shall not discharge from any source whatsoever particulate matter in excess of 0.15 grain per standard dry cubic foot of exhaust gas.

  - **Process Weight:** A person shall not discharge in any one hour from any source whatsoever particulate matter in excess of the amount shown in Table I of this rule.

  - **Individual Particles:** No person shall on or after December 31, 1976, cause, let, permit, suffer or allow the emission from any heat transfer, incinerator, or metal salvage operation of particles in sufficient number to cause damage to property, which particles are of sufficient size and nature to be visible individually as particles on property other than under the control of the person responsible for the emission.

- ***404-Sulfur Compounds and Nitrogen Oxides:***

  - **Emission Limits:** No person shall discharge from any single emission unit any one or more of the following contaminants in any state or combination thereof, exceeding in concentration or amount at the point of discharge to the atmosphere as described in Rule 404.

  - **Hydrogen Sulfide ($H_2S$) Limit:** In no case shall $H_2S$ emissions from any crude oil production casing gas collection, treatment and destruction systems maintenance operations as allowed for in Section 1.3.3 cause an offsite impact equal to or in excess of the Reference Exposure Level (REL) established by the California Office of Environmental Health Hazard Assessment.

  - **Ambient Air Quality Standards:** In no case shall the emissions from any single emission unit cause or contribute to the violation of a National or State ambient air quality standard.

- ***Rule 425-Use of Cutback Asphalt:*** A person shall not manufacture for sale nor use for paving, road construction or road maintenance any: rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500°F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Section 1.2.; or emulsified asphalt containing organic compounds which evaporate at 500°F or lower as determined by current ASTM Method D244, in excess of 3% by volume.

- ***Rule 436-General Prohibitory Rule:*** Compliance and in reference to Rule 218 pertaining federal operating permitting per 40 CFR Part 70, Clean Air Act Title V.

- ***Rule 437-Municipal Solid Waste Landfill:*** The purpose of this rule is to control emissions from existing municipal solid waste landfills as required under the provision of the Federal Clean Air Act and regulations promulgated by the USEPA at 40 CFR Part 60, Subpart Cc.

Rules 436 and 437 are regulated for the facility through the existing Title V Permit, as administered by MBARD. Subpart Cc requires that landfills with a design capacity of greater than 2.5 million metric tons or cubic meters, perform annual monitoring of non-methane organic compounds (NMOC), and requires the monitoring and control sections of the Subpart to be implemented once the NMOC generation rate exceeds 50 megagrams (Mg)/year (recently revised to 34 Mg/year). While the current landfill has not exceeded this limit, it is still required to have a Title V permit, however, is not yet required to comply with the other provisions of Subpart Cc (such as preparation of a design report or surface emissions monitoring) until the NMOC generation rate is exceeded.[3] California regulations under AB-32 and described below are more stringent than Subpart Cc and have already been implemented at JSRL.

## Toxic Air Contaminants

The health effects of TACs include cancer, birth defects, neurological damage, damage to the body's natural defense system, and diseases which lead to death. TACs can be separated into carcinogens and noncarcinogens based on the nature of the physiological degradation associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts will not occur. Noncarcinogenic TACs differ in that generally there is an assumed safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The MBARD regulates TACs from new or modified sources under Rule 1000 and a MBARD Board-approved protocol. They apply to any source which requires a permit to construct or operate pursuant to District Regulation II (Permits) and has the potential to emit carcinogenic or noncarcinogenic TACs. TACs are listed in Title I, California Administrative Code § 5155 or are established by the Office of Environmental Health Hazards Assessment, California Air Pollution Control Officers Association (CAPCOA) Risk Assessment Guidelines, U.S. Environmental Protection Agency, or Rule 1000, § 3.1.2. Rule 1000 also requires sources of carcinogenic TACs to install best control technology and reduce cancer risk to less than one incident per 100,000 population. Sources of noncarcinogenic TACs must apply reasonable control technology. In addition, the following other rules address TACs:

- **District Rule 1003 – Air Toxics Emission Inventory and Risk Assessments**: The Section describes the requirements for Health Risk Assessments and references CAPCOA health risk assessment guidelines when published by the Office of Environmental Health Hazard Assessment pursuant to Health and Safety Code Section 44360 (OEHHA 2015).

- **Rule 1008 – Air Toxic Control Measures**: The rule incorporates California Air Toxic Control Measures (ATCMs) per H&S Section 3966, including (but not limited to):[4]

[3] As of 2021, the NMOC emissions rate was projected to be 7.0 Mg/year (Golder 2016). According to SCS 2022, the NMOC is projected to reach 31.27 Mg/year by 2026.
[4] There are other ATCMs listed, but these are the ones that could be related to the proposed project.

- Asbestos for construction grading,
- ATCMs to reduce particulate emissions from diesel-fueled engines – standards for nonvehicular diesel fuel (e.g., fixed generators),
- Diesel particulate matter control measure for on-road heavy-duty diesel-fueled residential and commercial solid waste collection vehicles,
- ATCMs to limit diesel-fueled commercial motor vehicle idling.

Some of the VOCs that are found in landfill gas are designated as TACs.

#### 2035 General Plan

The 2035 General Plan Health and Safety Element provides the following goal and policies pertaining to air quality that are relevant to this analysis:

**Goal HS-5** To improve local and regional air quality to protect residents from the adverse effects of poor air quality.

- **Policy HS-5.1 New Development**. The County shall use the CEQA process to ensure development projects incorporate feasible mitigation measures to reduce construction and operational air quality emissions and consult with the [MBARD] early in the development review process.

- **Policy HS-5.2 Sensitive Land Use Locations**. The County shall ensure adequate distances between sensitive land uses and facilities or operations that may produce toxic or hazardous air pollutants or substantial odors.

- **Policy HS-5.4 $PM_{10}$ Emissions from Construction**. The County shall require developers to reduce particulate matter emissions from construction (e.g., grading, excavation, and demolition) consistent with standards established by the [MBARD].

- **Policy HS-5.6 New Construction Mitigation**. The County shall work in coordination with the [MBARD] to minimize air emissions from construction activities associated with proposed development.

## 4.3.3 IMPACTS AND MITIGATION MEASURES

### METHOD OF ANALYSIS

#### Overview of Landfill

The currently permitted "gross" (including liner, cap, waste, and daily and intermediate cover) volume of the landfill is 9.35 million cubic yards and the "effective" (including only waste and daily and intermediate cover) capacity is 8.76 million cubic yards. Gross capacity is commonly used for permitting purposes and effective capacity is used for site-life and LFG-generation calculation purposes. The landfill is permitted to accept up to 1,000 tons per day of waste for burial with no limit on recyclables and materials designated for "beneficial reuse." The landfill currently accepts both in-County (San Benito) and out-of-County waste. As of 2020, the average annual waste acceptance rate was 923 tons per day including materials designated for beneficial re-use. Materials for beneficial reuse include those that can be used as alternate daily cover (substitute for daily soil cover), or that can replace other materials used at the landfill (such as for erosion control). The landfill began accepting only in-County waste beginning on March 31, 2022, resulting in a substantial reduction in waste receipt per day. The landfill is projected to continue to accept in-County waste for another 15 years until reaching capacity and closing in approximately 2036.

Under the proposed project, the landfill's disposal area would be expanded by approximately 253 acres and the effective capacity would be increased by 48 million cubic yards. The daily tonnage would increase to a peak of 2,300 tons per day (excluding waste designated for beneficial reuse), with the average waste acceptance rate increasing from the 923 tons in 2020 to approximately 1,700 tons per day (waste for disposal only) within 15 years of the approved expansion. The increased daily tonnage would be primarily out-of-County wastes in addition to expected population increases within San Benito County. The increased daily tonnage is expected to increase vehicle trips and LFG-related emissions. The projected average daily tonnage (1,700 tons per day) is anticipated to continue until approximately 2072 after which only in-County waste would be accepted. The landfill would operate at a lower daily in-County tonnage for another 15 years until approximately 2087.

### Landfill LFG Emissions

**Discussion of LFG Generation Concepts -** After decayable material is placed in a landfill, the material initially decays aerobically (with oxygen) and gradually shifts to anaerobic decay (without oxygen) during which it starts generating methane. One to two years after burial and thereafter, waste typically contains LFG with 50 to 60% methane and the remainder consisting mostly of carbon dioxide, some nitrogen and negligible oxygen.

The rate of LFG generation depends on the percent of bioavailable carbon, the material in which it is contained and the environment in which these anaerobic bacteria are incubated and maintained. For example, carbon with food waste can generally be accessed easily and quickly by methanogenic bacteria, while carbon within wood waste less so. Landfills within arid climates tend to generate LFG more slowly than those within wet climates. While each landfill must be examined individually to properly assess LFG generation characteristics, the general tenets of bioavailability of carbon, moisture and temperature are good predictors of the LFG generation "curve."

As waste is being added to the landfill every day, the LFG generation rate gradually increases over the active life of the landfill, peaking at the day of "closure" or more correctly, the last day of waste receipt. After landfills are closed and capped, further reduction in LFG generation may occur via loss of moisture infiltration. In the most extreme cases, capped landfills that do not allow moisture to enter are called "dry-tomb" landfills in which waste digestion effectively ceases. As LFG contributes to greenhouse gas emissions, this "dry tomb" effect may be regarded as a mode of sequestration as carbon digestion may be severely restricted.

As required by AB 32 (described below) and other earlier regulations, most operating landfills now have LFG extraction systems consisting of both horizontal collectors (pipes buried in gravel filled trenches in the waste), and vertical wells (with perforated pipe in a gravel filled hole) that are installed incrementally as waste is placed. The wells are connected to a vacuum blower via a series of air-tight pipes and "wellheads" with valves for flow adjustment. The vacuum blower collects LFG by placing a vacuum on the wells, collectors, and thereby reducing the pressure in the landfill to less than that existing in the atmosphere. The LFG follows a path to lower pressure and is collected, passed through a flare (burner), internal combustion engine or turbine that burns the LFG in a controlled manner to ensure near-complete combustion. Per AB 32, LFG must be collected to minimize LFG escaping from the landfill surface as "fugitive emissions." Limits for these fugitive emissions are described and defined in AB 32 guidance.

Title 27, CCR requires that enough LFG be collected to prevent excessive migration into the surrounding soil (older unlined landfills). On the other hand, LFG extraction systems must be operated so that they do not extract too much LFG and cause a condition called "overdraft," which introduces excess oxygen into a landfill and can cause spontaneous combustion in the waste. The LFG temperature, methane, and oxygen content are measured periodically at each well or horizontal collector, and the flow from each well head is adjusted periodically to optimize LFG collection while preventing landfill fires.

In 1990, the USEPA introduced a first-order decay Landfill Generation Emission Model, or LandGEM that is used to estimate LFG emissions from landfills. The model requires a historical account of waste receipt, assignment of the value of Lo (potential methane generation capacity of the waste), and k (methane generation rate). The value of k is generally related to the moisture condition within the landfill and bioavailability of organic carbon. The model does not predict the rapid drop-off of methane after closure in dry-tomb landfills although multiple model runs may be conducted to simulate such environmental changes. As described in Appendix C, the LandGEM model was used to project LFG generation for the life of the proposed landfill. The LFG generation rate was used to calculate the future LFG generation rate for the proposed project. The generated LFG is either collected and combusted in the flare or escapes as fugitive emissions.

**Current LFG Collection -** A LFG collection system has been installed in inactive and active landfill areas, and an 800-cfm flare has been added to combust the collected gases. The system includes vertical gas wells, horizontal collectors, and pipelines to capture the LFG under vacuum and routed to an LFG vacuum blower. The collected gas is monitored to be sure that the collection system is collecting LFG without drawing in excessive ambient air. The collected gas is combusted in a flare, which converts $CH_4$ into $CO_2$. JSRL currently operates one onsite LFG flare capable of combusting 800 cfm at 50% $CH_4$. The flare provides no less than 99% methane destruction efficiency and no less than 98% destruction of VOCs.

LFG collection systems typically collect 60% to 90% of the generated gas, with efficiencies as high as 98% for a landfill using synthetic liner capping systems. Recent research on operating California landfills (Hansen and Yessiler 2020) suggests LFG collection efficiency ranges from 88% to over 90% for most landfills with LFG collection systems. The actual value may be higher or lower. The remainder of the LFG escapes the landfill surface as “fugitive” emissions and/or, for unlined landfills into the surrounding soil.

Several best management practices are currently taken to minimize emissions of LFG from the landfill surface:

- Gauge pressure is negative relative to atmospheric pressure at the gas extraction wells and horizontal collectors, meaning that gases in the waste will preferentially move into the collection system, not out of the waste into the air around the landfill.
- Nitrogen and oxygen concentrations are monitored to minimize excess air infiltration to limit the potential for methanogenic disruptions or waste heating.
- LFG temperatures at the gas extraction wells are monitored to limit the potential for subsurface heating.
- $CH_4$ concentrations across the entire landfill surface are monitored to minimize fugitive emissions of $CH_4$ gas from the landfill surface.
- Horizontal collectors are installed in newer waste before vertical wells are able to be installed.
- Vertical wells combined with horizontal collectors are closely spaced to overlap the collection “zone of influence.”
- The leachate collection and removal systems (LCRS) are also connected to the LFG collection system (where feasible).
- Multi-depth wells are provided either by installing single wells with long screens near finished grade, installing nested dual completion wells with two screens, or installing shallower wells near deeper wells as waste depth increases.
- Enhancing seals on vertical wells by increasing the thickness of the bentonite seals in areas that will receive additional waste, and/or adding a well skirt on wells completed to final grade.
- Promote deeper landfills that inherently provide more efficient gas collection.
- An LFG-collection system is already in-place and was installed earlier than required by regulation promoting control of surface emissions (AB 32).

Attachment A in Appendix C includes LandGEM Model calculations of the LFG generation rate for baseline conditions, over the life of the current operation, and for the proposed project conditions based on historical waste acceptance rates and projected waste acceptance rates for both scenarios. The LandGEM Model predicts that the LFG generation under the baseline conditions would peak at approximately 700 cubic feet per minute (cfm) at 50% methane at closure in 2036 and diminish thereafter. The generation of renewable natural gas (RNG) is considered feasible at LFG levels above 500 cfm according to technical experts on RNG systems, although more economically viable at higher flows. Higher flows improve the economies of the RNG systems (Hirshberg, R. 2022).

**Proposed Project Projected LFG Collection -** As described above, SB 1383 set a target for a 50 percent reduction of organics landfilled by 2020 from 2014 levels and 75 percent reduction by 2025. Removal of organics from the waste stream will result in reduced LFG production over time. Title 14 CCR regulates solid waste and recycling in California. In 2020, Title 14 CCR, Division 7, Article 6.0 was updated to include regulations for compliance with SB 1383. The regulations became effective January 1, 2022, and their effectiveness has not yet been documented. In addition, certain counties and cities (such as low-population or rural counties) are eligible for waivers. San Benito County has obtained a rural exemption that expires December 31, 2026, or until CalRecycle determines that the statewide disposal of organic waste has not been reduced to 50% of the level disposed in 2014 calendar year, whichever is later. As of 2020, approximately 21% of all waste disposed at the landfill was from San Benito County and the remainder from out-of-County locations that will be required to comply with the regulations. Under the proposed project, the proportion of in-County waste would drop to 15% by 2026 and drop to approximately 10% by 2036.[5] Because waste generation depends on long-term trends in tonnage and organic content and a high proportion of compliant waste, it is assumed that over the long-term the requirements of SB 1383 will be met regardless of localized waivers.

The LandGEM model predicts that if SB 1383 is implemented as planned, the LFG and the waste acceptance rate increases in the future as projected, LFG generation rate would peak at 2,447 cfm at 50% methane in 2071 and slowly decline over the subsequent 15 years of reduced waste placement and would continue to drop after closure in 2085. Based on the estimated collection efficiency from Appendix C, the landfill currently appears to be collecting approximately 80% of the generated LFG and the remaining 20% is escaping through the landfill surface as fugitive emissions.

As described in Appendix C (Section 6.0), it is possible that leachate would be reinjected into the landfill, which could result in short term or seasonal increases in LFG emissions. If all the projected leachate and condensate were placed back in the landfill, it would be equivalent to an average of 0.46 inches of additional rain over the 253-acre landfill (Appendix C, Table J7). The simulated increased rain would not result in a change in the k value used in the LandGEM model, and it would not produce a modellable change in LFG generation for the project predicted by the model.

**Testing for Trace Gases (VOCs)** – In 2020, SCS Consultants was retained to collect duplicate LFG samples for HAPs (TACs in California terminology) commonly found in LFG per USEPA AP-42 (1997), listed in Title III of the 1990 Clean Air Act Amendments. The analyses are included in Appendix C (Section 8.4.2). The analyses were used to provide the TACs used in combination with the business-as-usual peak LFG flow rate to model health risk associated with the air toxics health risk screening below.

**Renewable Natural Gas (RNG) Facility** – The proposed project includes implementing an RNG facility before the project produces approximately 550 cfm of collected LFG landfill gas, which is anticipated to occur in 2027, to collect and beneficially reuse the LFG. An RNG facility would collect and purify the LFG, separate the methane, and then release the other gases (nitrogen, oxygen, and biogenic carbon dioxide). During the process of separating the methane from the other gases, the LFG is chilled to remove moisture and processed through various membrane filters and adsorption devices to further refine methane content and remove non-methane “impurities.” Excess methane and other slipstream gases would be combusted in a small, enclosed flare. When the RNG facility is off-line for maintenance, the LFG would be combusted in the landfill’s existing flare. RNG facilities have significant power consumption requirements and, in some cases, an LFG-to-Energy component such as a power generation system utilizing an internal combustion engine or turbine would be used, although the proposed project would use electricity from the grid to operate the RNG facility.

[5] All waste includes the sum of municipal solid waste and waste for beneficial re-use.

Because different RNG system developers use different combinations of technologies to separate the methane from the LFG, and the specific developer would be selected at a later date, emissions modeling described herein is based on the use of an LFG flare with a minimum 98% VOC destruction efficiency. For the purposes of an RNG facility, the same destruction efficiency, which would be enforced through would be required in necessary permits for the RNG facility. Because RNG facilities extract the methane portion of the LFG, an RNG facility would have a lower flow than a flare and lower total overall emissions.

### Vehicle Emissions Sources

**Mobile Source Exhaust Emissions (offsite) –** Off-site mobile emissions are considered predominantly emissions from vehicles that deliver waste to the site, and to a much lesser extent deliveries, employee, and visitor trips. The emission factors for on-road vehicles are based on miles traveled; therefore, average annual miles for three categories of waste delivery were estimated based on 2020 records:

- In-County Public/Self Haul consisting predominantly of pickup trucks and pickup trucks with trailers. Some smaller vehicles and some larger vehicles are within this category, but on average a gross vehicle weight (GVW or loaded) weight of 7,500 to 10,000 pounds (lb.) (the empty weight is much less, and vehicles seldom have maximum load) similar to a Ford F150 or Ford F250. In 2020, these loads had an average weight of 0.57 tons (1,140 pounds). The trip count in this category includes employee and visitor trips.
- In-County commercial loads consist of customers with a commercial account such as garbage trucks and contractor dump trucks. In 2020, the average load weight was 5.65 tons (11,300 pounds) for these trips.
- Out-of-County Commercial consists of large trucks pulling semitrailers. These loads averaged 20.04 tons (40,080 pounds) in 2020.
- There were less than 10 out-of-County residential self-haul trips (less than 0.02%) in 2020 and this category is considered negligible.

Peak days were calculated for both (1) the days in which peak vehicles trips occur or “peak trip day”; and (2) days in which the most tons are received or “peak tonnage day” as peak trip days tend to have a higher percentage of smaller personal and gasoline-powered vehicles while peak tonnage days have fewer vehicles overall but have a higher proportion of heavy diesel vehicles. In addition, the average traffic days were calculated assuming a typical mixture of vehicle types.

The total trips for each type of vehicle were calculated based on the peak-trip days that typically occur during special events on weekends and consisting mostly of in-County residential/self-haul vehicles. The peak trip day in 2020 was on a Saturday with 469 vehicles, 94% of which were in-County vehicles and most being residential/self-haul. Overall, of the in-County vehicles, 95% come from the City of Hollister and the rest come from the unincorporated portions of the County. On the peak tonnage day (which occurred on a weekday) in 2020, the total traffic was much lower than the peak trip day with 259 loads, of which 72% were in-County and 18% were out-of-County commercial loads. On average, the site currently receives 255 trips per day of which 86% are in-County. The out-of-County waste comes from multiple cities and counties with various distances from the JSRL, as summarized in the Design Basis Report for the landfill (Lawrence & Associates 2021).

Based on a combination of in-County population growth and an increase in daily tonnage, the modeled peak traffic day trips would increase with project implementation to 578 trips by 2070, of which 94% would be from in-County locations. After approximately 2072, when only in-County waste is accepted, peak daily trips would drop slightly (to 546 trips) and then increase slightly with in-County population growth until closure but remain below the anticipated peak.

The modeled average trips would peak in 2069 at 364 loads per day and diminish thereafter. After approximately 2072, when only in-County waste is accepted, average daily trips would drop to 271 trips and then increase slightly with in-County population growth until closure in approximately 2087 but remain below the anticipated peak.

For the modeled peak tonnage day, trips would peak in 2070 at 379 trips per day, drop to 230 trips in approximately 2072 (when only in-County waste is accepted), and increase slightly with in-County population growth until the landfill closes. Within the peak tonnage day totals, out-of-County transfer trucks would gradually increase from the current peak of 73 trips per day to 151 trips per day by 2052 and then remain at 150 trips per day until 2069 after which they would drop to zero by 2072.

For greenhouse gas analyses, the average baseline and peak trips multiplied by the distance from the approximate origin (centroid of the city or county of origin) to the JSRL entrance were used to calculate emissions. For criteria pollutant and DPM emissions estimates, the emissions were calculated based on the peak future traffic multiplied by the distance from the NCCAB boundary, assuming all other years would be less. All off-site mileages are both ways. When peak traffic was modeled, the highest emissions from either peak traffic days or peak tonnage were selected for analysis. Table 4.3-6 summarizes the existing and projected traffic.

Peak traffic days have more, lighter gasoline-powered vehicles while peak tonnage days have more heavy diesel vehicles. The higher emissions from peak traffic trips or peak tonnage trips were used for short-term emissions evaluations such as the thresholds of significance for criteria pollutants or for acute (8-hour health risk). For long-term health risk (lifetime cancer and chronic) analysis, average traffic is used.

**Operational Emissions for Waste Burial and On-Site Mobile Emissions -** JSRL actively receives waste at a roughly 200-foot by 50-foot working face within the site. Daily operations at the existing landfill consist of typical waste disposal activities and facilities that contribute criteria pollutant (including dust) emissions to the ambient air in the air basin. The operation of landfills and the associated emission rates are unique in comparison to land development projects because landfill operations require the regular use of heavy-duty construction equipment and collection vehicles, seasonal exposure of non-vegetated soil layers, constant movement of soil and refuse, and proper onsite disposal of LFG.

Criteria pollutants are generated by both off-road equipment used to bury waste (such as dozers and compactors) and on-road equipment from support vehicles (such as the water and maintenance trucks) and waste delivery vehicles. Employee and visitor trips are included in the off-site trips described above. Criteria pollutants for off-road equipment were calculated for the current waste-burial operation based on the currently used equipment type, horsepower, hours per day of operation, emissions tier and similarly for future equipment for the proposed project. Included in the operational emissions are the portion of the peak waste delivery trips that occur on site on paved and gravel roads. The emission calculations include criteria pollutants for both the vehicle exhaust emissions and emissions from brake and tire wear and fugitive road dust from all of the vehicles. For operation emissions, the MBARD requires that off-site ROG and $NO_x$ as $NO_2$ emissions be summed with the onsite emissions for comparison to the MBARD thresholds of significance.

The proposed project would include BMPs, required by state and local regulations, to reduce emissions during operation. Therefore, the following emission reductions to account for implementation of BMPs were included in the unmitigated operation modeling assumptions:

- State Requirements Regarding Vehicle Emissions:
  - Equipment and vehicle idling time would be minimized per Title 13 CCR, Section 2485 (on-road) and 2449(d)(2)(A) (off-road).
  - Equipment and vehicles would be maintained according to manufacturer’s written emission-related instructions (per Title 13 CCR Section 2420).

| Table 4.3-6<br>Baseline and Projected Average and Peak Vehicle Trips | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Category** | **Baseline Average Day Trips** | **Baseline Peak Traffic Day Trips** | **Baseline Peak Tonnage Day Trips** | **Projected Average Day Trips Pre 2070** | **Change from Baseline Average Day Pre 2070** | **Projected Average Day, Post 2070** | **Change from Baseline Peak Traffic Average** | **Projected Peak Traffic Day Trips** | **Change from Baseline Peak Traffic Average** | **Projected Peak Tonnage Trips** | **Change from Baseline Peak Tonnage Trips** |
| Occurrence Data Year | 2020 | 2020 | 2020 | 2070 | 2070 | 2086 | 2086 | 2070 | 2070 | 2042 | 2042 |
| In-County Residential/Self Haul including HHW, employees and visitors | 188 | 433 | 155 | 232 | 44 | 242 | 54 | 533 | 100 | 177 | 22 |
| In-County Commercial | 31 | 9 | 31 | 38 | 7 | 40 | 9 | 11 | 2 | 35 | 4 |
| Out-of-County Commercial | 36 | 27 | 73 | 94 | 58 | 0 | -36 | 34 | 7 | 151 | 78 |
| **Total** | 255 | 469 | 259 | 364 | 109 | 282 | 27 | 578 | 109 | 363 | 104 |
| Source: Lawrence & Associates Design Basis Report, 2021, Attachment E. | | | | | | | | | | | |

- State Requirements Regarding Dust. Title 27 CCR § 21600(b)(8)(D), requires procedures "*which will be taken to control and minimize the creation of dust and prevent safety hazards due to obscured visibility*." The following procedures (best management practices; BMPs) are currently implemented to meet this requirement and will continue to be implemented as part of the expansion project:

  - Rumble strips where traffic exits unpaved roads and enters paved roads.
  - Implementation of a wheel wash for commercial trucks.
  - Vacuum sweeping of adhered soil from paved surfaces.
  - Pavement flushing or watering prior to sweeping, if needed and incompliance with stormwater regulations.
  - Paving (or similar applications such as lime or cement treatment or chip sealing) roads that will be used for extended time periods (assumed to be for roads used more than 5 to 10 years or longer).
  - Gravelling unpaved roads for public use.
  - Watering roads as needed to reduce visible dust during dry periods.
  - Limiting speed on gravel or soil roads to 15 mph.
  - Minimizing the size of borrow areas to the degree feasible.
  - Seeding and mulching disturbed soil areas prior to winter.

- State Requirements Regarding Stormwater. The State of California General Permit for Stormwater Discharges Associated with Industrial Activities, Order WQ 2014-0057-DWQ as amended in 2015 and 2018 (Industrial General Permit or IGP), required BMPs to reduce introduction of sediment into stormwater. Many of the BMPs described above are intended to reduce tracking of mud or soil onto roads and erosion of sediment into drainages. These BMP's also serve to reduce dust during dry periods. The following BMPs are described in the 2020 Stormwater Pollution Prevention Plan (SWPPP) for the landfill (SWT 2020) and would continue to be implemented for the expansion project:

  - Erosion Control During Soil Disturbing Activities:

    - Preserve existing vegetation where practicable and when feasible.
    - Implement temporary erosion control measures with focused implementation prior to the wet season.
    - Stabilize non-active areas prior to the wet season.

- Control erosion in concentrated flow paths by applying erosion control products and maintaining swales as required.
- Track walk slopes as soon as feasible to compact soils and dissipate runoff energy.
- Apply hydroseed, when feasible, for vegetation development or other longer-term erosion control to areas deemed available for longer-term controls (e.g., areas no longer planned for soil disturbance).

o Following Soil Disturbing Activities:

- Slopes will be track walked soon after completion.
- Hydroseeding or other longer-term erosion controls will be applied, where feasible, in areas deemed available for longer-term controls to protect disturbed soil areas from soil erosion. Application of hydroseeding materials or other longer-term erosion controls, if implemented, will be performed in accordance with manufacturer's specifications.
- Soil binders may be used at the facility, where appropriate, to stabilize soils and to temporarily prevent erosion.

o Sediment Control (Only BMPs relating to potential dust generation are shown):

- Paved areas will be swept prior to an anticipated storm event and as needed to control excessive dirt and dust. The sweeping will include increased focus in areas where noticeable tracking of materials occurs. Upon entering into Level 1 for TSS, the manual sweeping, scraping, and mucking out of the rumble pad frequencies will be increased up to three times per week, as needed, focusing on areas around and under any containers and at the rumble pad at the site entrance, which are difficult to reach or less effective with the vacuum sweeper.

**Construction Emissions** – Because landfills are constructed in "cells" or "modules" incrementally, construction projects would occur every several years over the life of the landfill, in addition to special projects such as the construction of the entrance facility and RNG facility.[6] Construction projects typically start as early in the spring as weather permits but generally no earlier than April 15 and occur in the following time steps:

1. Mobilization in which the contractor moves their equipment onto the site – a few days.
2. Clearing in which the contractor strips and stockpiles topsoil and grass – less than a week.
3. Bulk excavation in which the contractor commonly moves over 100,000 cubic yards of soil to a stockpile – two to three months.
4. Concurrently with bulk excavation, the contractor screens some of the excavated soil for use in the liner components.
5. Clay liner installation – a week or two.
6. Geocomposite clay liner and geomembrane liner – a week or two.
7. Leachate collection piping, gravel leachate drainage layer, and geotextile separator fabric – two weeks.
8. Soil operation layer installation – a week or two.
9. Culverts, ditches, road gravel, and straw rolls, seeding and mulching of disturbed soil - two to three weeks.

The annual operational and construction goal is to have the liner system completed and ready to receive waste by the end of September and the remaining drainage and erosion control work completed before the end of October. The most intensive use of high horsepower equipment and greatest dust generating potential occurs during the bulk excavation phase of construction. Construction of the entrance and later construction of the closure cap would be similar to the bulk excavation phase of the module-construction project. Smaller projects with less earthwork, such as installation of a new flare would have negligible construction emissions by comparison.

[6] Construction activities would include building the new entrance facilities, constructing the individual landfill modules, clean closing the Class I area, constructing landfill support facilities such as detention basins, constructing the renewable natural gas facility, and installing the final landfill cover.

For the purpose of calculating construction emissions, the following assumptions are made:

- The number of module construction events will be approximately 29, over the life of the landfill at approximately 7- to 8-acres each.
- It is assumed that the entrance construction would be similar to a module project and would have similar peak emissions.
- Construction of additional LFG flares and/or an RNG facility requires negligible earthwork as they would be constructed within graded areas and is considered de minimis from an emissions standpoint (an LFG flare installation typically requires less than 50 cubic yards of earthwork where a module construction project would commonly require over 100,000 cubic yards).
- For clean closure of the Class I Area, it is assumed that the excavation would be performed during module construction and the same peak emissions as the module construction project would be generated.
- The dust controls described above would also be implemented for construction projects.

Construction emissions would be generated from the above construction activities including emissions from off-road equipment and on-road equipment. During onsite construction, activities are assumed to occur for 8 hours per day, 5 days per week, or 22.5 days per month, although contractors may elect to work for longer hours per day or occasionally work 6 days per week if behind schedule. The proposed project would include BMPs required by state and local regulations to reduce air pollutant emissions during construction. Therefore, the following emission reductions were included in the unmitigated construction criteria pollutant emissions to account for implementation of BMPs:

- State Requirements Regarding Vehicle Emissions (regulations cited above):

  - Equipment and vehicle idling time would be minimized per Title 13 CCR, Section 2485 (on-road) and 2449(d)(2)(A) (off-road).
  - Equipment and vehicles would be maintained according to manufacturer's written emission-related instructions (per Title 13 CCR Section 2420).
  - Mixture of Tier 2 through 4 off-road equipment for current operations and mixture Tier 3 through 4 off-road equipment for the proposed project, however, in the future all off-road equipment will eventually be Tier 4 and emissions will be less per Federal emissions regulations (40 CFR – numerous parts per Federal Register 38958, Vol. 69 No 124).

- State Requirements Regarding Dust (Title 27 CCR §21600(b)(8)(D)). Current BMPs to reduce dust that would continue to be implemented with the expansion project include the following:

  - Regular watering of paved and unpaved roads or use of MBARD-approved dust palliatives.
  - Prevention of tracking soil onto paved roads.
  - Paved road sweeping and or flushing.
  - Limiting speed to 15 mph on unpaved or graveled roads.
  - Ceasing work during sustained winds over 15 mph.
  - Seed and mulching exposed soil as soon as feasible after construction is completed.

- State Requirements Regarding Stormwater as described above.

During construction projects, the peak emissions of criteria pollutants occur during the day when the highest horsepower and greatest quantity of off-road equipment is used. As described in Appendix C Section 4.4.3, the emission calculations described below assume that the peak emissions would be during the bulk excavation phase of a module construction or other project with significant earthwork (such as closure cap construction or the landfill entrance) when the most high-horsepower equipment (such as multiple dozers and off-road haul trucks) are used. Construction emissions include on-road trips (both on-site and off-site within the NCCAB) for support vehicles. Detailed vehicle exhaust emission calculations for criteria pollutants from vehicle exhaust, tire wear, brake wear, and fugitive road dust are included in Appendix C Section 4.4.3. Appendix C Section 4.4 describes calculations of construction emissions during the peak equipment use period for criteria pollutants. The emissions for a typical construction project, when assessed separately from operations emissions, would be less than the MBARD thresholds of significance for criteria pollutants (including offsite miles within the NCCAB, when the above BMPs are implemented).

**Combined Construction and Operations Emissions -** Unlike conventional development projects analyzed under CEQA, construction recurs periodically throughout the life of the landfill concurrently with site operations. Concurrent construction and operations emissions were evaluated using five scenarios representing module construction accompanied by landfill operations at the times during the life of the proposed expansion when construction would be closest to the property boundaries. The baseline conditions are represented in Figure 4.3-2 and the five scenarios are represented in Figures 4.3-3 through 4.3-7. The combined emissions scenarios were used to estimate criteria pollutants assuming simultaneous peak construction (during the bulk excavation phase), anticipated future landfill operation, and average waste-delivery traffic, at times in the site life when construction is nearest to the property line. This assumes that emissions would be less at times other than peak construction traffic and much less at other times during construction and when only site operations are occurring.[7]

For DPM, the long-term average emissions for the project life including the entrance construction project, 29 typical construction base-liner projects, landfill-gas system installation, closure cap construction, landfill operations, and the on-site waste delivery trips were estimated (DPM emissions on John Smith Road were calculated separately as described below).

**Idling at the Entrance** – As described in Appendix C, a queuing model was implemented to estimate the vehicles that would back up on a peak vehicle trip day. A queue forms when the rate of traffic entering or exiting the facility exceeds the capacity of the scale house to process the transactions. Queues occur during busy times throughout the day, such as in the morning when garbage trucks are bringing in their first load of the day, or when traffic is waiting for the gate to open in the morning. Once the peak subsides, the scale house staff catch up and the queue diminishes. The entrance includes a separate queuing lane for the County-operated household hazardous waste (HHW) facility so that traffic entering the landfill does not backup behind vehicles waiting for the HHW facility to open in the morning (the time when a queuing line reportedly forms). The HHW facility is currently open to the public one day per month. Over the long term, and at the discretion of the County, it is assumed that the number of operating days can be increased, which would reduce or eliminate queuing that occurs with a single monthly event.

As shown on Figure 4.3-8, the queuing length would be 1,500 feet once a year at the maximum future traffic.[8] The queue would occur on the special-event day (free disposal for some items) once a year. The queue would last for roughly one hour until the peak traffic passes. Based on the model, a queue would not occur for the fewer trips than would occur on a peak tonnage day or average traffic days. The entrance design includes the ability to add additional in-bound and outbound scales in the future to reduce queuing and has bypass lanes on both sides for visitors and deliveries to bypass the scales. While waiting in queue, vehicle engines generate more exhaust emissions than when they are running at speed. Of specific concern are emissions from idling diesel trucks as their large engines produce DPM. In this case, DPM is not considered a chronic health risk as it would occur infrequently but was modeled as a short-term hazard.

**Emissions along John Smith Road -** Most of the peak traffic would travel along John Smith Road between Fairview Road and Best Road and all of the traffic would travel on John Smith Road between Best Road and the landfill entrance. The greatest DPM emissions occur from heavy diesel trucks, so the traffic on JSRL was modeled based on the highest future peak-tonnage day traffic. DPM was modeled at the peak rate assuming a lifetime (70-year) lifetime risk for cancer and acute risk from DPM and as described below. Modeled dust and

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7 It is assumed that either peak traffic or peak tonnage days are unlikely to occur during the relatively short (one to two months every other year) bulk-excavation project.

8 Per the queuing model in Appendix C.

emissions were found to be higher on a peak tonnage day than the peak traffic day, therefore modeled dust emissions on a proposed project peak traffic day were modeled for comparison to the CAAQS of 50 $\mu g/m^3$.

## EMISSIONS CALCULATIONS

**Vehicles, General** – All vehicle calculation methods or models multiply either miles traveled, or hours operated, multiplied by an "emissions factor" in grams or tons of pollutant per mile or per hour (depending on the source). For criteria pollutants, the emissions factors generated per mile of travel or hour of operation are used to calculate emissions. For on-road vehicles, such as trucks and cars, emissions factors are applied on a per-mile basis for running emissions, or per trip for idling or starting emissions.

On-road equipment emissions factors were obtained from the California Air Resources Board (CARB) EMission FACtor (EMFAC) 2017 Web Database (the version in use at the time that the Notice of Preparation was issued, and the latest version that is USEPA approved). Emissions from on-road vehicles are proportionate to miles traveled, engine size, and emissions control technology. Large vehicles such as transfer or garbage trucks generate more emissions than smaller pickup trucks, but typically have fewer trips because they carry much more weight. Federal and California regulations have and continue to require increasingly more efficient engines and emissions technology per mile and emissions will decrease over time. Emissions factors for each on-road vehicle include emissions from exhaust plus, for $PM_{10}$, and $PM_{2.5}$, emissions for tire wear and brake wear. Except where noted herein, emissions factors were based on annual aggregated (versus summer and winter options) emissions, and speed.

Off-road equipment emissions factors were obtained for the Carl Moyer Memorial Air Quality Standards Attainment Program (Table 9) and CalEEMod (see Appendix C, Section 4.1.2.). For exhaust emissions for off-road vehicles, such as dozers and excavators, emissions factors are applied on a per-hour of operation basis. Emissions from off road vehicles are proportional to hours of operation per day and engine size. Vehicles with larger engines such as off-road dump trucks and scrapers have larger engines and produce more exhaust emissions than smaller equipment, such as backhoes and excavators. The USEPA has gradually phased in increasingly stringent emission standards for diesel off-road equipment starting with Tier 1 and increasing through Tiers 2, 3, 4Interim(I) to Tier 4Final (F). The manufacture of Tier 3 engines ended in 2018 and only Tier 4F engines are now being manufactured. There are still Tier 2 and 3 engines in most fleets, but California is requiring that they be phased out with the pace of the phase out based on fleet size. In California, the Carl Moyer Program promotes upgrades and provides subsidies for some equipment. Over time, eventually all off-road equipment will be Tier 4F. For near term modeling, it is assumed that all regularly used equipment over 200 hp will be required to be Tier 4I or F, and that equipment less than 200 hp would be Tier 3 (or a similar average meeting the same intent).[9]

For both on-road and off-road vehicles that travel on paved, gravel, and soil roads, fugitive road dust as $PM_{10}$ and $PM_{2.5,}$ emissions are estimated using emissions factors calculated on a condition-specific basis equations from CalEEMod that were taken from USEPA AP-42. The equations were developed by the USEPA based on a limited number of studies and should be considered approximate. These equations as well as other similar equations for graveled and unpaved roads are described in Appendix C Section 4.1.1. Because dust generation is proportional to vehicle weight, large trucks tend to generate more dust per trip than small trucks. Dust generation is also proportional to silt loading on the road surface. For well-traveled public roads, dust loading tends to be minimal because the dust is continually worn away. For less traveled roads the silt loading tends to be higher. For industrial roads like landfills where silt can be tracked onto paved roads, the silt loading is higher still. For paved roads adjacent to industrial and construction roads, silt loading can be reduced by minimizing tracking of soil from unpaved areas onto paved areas with BMPs including "rumble plates" or rocked wheel cleaning strips. For

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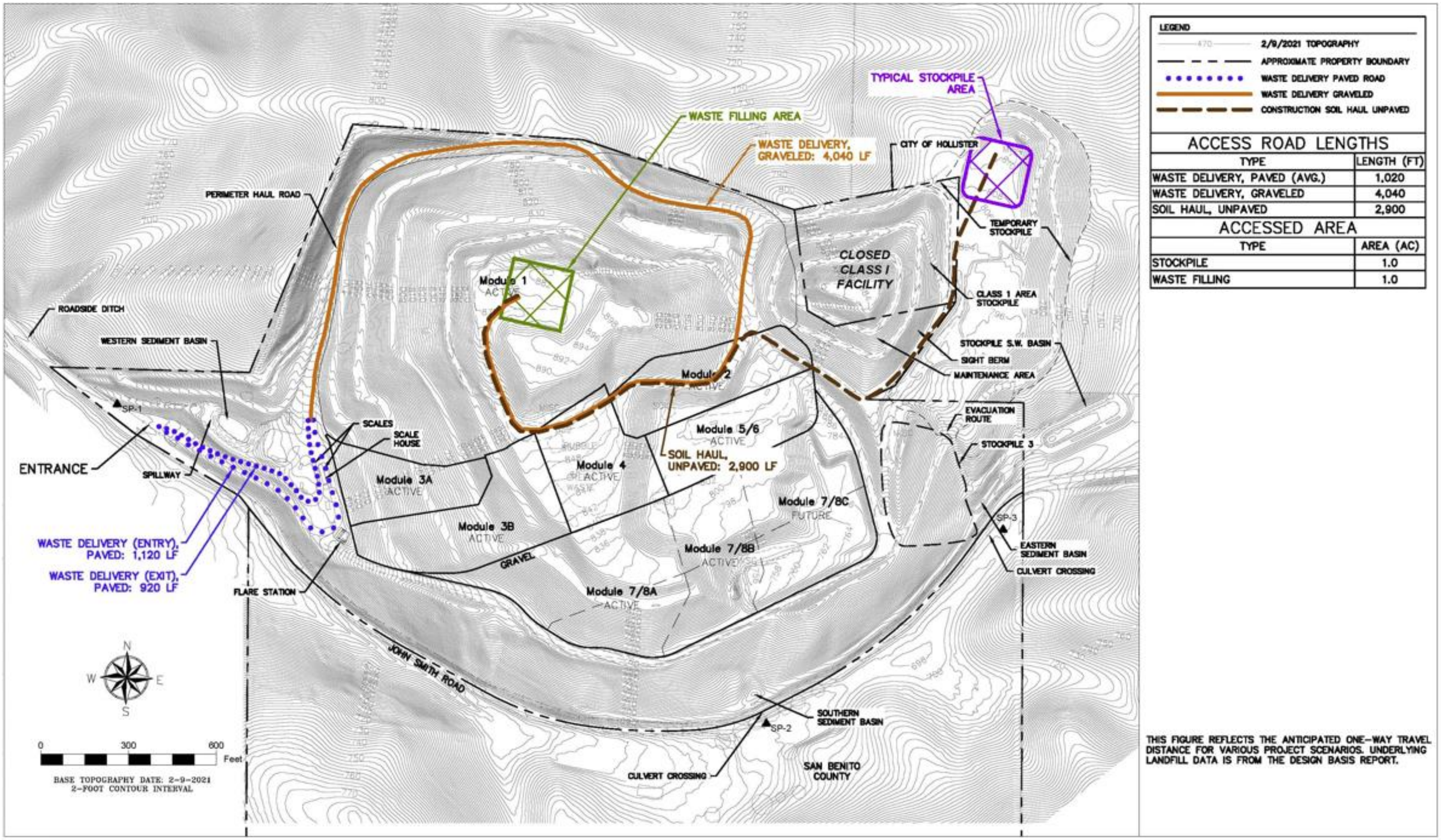
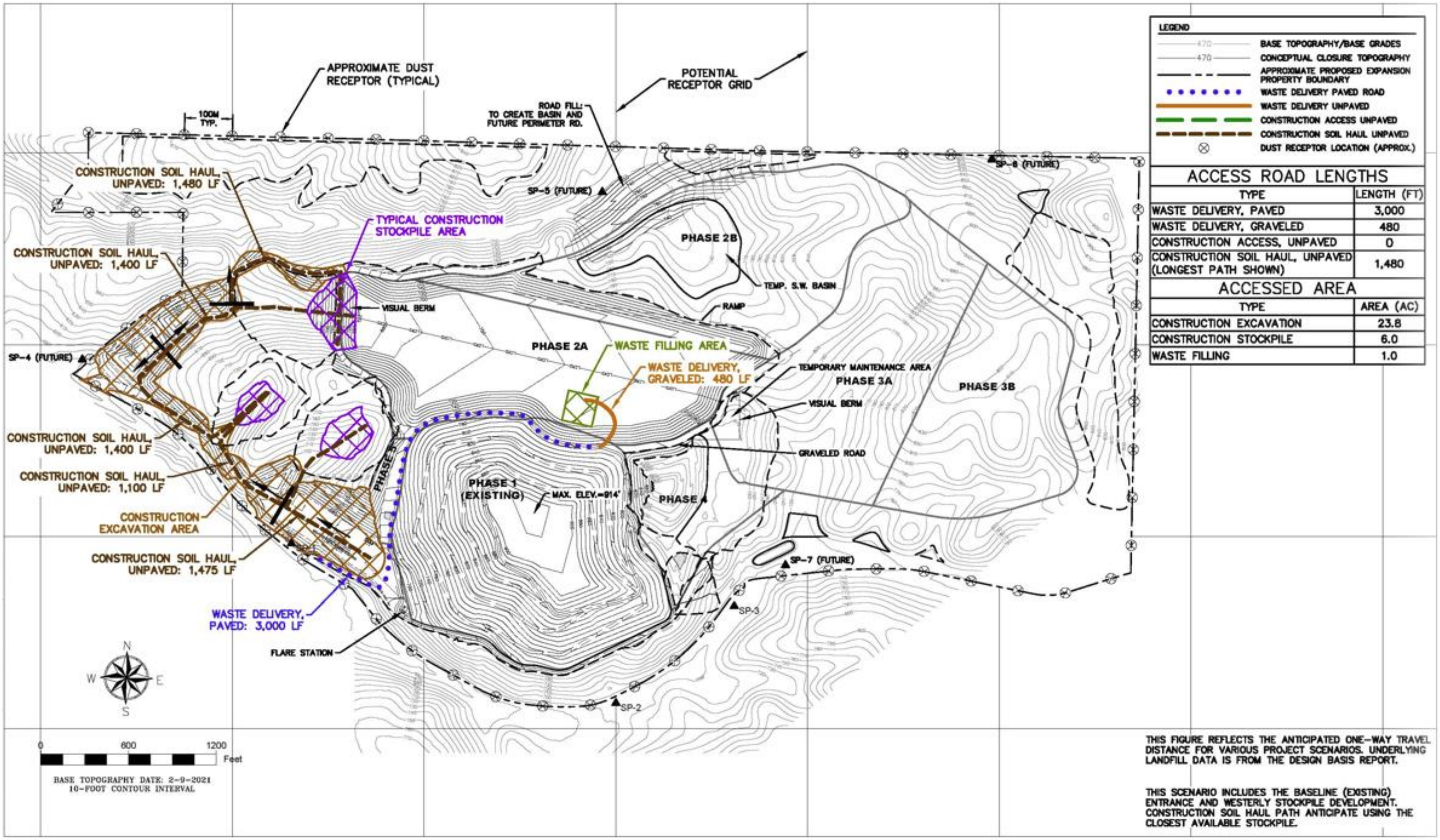
9 In some cases, numerous pieces of equipment below 200 hp are Tier 4 and some higher horsepower equipment or infrequently used equipment can be Tier 3. For the purposes of modeling, however, Tier 4 is assumed over 200 hp as it is becoming more common over time.



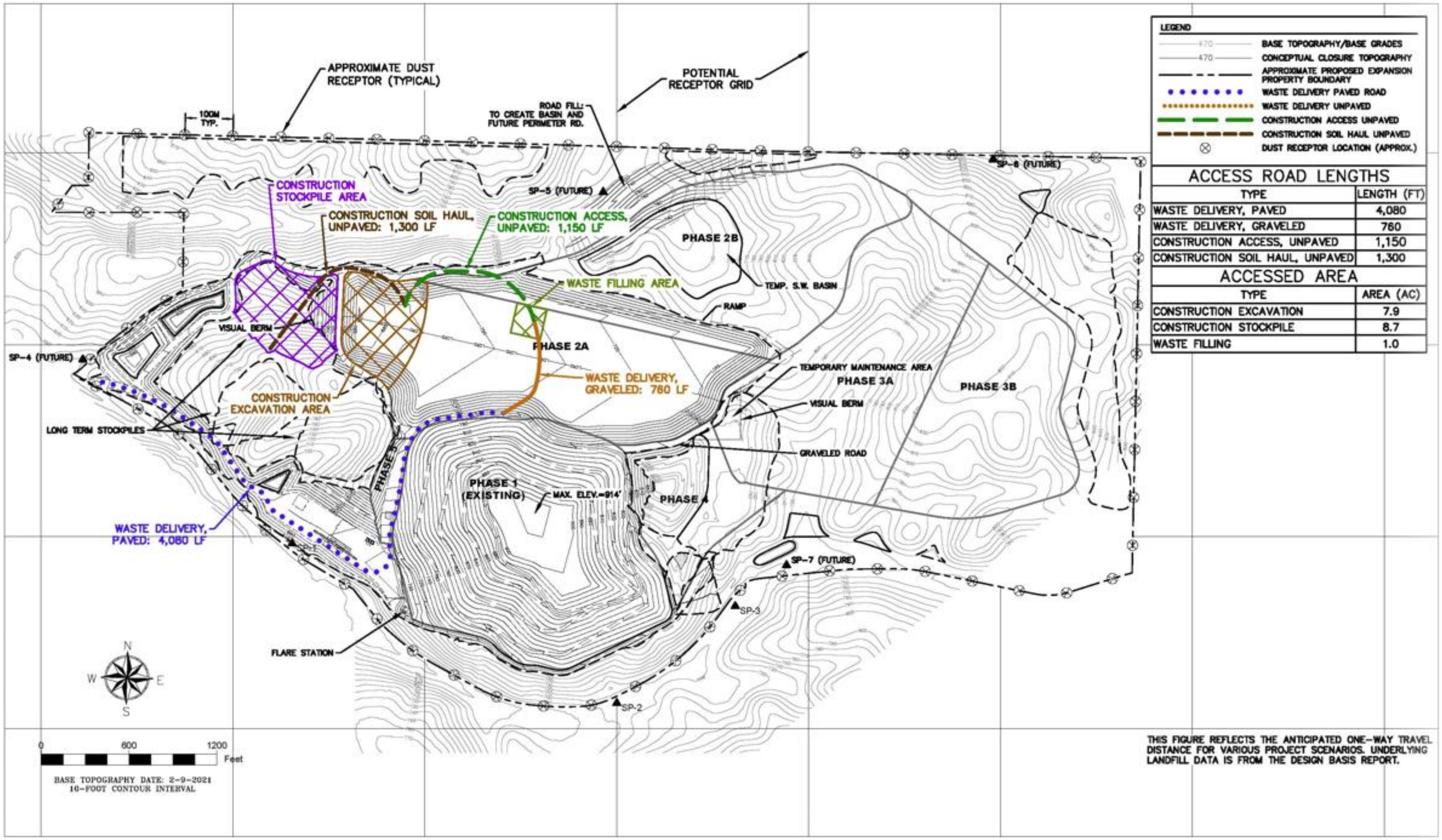

Source: Lawrence & Associates 2021

**Baseline Emissions Configuration** **Figure 4.3-2**



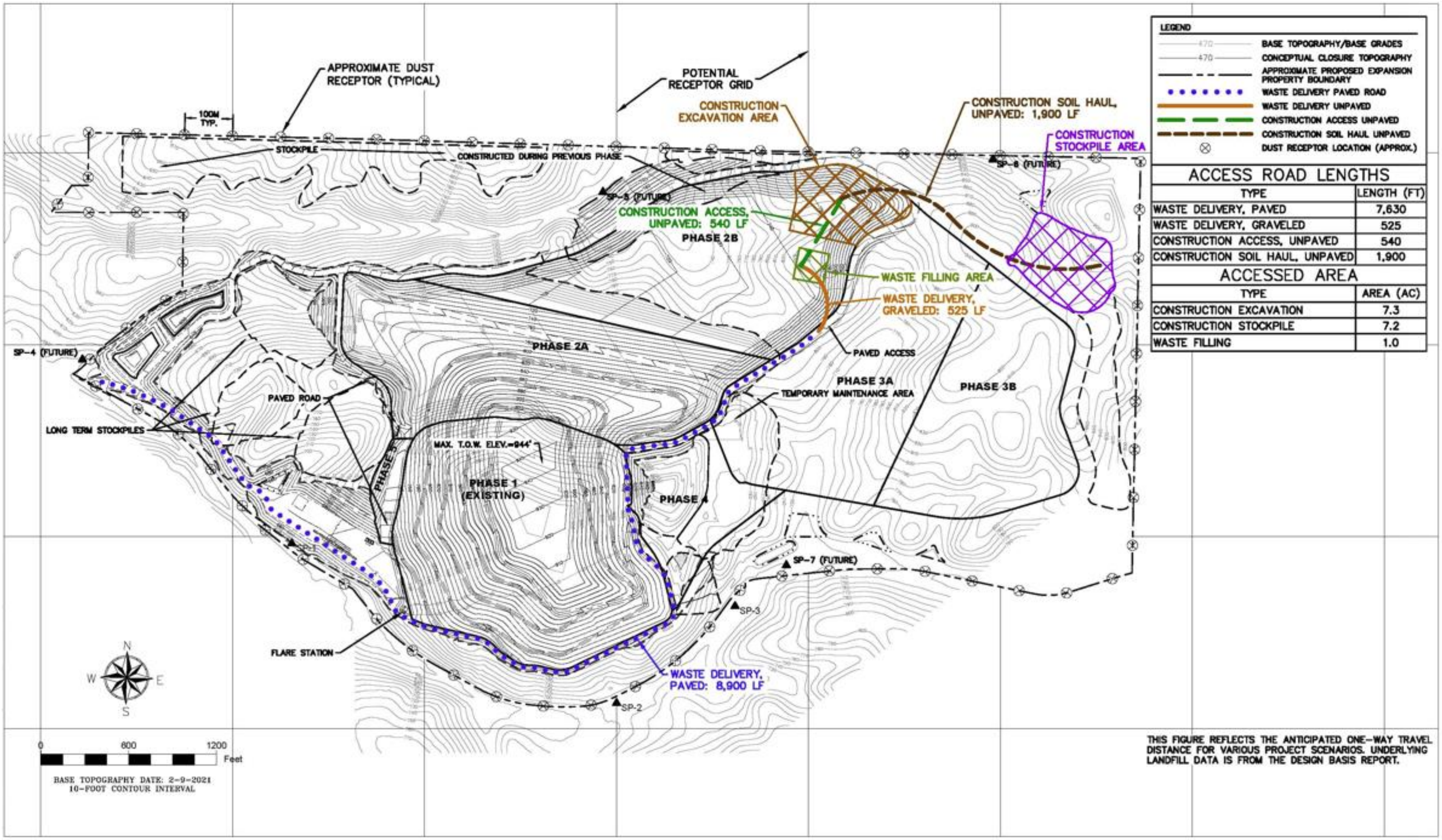

Source: Lawrence & Associates 2021

**Scenario 1 – Entrance Area Emissions Scenario** **Figure 4.3-3**



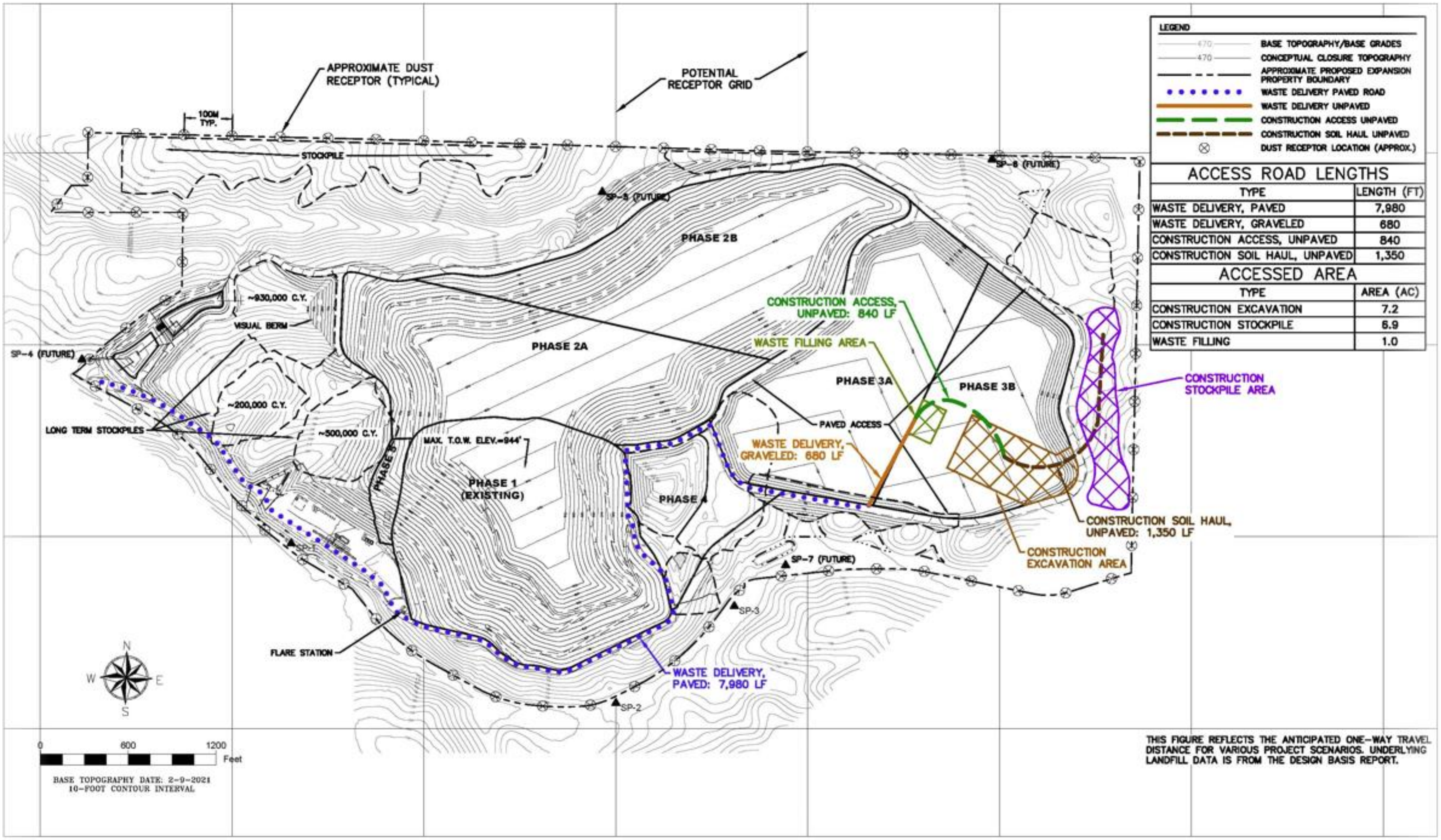

Source: Lawrence & Associates 2021

**Scenario 2 – Western Landfill Emissions Scenario** **Figure 4.3-4**



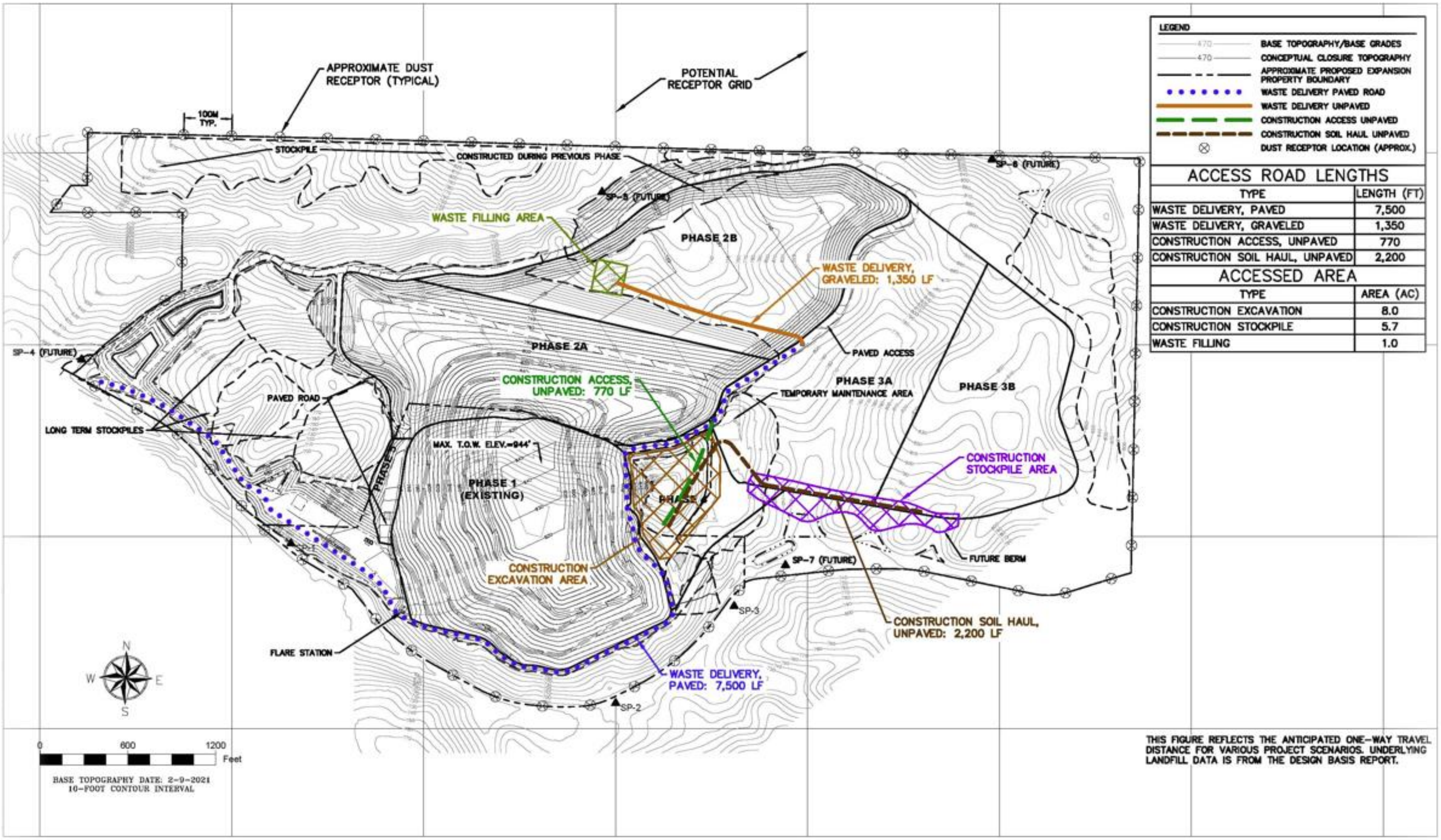

Source: Lawrence & Associates 2021

**Scenario 3 – Northern Landfill Emissions Scenario** **Figure 4.3-5**



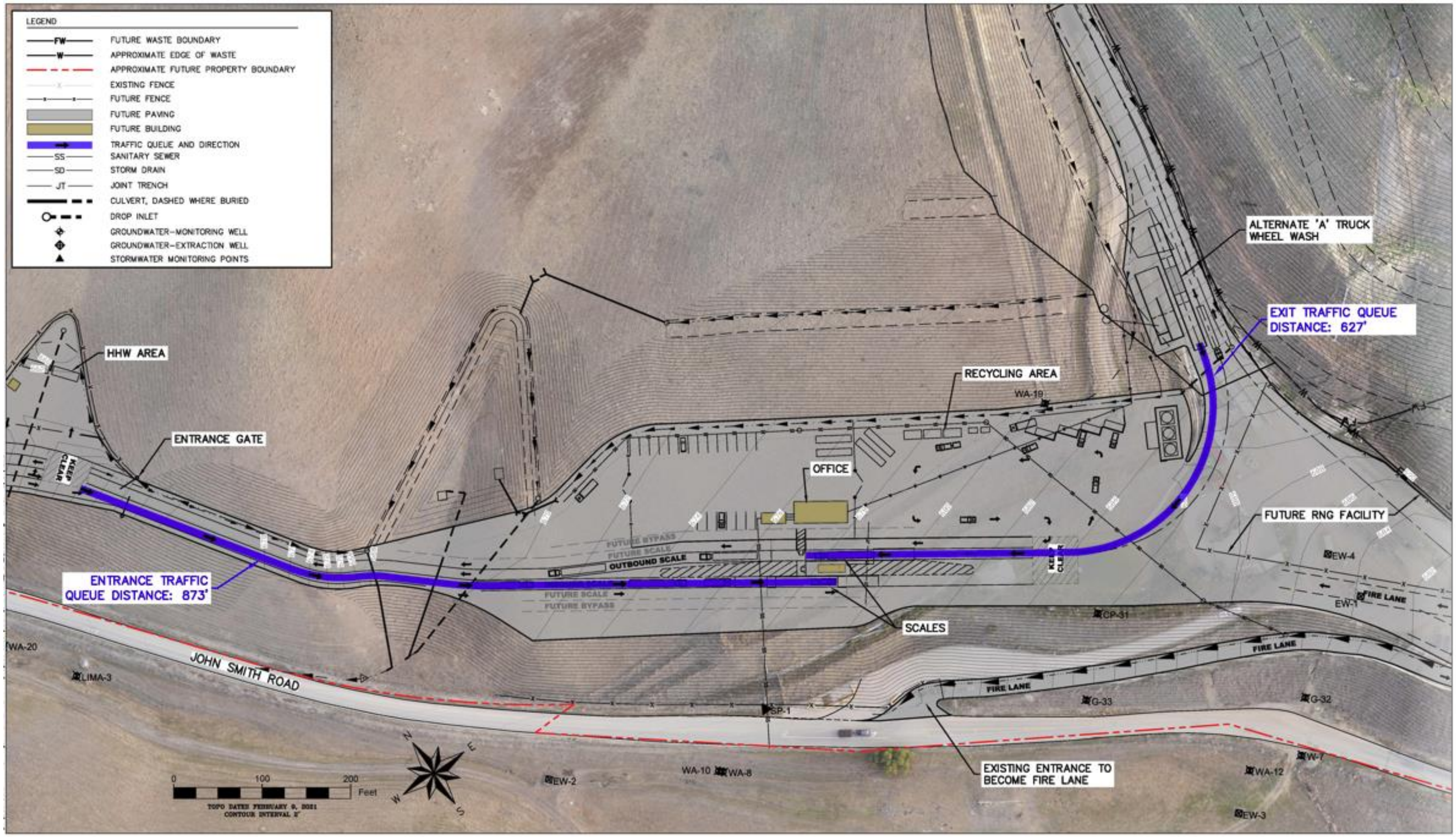

Source: Lawrence & Associates 2021

**Scenario 4 – Eastern Landfill Area Emissions Scenario** **Figure 4.3-6**




Source: Lawrence & Associates 2021

**Scenario 5 – Clean Closure Scenario (Assume 2037-2040)** **Figure 4.3-7**




Source: Lawrence & Associates 2021

**Assumed Queueing Length for Idling Analysis** **Figure 4.3-8**

industrial sites, such as landfills, additional BMPs including wheel washing systems, vacuum street sweeping, road washing, and watering can be implemented. These additional BMPs that are implemented at the JSRL are described below.

For graveled and unpaved roads, moist soil is less likely to become airborne and the primary method of dust control is by watering, the frequency of which and rate of application (in gallons per square yard) depends on the traffic frequency, vehicle weight, temperature, and humidity. No watering is needed on rainy or foggy days, while a significant amount of watering is required on hot, dry, and windy days. Because dust is proportional to vehicle weight, unpaved roads used by heavy soil hauling equipment during construction projects require special attention. In some instances, where cost allows, "palliatives" are added to the soil to temporarily hold the dust in place to reduce the need for watering.

Other equations in Appendix C are used to estimate dust from soil loading, dozer, and grader-equipment travel. Dust from these sources has been included in the emissions estimates.

**Traffic to Landfill –** Appendix C Section 4.2.3 describes criteria pollutant emissions from traffic travelling from either the point of origin with the County or to the north NCCAB boundary for out-of-County to the landfill entrance. The emissions were calculated for both the peak current (2020 baseline) traffic and peak current tonnage days. The same analyses were performed for the proposed project peak trips at their maximum using the categories and proportions described above. Table 4.3-7 on the following page summarizes the emissions.

The analysis shows that, despite the increase in traffic over time, the emissions from $NO_X$, ROG, CO, and $SO_X$ would decrease over time based on improving vehicle emission technology. Assuming EO N-79-20 is implemented, the emissions would be significantly less after 2035, and reduced further after 2045. Vehicle exhaust, tire wear, and brake wear are less than 1% of the $PM_{10}$ and $PM_{2.5}$ emissions (these emissions would occur regardless of zero emissions vehicles). The remainder is from road dust. Dust emissions are proportional to vehicle weight and mileage. The peak tonnage day trips have a larger proportion of large trucks traveling from the NCCAB boundary to the north would be higher on a peak tonnage day and hence more dust. On average the dust emissions rate would be roughly 0.05 lb. per vehicle mile.

As required by the MBARD, the CO emissions calculations are based on winter emissions factors and $NO_x$, $SO_2$, ROG, $PM_{10}$, and $PM_{2.5}$ are based on summer emissions factors. $PM_{10}$ and $PM_{2.5}$ emissions include exhaust emissions, brake wear, tire wear, and fugitive road dust assuming a dry day.

**Table 4.3-7**
**Off-Site Waste Delivery Vehicle Emissions Within MBARD (Indirect)**

| Analyzed Condition | $NOx^4$ (lb./day) | $ROG^4$ (lb./day) | $CO^3$ (lb./day) | $PM_{10}{}^1$ (lb./day) | $PM_{2.5}{}^1$ (lb./day) | $SOx\ (SO_2)^4$ (lb./day) |
|---|---|---|---|---|---|---|
| Baseline Peak Traffic Day, 2020 | 12.87 | 1.65 | 30.67 | 16.77 | 4.66 | 0.18 |
| Baseline Peak Tonnage Day, 2020 | 23.22 | 0.95 | 14.48 | 25.07 | 6.59 | 0.15 |
| Project Peak Traffic Day, 2070[2] | 6.51 | 0.15 | 3.75 | 18.98 | 4.99 | 0.15 |
| Project Peak Tonnage Day, 2042 | 22.57 | 0.29 | 6.02 | 46.88 | 11.98 | 0.16 |
| Change in Peak Traffic Day | -6.36 | -1.5 | -26.91 | 2.21 | 0.34 | -0.03 |
| Change in Peak Tonnage Day | -0.65 | -0.66 | -8.46 | 21.81 | 5.39 | 0.01 |

Source: Lawrence & Associates 2022.
Notes:
1: Includes exhaust, brake wear, tire wear, and road dust and assumes dry day.
2: Assumes 2050 model year (highest year in EMFAC2017), does not include conversion to zero emissions.
3: Winter emissions factors were used to calculate emissions per MBARD CEQA Guidelines.
4: Summer emissions factors were used to calculate emissions per MBARD CEQA Guidelines.
lb./day = pounds per day

**Emissions from Operations**

Table 4.3-8 summarizes the modeled criteria pollutant concentrations from current and projected operations. The site operations include emissions from waste delivery traffic within the landfill property, support vehicle emissions, off-road equipment, and flare emissions (assuming the peak non-business as usual emissions). Baseline LFG are the criteria pollutant emissions from the flare assuming the 2020 LFG flow rate through the flare. The indirect emissions are those for $NO_X$ and ROG for all of the offsite traffic within the NCCAB from Table 4.3-6 as required by the MBARD for comparison of operations to the thresholds of significance. The baseline condition assumed the distance shown on Figure 4.3-2. The proposed project totals assume an operating module near the center of the expanded landfill. Options that include other locations are included below under Combined Operations and Construction analyses.

Both the difference between proposed project and baseline and the total proposed project emissions are less than the threshold of significance for all pollutants except $SO_2$. $PM_{10}$ and $PM_{2.5}$ are both affected primarily by road dust and assume that project BMPs are implemented as part of the proposed project. Total emissions for $NO_X$ conservatively assumes that all $NO_X$ is $NO_2$. However, $SO_2$ was above the threshold of significance as described in more detail below.

**Emissions from Construction –** Construction emissions of criteria pollutants were estimated based on the peak day during a construction project. The equipment with the largest horsepower and hence emissions occur during the bulk excavation phase of any project (module, closure cap, or entrance). It is assumed that the same equipment would be used for a peak day for each type of project. For the current operation, the final closure cap is the only project remaining. Table B in Appendix C lists the estimated equipment that would be required during a typical peak usage day during a construction project. The $NO_x$, ROG, and non-dust portion of $PM_{10}$ assumes Tier 4I or F engines equipment over 200 hp and Tier 3 engines on equipment below 200 HP.[10] The Modeled emissions indicate that the $NO_X$, ROG, and non-dust portion of the emissions would be well below the MBARD emissions threshold under the assumed Tiers. The average tier rating will increase over time as older, lower-emissions estimates, are phased out and non-dust emissions are expected to drop below the modeled emissions in the future. The dust emissions are influenced significantly by off-road dump trucks hauling excavated soil to soil stockpiles (assuming 160 miles per day during peak construction), and to a lesser extent on-road traffic for construction

**Table 4.3-8**
**Summary of Baseline and Proposed Project On-Site Emissions from Operations**

| Analyzed Condition | NOx (lb./day) | ROG (lb./day) | CO (lb./day) | $PM_{10}$[1] (lb./day) | $PM_{2.5}$[1] (lb./day) | SOx ($SO_2$) (lb./day) |
|---|---|---|---|---|---|---|
| Baseline Site Operations | 19.46 | 1.48 | 36.64 | 66.58 | 19.4 | 0.24 |
| Baseline LFG | 9.1 | 9.73 | <0.54 | 0.08 | 0.08 | 39.2 |
| Baseline Indirect (from Table 4.3-7) | 23.22 | 0.95 | NA | NA | NA | NA |
| Total | 51.78 | 12.16 | 36.64 | 66.66 | 19.48 | 39.44 |
| Project Site Operations | 14.44 | 1.58 | 35.66 | 67.03 | 17.45 | 0.13 |
| Project LFG | 49.89 | 13.923 | <2.27 | 0.45 | 0.45 | 214.91 |
| Project Indirect (from Table 4.3-7) | 22.57 | 0.29 | NA | NA | NA | NA |
| Total | 86.90 | 15.79 | 35.66 | 67.48 | 17.9 | **215.04** |
| Difference | 35.12 | 3.63 | -0.98 | 0.82 | -1.58 | **175.6** |
| Threshold | 137 | 137 | 550 | 82 | NA | 150 |

Source: Lawrence & Associates 2022.
Notes:
1. Includes exhaust emissions, brake wear, tire wear, and fugitive road dust.
2. This is for the LFG peak flow of 1,556 cfm. For the business-as-usual higher flow option see flare emissions below.
lb./day = pounds per day

[10] $NO_X$, ROG and $PM_{10}$ are the only emissions factors that provided by the Carl Moyer program related to emissions Tier.

employees and deliveries. To attain the dust levels in the modeled emissions, BMPs described above (including watering several times per day during dry periods or use of dust palliatives) need to be implemented on unpaved haul roads used by off-road dump trucks during construction.

Table 4.3-9 summarizes the construction emissions associated with a typical construction project at the site.

**Table 4.3-9**
**Peak Criteria Air Pollutant Emissions from Typical Construction Project**

| Project | $NO_x$, lb./day | ROG, lb./day | CO | $PM_{10}$ | $PM_{2.5}$ | $SO_x$ |
|---|---|---|---|---|---|---|
| Typical Construction Project | 11.79 | 1.23 | 56.75 | 61.93 | 22.74 | 0.14 |
| Entrance Paving | | 4.85 | | | | |
| MBARD Thresholds | 137 | 137 | 500 | 82 | 82 | 82 |

Source: Lawrence & Associates 2022.
lb./day = pounds per day

With the BMPs described above, the emissions from a typical module construction project, and similarly the entrance and clean closure of the Class I Area, would be below the MBARD thresholds of significance.

**Combined Construction and Operations Emissions –** While the MBARD CEQA Guidelines require assessment of operations emissions and short-term construction emissions separately, at landfills construction is performed more frequently than other projects commonly evaluated under CEQA. While, as described above, the most intensive portions of construction occur every other year or so, they occur frequently enough to assess the combined impacts. The combined on-site operations and construction criteria pollutant emissions for the current (baseline) operation (Figure 4.3-2) and the five scenarios shown on Figures 4.3-3 through 4.3-7 were estimated. The scenarios include the entrance, closest module construction projects to the western property line, northern property line, eastern property line and southern property line. The emissions are included from the construction project, nearby waste burial areas, waste delivery traffic, construction traffic, landfill-operations traffic, LFG flare emissions at peak flow, LFG fugitive emissions and emissions of ROG and $NO_x$ from indirect sources (off-site traffic). Table 4.3-10 summarizes the results from each scenario. More detail is available in Appendix C.

**Table 4.3-10**
**Combined Emissions from Operations and Construction**

| Location | $PM_{10}$, lb./day | $PM_{2.5}$, lb./day | ROG, lb./day | NOx, lb./day | CO, lb./day | $SO_2$, lb./day |
|---|---|---|---|---|---|---|
| Baseline | 80.80 | 14.35 | 19.88 | 63.73 | 66.46 | 42.79 |
| Scenario 1 - Entrance | 62.14 | 16.59 | 18.33 | 95.97 | 98.39 | **215.07** |
| Scenario 2 – Western | 57.48 | 10.30 | 21.60 | 95.25 | 70.22 | **215.11** |
| Scenario 3 – Northern | 79.03 | 12.84 | 20.38 | 94.63 | 69.18 | **215.09** |
| Scenario 4 – Eastern | 57.96 | 10.37 | 21.60 | 95.25 | 70.22 | **215.11** |
| Scenario 5 – Southern | **103.46** | 36.81 | 23.72 | 97.58 | 72.03 | **215.14** |
| MBARD Thresholds | 82 | 82 | 137 | 137 | 550 | 150 |

Source: Lawrence & Associates 2022.
Note: Assumes peak tonnage day gravel road is watered, paved road is swept, a wheel wash is used for large trucks as needed. All other days would be less.
lb./day = pounds per day

Scenario 5, with the longest soil haul paths, is the only scenario in which the combined $PM_{10}$ emissions would exceed the MBARD threshold of significance with the proposed BMPs implemented.[11] Scenario 5 is predicted to exceed the thresholds of $PM_{10}$ for a period for approximately three months, likely somewhere in the roughly 2040-to-2045 time range. The $PM_{10}$ emissions from this scenario were evaluated using dispersion modeling and compared to background, as described later in this section.

More than 99.9% of the $SO_2$ emissions would be from the LFG flare, based on peak flow during the life of the landfill and 98% collection efficiency (2,400 cfm). At other times the emission would be less. Attachment C in Appendix C indicates that, based on the 2020 LFG stack test concentrations, the $SO_2$ emissions would remain below the MBARD threshold of 150 lb./day for up to 1,709 cfm through the flare. As allowed by the MBARD CEQA Guidelines, the peak projected $SO_2$ concentration from the flare was evaluated using dispersion modeling as described later in this section to determine whether higher concentrations would result in a potential to exceed the CAAQS and NAAQS for $SO_2$ and it was concluded that the higher concentrations of $SO_2$ would not contribute to an exceedance.

**Queuing –** Table 4.3-11 shows the modeled emissions from 1,500 feet of vehicles queued at the landfill entrance and exit for an hour, after which the queue would diminish. The modeled queuing assumes the mix of vehicles that would occur on a peak traffic day with 580 trips, such as a special event on a Saturday, and includes 67% in county public self-haul pickup trucks, 29% in-County commercial trucks, and 5% out-of-County large trucks. This would only occur on a peak trip day. On a peak tonnage day (362 trips), or an average day, the modeled queue length was one vehicle and was not evaluated for criteria pollutants. The average queue length over an 8-hour peak traffic day including 17 vehicles was modeled and produced the results shown Table 4.3-11.

**Table 4.3-11**
**Emissions from Queuing during a Peak Traffic Day for the Proposed Project**

| Emissions Source | Daily Total NOx Emissions (lb./day) | Daily Total ROG Emissions (lb./day) | Daily Total $PM_{10}$ Emissions (lb./day) | Daily Total $PM_{2.5}$ Emissions (lb./day) | DPM Emissions (lb./day) | Daily Total CO Emissions (lb./day) | Daily Total $SO_2$ Emissions (lb./day) |
|---|---|---|---|---|---|---|---|
| Idling Emissions | 1.05 | 0.104 | 0.002 | 0.001 | 0.00027 | 1.446 | 0.001 |

Source: Lawrence & Associates 2021.
Note: Assumes average for an 8-hour day.
lb./day = pounds per day

The criteria pollutants from queuing are included in the scenarios summarized in Table 4.3-10. There is no acute REL (Reference Exposure Limit) for DPM, therefore, 8-hour acute health risk for DPM, in this case, cannot be calculated.

**Traffic Along John Smith Road** – For the purposes of long-term health-risk screening, the emissions along the 1.81-mile section of John Smith Road between Fairview Road and the new landfill entrance were evaluated for criteria pollutants and DPM, as described in Table 4.3-12. The sensitive receptors located along this roadway segment include the Santana Ranch subdivision and Rancho Santana School north of John Smith Road along Fairview Road, as represented in Figure 4.3-9. For criteria pollutants, the highest emissions of either the peak trip or peak tonnage day traffic were used (they were similar) assuming that all other days would be less. For the long-term health risks related to DPM, the projected average traffic was used. Although some traffic may enter John Smith Road from Best Road to the south, or from Santa Ana Valley Road to the east. Both of these routes do not travel the entire road length of John Smith Road.  It was conservatively assumed that all project related traffic travels on the analyzed section of John Smith Road from Fairview Road to the facility entrance. Traffic may enter

[11] It represents at typical project with long unpaved soil haul routes and long waste-delivery routes on the high end of what would be expected for future module-construction projects.

and exit from multiple directions at the intersection of Fairview Road onto John Smith Road, and only emissions from John Smith Road are considered reasonably quantifiable with regard to lifetime emissions at the project.

Table 4.3-12 shows that despite the increase in trips, project $NO_x$, CO, DPM and $SO_2$ would decrease for the peak traffic and ROG, $PM_{10}$, and $PM_{2.5}$ would increase under peak traffic. ROG, CO and $SO_2$ would decrease and NOx, $PM_{10}$, $PM_{2.5}$, and DPM would increase under the projected peak tonnage day. $NO_x$ and ROG would decrease and $PM_{10}$, $PM_{2.5}$, CO, and $SO_2$ would increase based on average traffic. Most of the $PM_{10}$ and $PM_{2.5}$ emissions are from road dust and would increase based on increased traffic. The proposed project peak does not include the phase-in of zero emission vehicles and is conservatively high. Once zero emissions vehicles are phased in, the only emissions would be from tire wear, brake wear, and road dust. Road dust is the majority of $PM_{10}$ and $PM_{2.5}$. The proposed project traffic would be less initially and ramp up to the full average over a 15-year period (roughly 2023 to 2038) and then after 2072 would drop to in-County only waste, with an accompanying reduction in emissions. It is anticipated that by that time, zero emission vehicles would have been phased in and potentially only tire wear, brake wear and fugitive dust would remain. All of the emissions are well below the MBARD thresholds.

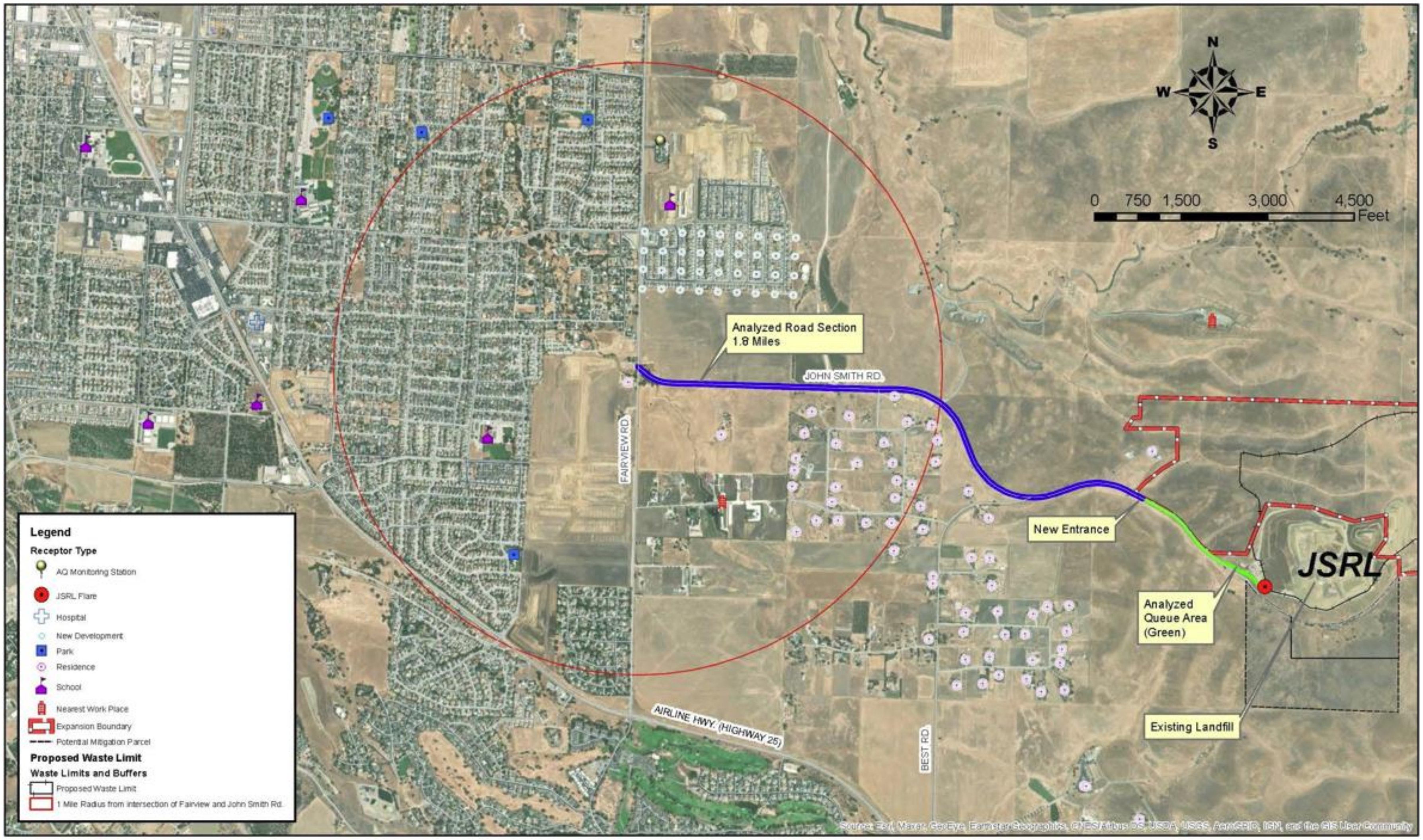
### Flare Emissions

The baseline and proposed project flare emissions are summarized in Table 4.3-13. For LFG flares, $SO_2$ is commonly the constituent that approaches permitting limits. At the peak flow shown, the $SO_2$ concentration would exceed the threshold of significance. As described in Attachment C of Appendix C, assuming the 2020 flare test results, a flow of 1,709 cfm would not exceed the MBARD threshold. As described later in this section, $SO_2$ was modeled using dispersion modeling to determine whether it would cause an exceedance of the CAAQS or NAAQS. After implementation of the RNG facility, most of the methane would be treated and shipped off-site leaving a small fraction to be flared or combusted using another means and the emissions would be expected to be lower than flaring alone. During times when the RNG facility is off for maintenance, a flare would be used to combust the recovered LFG. The flare would be required to meet MBARD emissions limits.

### Health Risk Assessment for LFG and DPM - Methods

**Summary -** As required by Rule 1003, Health-Risk Screening was performed in accordance with OEHHA, 2015. The Risk Screening Protocol and Health-Risk Assessment Report are included in Appendix C Section 8.0. In summary, the following steps were performed:

- The emissions sources of TACs and DPM were identified, and the emissions estimated as shown above.
- The following receptors were identified (Figure 4.3-10):
    - Residences within a mile of the waste footprint.
    - Nearest residences adjacent to John Smith Road.
    - Nearest known worker locations.
    - No schools are within a mile radius. Schools beyond the 1-mile radius were modeled based on responses to the Notice of Preparation.
    - Nearest potential receptors including every 100 feet along the property line and on a cartesian grid around the landfill.
- A dispersion model was selected to calculate emissions at a distance from the landfill (AERMOD BREEZE)
- Terrain data was obtained from the USGS and processed for uploading into the AERMOD BREEZE model.
- Three years of meteorological data were obtained and preprocessed for loading into the model.
- The concentrations, characteristics and locations of emissions to be modeled were input into the model.




Source: Lawrence & Associates 2021

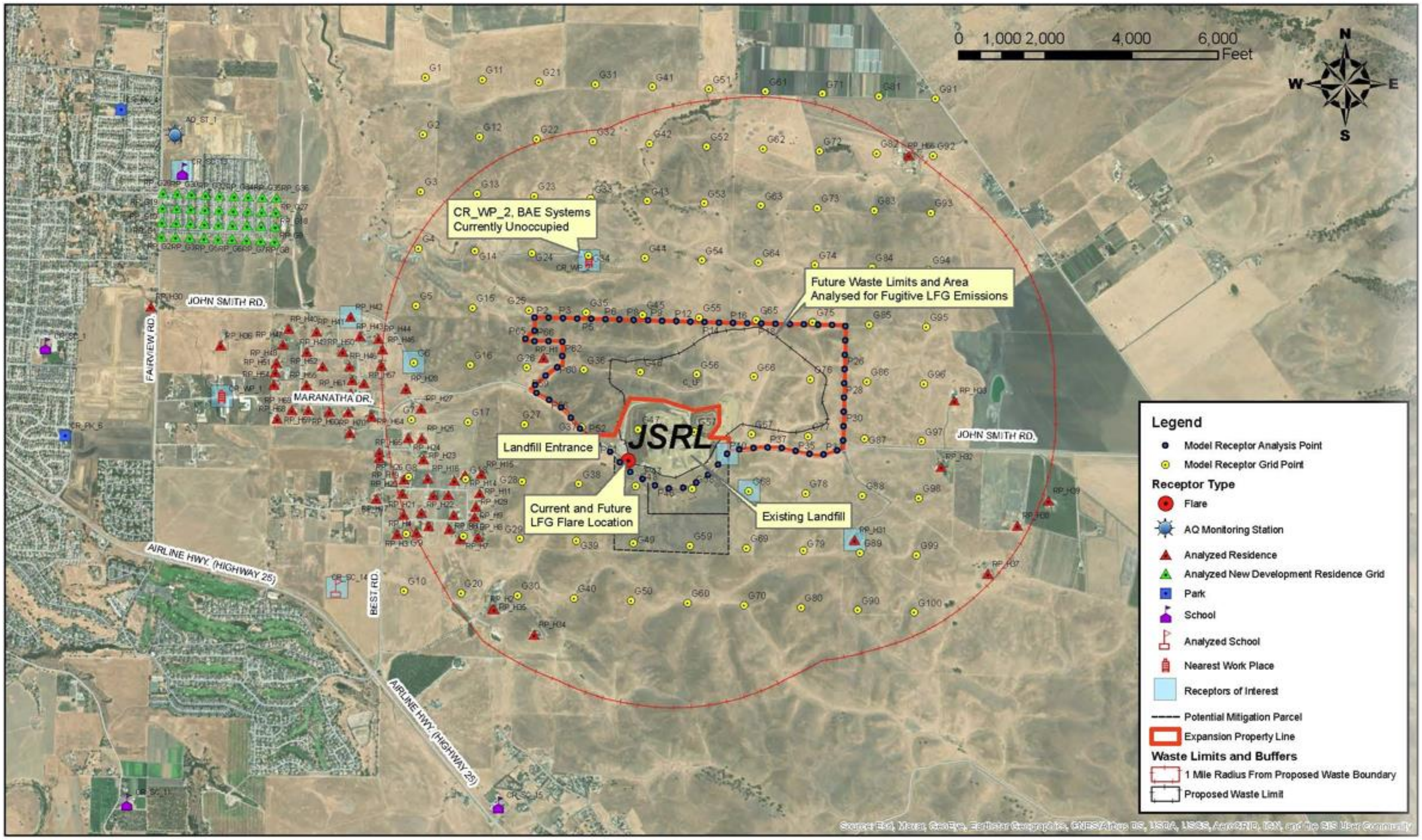
**Sensitive Receptors along John Smith Road and Fairview Road** **Figure 4.3-9**

| Table 4.3-12<br>Estimated Emissions from Vehicles on John Smith Road | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Emissions Source** | **Daily Total $NO_x$ Emissions (lb./day)** | **Daily Total ROG Emissions (lb./day)** | **Daily Total $PM_{10}$ Emissions (lb./day)[1]** | **Daily Total $PM_{2.5}$ Emissions (lb./day)[1]** | **DPM Emissions (lb./day)[2]** | **Daily Total CO Emissions (lb./day)** | **Daily Total $SO_2$ Emissions (lb./day)** |
| Peak Traffic Day Baseline | 2.46 | 0.21 | 25.90 | 6.43 | 0.0009 | 5.75 | 0.05 |
| Peak Traffic Day Proposed Project | 2.30 | 0.30 | 31.99 | 7.93 | 0.0007 | 5.58 | 0.01 |
| Difference | -0.16 | -0.09 | 6.09 | 1.50 | -0.0002 | 0.17 | -0.04 |
| Peak Tonnage Day Baseline | 3.46 | 2.00 | 30.50 | 7.54 | 0.0026 | 2.88 | 0.03 |
| Peak Tonnage Day Proposed Project | 4.26 | 0.13 | 51.72 | 12.76 | 0.0032 | 2.81 | 0.02 |
| Difference | 0.8 | -1.87 | 21.22 | 5.22 | 0.0006 | -0.07 | -0.01 |
| Average Baseline | 2.89 | 0.15 | 23.64 | 5.85 | 0.0015 | 3.20 | 0.01 |
| Average Proposed Project | 1.72 | 0.03 | 34.82 | 8.59 | 0.0019 | 3.75 | 0.02 |
| Difference | -1.17 | -0.12 | 11.18 | 2.74 | 0.0004 | 0.55 | 0.01 |
| MBARD Thresholds | 137 | 137 | 82 | 82 | | 550 | 150 |

Source: Lawrence & Associates 2022.
Notes:
1: Includes exhaust, brake wear, tire wear, and road dust (road dust assumes dry pavement).
2: Assuming 8% of $PM_{2.5}$ from diesel exhaust is DPM.
lb./day = pounds per day

- The model generated a deposition rate (μg/m$^3$) at each grid location for each monitored parameter for each data year (2018, 2019, and 2020) for each scenario and the following receptors with the highest concentrations were selected for health-risk analysis:
  - Maximum exposure impact residential (MEIR)
  - Maximum exposure impact worker (MEIW)
  - Point of Maximum Exposure intensity (PMI), typically along the property boundary
  - School receptors
  - There were no hospitals, day cares, or retirement homes found within the vicinity of the landfill
- The MBARD was consulted for preferences regarding modeling effort.
- Analyses were performed for cancer risk, chronic health risk, and acute health risk for the above highest receptors for DPM (only cancer and chronic could be calculated for DPM) and HAPs from the flare.
- For all receptors, the 70-year cancer risk was found to be below the MBARD threshold of significance of 10 in one million.
- The acute health index (HI) was found to be below the MBARD standard of one at all monitored locations.

**Cancer Risk** – This analysis is used to estimate the sum excess cancer risk as a result of the lifetime dose of the compounds modeled. “Excess” means in addition to other existing risks. A residential lifetime is considered 70 years living at the same place, a worker lifetime is considered 25 years working at the same place. For the modeled schools, 15-year exposure for a child was assumed. A 25-year worker exposure at the schools would be approximately 1/7 of the child exposure because their breathing rate is less.




Source: Lawrence & Associates 2021

**Sensitive Receptors Within and Near One Mile Radius From Proposed Waste Boundary** **Figure 4.3-10**

| Table 4.3-13<br>Flare Emissions from John Smith Road Landfill | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Emissions Source** | **LFG Flow (scfm) @ 50% $CH_4$** | **Daily Total $NO_x$ Emissions (lb./day)** | **Daily Total ROG/VOC Emissions (lb./day)** | **Daily Total $PM_{10}$ Emissions (lb./day)** | **Daily Total $PM_{2.5}$ Emissions (lb./day)[1]** | **Daily Total CO Emissions (lb./day)** | **Daily Total $SO_2$ Emissions (lb./day** |
| 2021 Baseline, flared | 475 | 9.88 | <2.96 | 0.09 | 0.09 | <0.54 | 42.55 |
| 2021 Baseline, fugitive | 119 | NA | 3.93 | NA | NA | NA | NA |
| 2071 Project Peak, flared | 2,400 | 49.89 | <11.08 | 0.45 | 0.45 | <2.27 | 214.91 |
| 2071 Project Peak, fugitive | 49 | NA | 2.84 | NA | NA | NA | NA |
| Flared Difference | 1,925 | 40.01 | <8.12 | 0.36 | 0.36 | <1.73 | 172.36 |
| Fugitive Difference | -70 | NA | -1.09 | NA | NA | NA | NA |
| MBARD Thresholds[2] | | 137 | 137 | 82 | 82 | 550 | 150 |

Source: Lawrence & Associates 2022.
Notes:
1. Assume $PM_{2.5}$ is the same as $PM_{10}$ (conservative approach).
2. To be compared to flare emissions when combined with operational emissions.
LFG = landfill gas
scfm = standard cubic feet per minute
lb./day = pounds per day

The health risk assessment for the inhalation exposure (all of the compounds analyzed herein) pathway includes adjustments for variable breathing rates throughout a person's life as children breathe more rapidly than adults. The adjustments include age sensitivity for the third trimester of pregnancy, 0 to less than 2 years, 2 years to less than 9 years, 9 years to less than 16 years, and 16 years to less than 30 years, and 30 years to less than 70 years. The combined adjustment for these breathing rates is called a combined exposer factor. For each analyzed compound, the OEHHA has developed cancer potency factors used to calculate the potential for cancer related to specific compounds.

**Chronic Hazard -** Chronic hazard is a measure of lifetime non-cancer health effects from exposure to a compound. A chronic hazard index is calculated by dividing the annual average concentration of a toxic pollutant by the chronic reference exposure level for that pollutant.

Chronic Reference Exposure Levels (RELs) are designed to address continuous exposures for up to a lifetime. The exposure metric used for chronic exposure is the annual average exposure. The RELs are evaluated for individual target organs for which the OEHHA/CARB have developed RELs and may include one or more of the following: alimentary (gut), cardiovascular, eye, immune, nervous, reproductive, and/or respiratory.

**Acute Hazard –** Acute Hazard uses a similar equation to the one for chronic hazard, except an REL specifically for acute risk is used. Acute risk is based on short-term exposure during an 8-hour period.

**Analysis for DPM** – Because there is no acute REL for DPM, the risk is evaluated based on the lifetime average for the landfill operations. The analysis of DPM, as summarized in Table 4.3-14, includes the sum of (1) emissions from operations, construction, and waste delivery traffic within the proposed project, and (2) emissions along John Smith Road. The emissions from landfill construction and operations were calculated assuming that prior to 2045, gradually improving emissions technology, as projected by EMFAC2017 and CalEEMod, would gradually reduce DPM emissions. After 2045, 60% of vehicles would be carbon neutral with further associated reduction in DPM.

The average traffic on John Smith Road would occur for a 50-year period and then the out-of-County diesel emitting heavy trucks would end and lighter vehicles and local heavy trucks would continue for another 15 to 16 years. However, as described above, emissions were calculated assuming the highest average diesel traffic for the life of the landfill occurring over a 70-year period.

Table 4.3-14 summarizes the results of DPM modeling. The analysis for the PMI and MEIR assumes a 70-year exposure (longer than the site life) and provides a conservatively high risk. The PMI (P40) is along the property line south of the landfill adjacent to John Smith Road and as such is not a potential receptor. Therefore, the nearest offsite grid point to the PMI (G68) was analyzed and included in Table 4.3-14. The excess cancer risk for all of the receptors nearest to John Smith Road were all well below the threshold, the highest being 0.193 excess cancer risk per million at RP_H42. All of the risks are below the thresholds of significance.

**Analysis for TACs from LFG Flare and Fugitive Emissions** – The peak LFG emissions would occur at or near closure when the entire landfill footprint is covered with waste. Although the flow rate is anticipated to be much lower for most of the site life, TAC emissions were modeled using a peak flow of 2,400 cfm as a point source from a 40-foot tall, 10-foot diameter stack, and a 160-cfm area source for fugitive emissions covering the proposed project landfill footprint, assuming the current TAC concentrations in the landfill gas (roughly a 93 % collection efficiency). This would correlate to an approximately 94% collection efficiency at or near closure. The modeled concentrations for the fugitive and flare were summed and health risk calculated for the receptors and year with the highest totals. Table 4.3-15 summarizes the health risk corresponding to the results. The receptor locations are shown on Figure 4.3-10. All are below the MBARD thresholds. As described earlier, operation of a RNG facility, once occurring, would significantly reduce the quantity of flared LFG and would reduce corresponding emissions. In either of the two LFG scenarios: the flare-only (with collection efficiency as shown above); or a RNG facility, there would be no difference in fugitive emissions.

The health risk is driven by Fugitive emissions from LFG escaping through the landfill surface. The emission from the flare stack produces between one and two orders of magnitude less risk. The flare and fugitive emissions were modeled at 160 cfm equaling less than 10-in-one-million excess cancer risk at the PMI (P40). However, the risk is based on a PMI that is on the property line adjacent to John Smith Road and, as such is not a potential receptor. Grid Point G68 southeast of the PMI would have an excess cancer risk less than 10 in one million at a fugitive emissions flow rate of 322 cfm southeast of the landfill in a location where, based on the Hydrology Section has negligible available groundwater and as such may not constitute a potential receptor.[12] At the MEIR (RP_H3, southeast of the landfill), the fugitive emissions could reach 670 cfm (corresponding to a collection efficiency of approximately 73% at peak flow) and remain below the 10-in-one million threshold. The risk calculations do not assume that the TACs would be filtered or oxidized when passing through the cap, thereby providing a conservatively high risk. Additionally, the flow calculations are based on projections of the impacts SB 1383 and the final peak flow may be more or less. Because the excess cancer risk from the flare flow (0.01 in one million excess cancer risk at the PMI) is negligible in comparison to fugitive emissions, there is flexibility in the final flow from the flare or similar device meeting the minimum 98% VOC (TAC) destruction efficiency. The RNG facility, when implemented, would be required to meet the same destruction/VOC removal efficiency as a flare. These limits are based on the potential risk from LFG emissions alone and should take into account the risk from DPM emissions as described below.

**Summary of Health Risk**

Table 4.3-16 summarizes the sum of health risks for both landfill gas related emissions and DPM.

[12] LFG can escape from unlined portion of landfills and can potentially become present in groundwater through LFG migration followed by gas-to-water phase transfer. There are no water wells for human consumption on the site, thus there is no pathway to humans. The landfill expansion would be lined and would not be expected to contribute to landfill gas migration to groundwater.

| Table 4.3-14<br>Cancerous and Non-Cancerous (Chronic) Health Hazards from DPM Over the Project Life | | | | | |
|---|---|---|---|---|---|
| **Location** | **Receptor** | **Meteorological Data Year[1]** | **Excess Cancer Risk per million** | **Chronic Hazard Index** | **Acute Hazard Index[3]** |
| PMI[3] | P40 | 2020, 2018 | 4.98 | 0.0018 | NA |
| NPR[3] | G68 | 2018, 2020 | 2.49 | 0.00059 | NA |
| MEIR | RP_H31 | 2018, 2020 | 1.20 | 0.00029 | NA |
| MEIW | CR_WP_2 | 2020, 2020 | 0.03 | 0.00024 | NA |
| Rancho Santana School | CR_SC_13 | 2020, 2018 | 0.07 | 0.000035 | NA |
| Potential Future School | CR_SC_14 | 2018, 2018 | 0.04 | 0.000020 | NA |
| Threshold of Significance | | | 10 | 1[2] | 1[2] |

Source: Lawrence & Associates 2021.
Notes:
1. Meteorological year with highest risk summed for JSRL.
2. These significance thresholds adopted from the BAAQMD.
3. The PMI is at the landfill property line adjacent to JSRL and is not a potential receptor. Grid Point G68 is across the street from property line point P40.

DPM = diesel particulate matter
PMI = point of maximum exposure intensity
NPR = nearest potential receptor
MEIR = maximum exposure impact residential
MEIW = maximum exposure impact worker

Because the PMI at Receptor P40 is not a potential receptor, the nearest grid point (G68) was analyzed and was found to have a sum of excess cancer risk below the threshold of significance. When including the risk from DPM from both the landfill and John Smith Road, the fugitive emissions of LFG would need to be less than 242 cfm based on the risk at the nearest potential receptor (G68) and 588 cfm based on the risk at the MEIR. Based on the anticipated fugitive emissions in Table A2 in Attachment A of Appendix C, the projected fugitive emissions would be below these limits. Because the risk from flare emissions is negligible and maximum fugitive LFG emissions are well above the projected emissions, there is flexibility to accommodate LFG generation higher than expected as well as the associated fugitive emissions.

**Analysis of $PM_{10}$ Emissions from Scenario 5** – When $PM_{10}$ emissions cannot be mitigated below the MBARD threshold of 82 lb./day, the MBARD CEQA Guidelines allow dispersion modeling to compare the emissions to the CAAQS of 50 μg/m$^3$ and NAAQS of 150 μg/m$^3$ and background to determine whether the $PM_{10}$ emissions would result in a violation of the CAAQS and NAAQS. Scenario 5, occurring with simultaneous clean closure of the Class I Area, and a peak traffic day could only be reduced to 103.4 lb./day of $PM_{10}$ emissions using the BMPs described above (Table 4.3-10). Therefore, the $PM_{10}$ emissions from this scenario were modeled and compared to the background emissions from the Fairview Road monitoring station. As described on Page 5.2 of the MBARD CEQA Guidance:

> *"If modeling demonstrates that direct emissions under individual or cumulative conditions would not cause the exceedance of the State $PM_{10}$ AAQS [50 micrograms per cubic meter (μg/m$^3$)] at existing receptors as averaged over 24 hours, the impact would not be considered significant. If ambient air quality in the project area already exceeds the State AAQS, a project would contribute substantially to this violation if it would emit 82 pounds per day or more. If there are existing $PM_{10}$ emissions in the project area, dispersion modeling should be undertaken to determine if the project and existing emissions would cause a violation of the State $PM_{10}$ standard."*

| Table 4.3-15<br>Peak Cancerous and Non-Cancerous (Acute and Chronic) Health Hazards from Fugitive and Flare LFG Emissions | | | | | |
|---|---|---|---|---|---|
| **Location** | **Receptor(s)** | **Meteorological Data Year[1]** | **Excess Cancer Risk per million** | **Chronic Hazard Index** | **Acute Hazard Index** |
| PMI[4] | P40 | 2020, 2020 | 9.90[2] | 0.0315 | 0.000075 |
| NPR[4] | G68 | 2018, 2020 | 4.95 | 0.0158 | 0.000038 |
| MEIR | RP-H31 | 2019, 2020 | 2.39 | 0.0076 | 0.000020 |
| MEIW | CR_WP_2 | 2019, 2020 | 0.15 | 0.0076 | 0.000015 |
| Rancho Santana School | CR_SC_13 | 2018, 2018 | 0.20 | 0.00086 | 0.0000043 |
| Potential Future School | CR_SC-14 | 2020, 2018 | 0.15 | 0.00048 | 0.0000034 |
| Threshold of Significance | | | 10 | 1[3] | 1[3] |

Source: Lawrence & Associates 2021.
Notes:
1. Meteorological year with highest risk for flare emissions, fugitive emissions.
2. Modeled to determine the highest fugitive emissions that would fall below the limit (160 cubic feet per minute [cfm] fugitive 2,400 cfm flare).
3. These significance thresholds adopted from the BAAQMD.
4. The PMI is at the landfill property line adjacent to JSRL and is not a potential receptor. Grid Point G68 is across the street from property line point P40.

LFG = landfill gas
PMI = point of maximum exposure intensity
NPR = nearest potential receptor
MEIR = maximum exposure impact residential
MEIW = maximum exposure impact worker

Table 4.3-17 lists the modeled results as compared to the third highest daily average reading (as required by the MBARD CEQA Guidelines) for each of the years modeled (2020 provided the highest value). Also shown are the third highest daily averages for April through July during which bulk excavation would typically be performed. As shown in Table 4.3-1, the background exceeded the CAAQS in all three years, all of which occurred during days in the fall (when most construction activity has already been completed for the season). When added to the fall background for 2020, the emissions at the nearest receptors would add 4.2% to the background at the highest receptor. When added to the April through July background, the added $PM_{10}$ would not contribute an exceedance of either the CAAQS or NAAQS.

**Analysis of $SO_2$ Emissions from the Flare** – When the projected $SO_2$ emissions exceed the MBARD threshold of 150 lb./day, the MBARD CEQA Guidelines allow dispersion modeling to compare the emissions to the applicable CAAQS and NAAQS. As described in the MBARD design manual, dust emissions can be evaluated based on a dispersion analysis:

> "*Sources which directly emit 150 pounds or more per day of oxides of sulfur as sulfur dioxide ($SO_2$) (e.g., industrial operations) would result in substantial air emissions and have a significant impact on air quality. However, modeling can be used to refute (or validate) this determination. If modeling demonstrates that the source would not cause a violation of State or national AAQS at existing or reasonably foreseeable receptors, the project would not have a significant impact on air quality*"

As described in Table 4.3-1, there are no known background data within the MBARD, therefore the modeled $SO_2$ is compared to the CAAQS and NAAQS described in Table 4.3-4. Table 4.3-18 provides the comparison.

The concentrations of $SO_2$ at the highest PMI and MEIR are well below both the CAAQS and NAAQS and a discharge concentration of 214.91 lb./day from the LFG flare would not contribute to a violation of the applicable standards.

| Table 4.3-16<br>Sum of Excess Cancer and Non-Cancer (Chronic) Health Hazards from DPM and LFG Emissions[5] | | | | | |
|---|---|---|---|---|---|
| **Location** | **Receptor** | **Meteorological Data Year[1]** | **Excess Cancer Risk per million** | **Chronic Hazard Index** | **Acute Hazard Index[3]** |
| PMI[4] | P40 | 2018, 2020, 2020, 2020 | 14.88 | 0.033 | NA |
| NPR[4] | G68 | 2018, 2020, 2020, 2018 | 7.44 | 0.016 | NA |
| MEIR | RP_H31 | 2018, 2020, 2020, 2019 | 3.59 | 0.0079 | NA |
| MEIW | CR_WP_2 | 2018, 2020, 2020, 2019 | 0.22 | 0.0079 | NA |
| Rancho Santana School | CR_SC_13 | 2020, 2018, 2018, 2018 | 0.27 | 0.00089 | NA |
| Potential Future School | CR_SC_14 | 2020, 2018, 2018, 2020 | 0.19 | 0.00050 | NA |
| Threshold of Significance | | | 10 | 1[2] | 1[2] |

Source: Lawrence & Associates 2021.
Notes:
1. Meteorological year with highest risk used for summing for, JSR DPM, LF DPM, Flare LFG, Fugitive LFG.
2. These significance thresholds adopted from the BAAQMD.
3. There is no acute hazard index for DPM.
4. The PMI is at the landfill property line adjacent to JSRL and is not a potential receptor. Grid Point G68 is across the street from P40.
5. Assumes 2,400 cubic feet per minute [cfm] from the flare and 160 cfm fugitive emissions at buildout.
DPM = diesel particulate matter
LFG = landfill gas
PMI = point of maximum exposure intensity
NPR = nearest potential receptor
MEIR = maximum exposure impact residential
MEIW = maximum exposure impact worker

| Table 4.3-17<br>$PM_{10}$ Dispersion Modeling Results for Scenario 5 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Location** | **Receptor** | **Meteorological Data Year[1]** | **Ground Level µg/m³** | **Head Level µg/m³** | **Yearly Background[1] µg/m³** | **Spring Background[1] µg/m³** | **CAAQS** | **NAAQS** |
| PMI | P13 | 2020 | 4.66 | 4.68 | 111.7 | 42.9 | 50 | 150 |
| MEIR | RP_H31 | 2020 | 0.66 | 0.66 | 111.7 | 42.9 | 50 | 150 |

Source: Lawrence & Associates 2021.
Notes:
1. The third highest value for background was during 2020.
µg/m³ = micrograms per square meter
PMI = point of maximum exposure intensity
MEIR = maximum exposure impact residential
CAAQS = California Ambient Air Quality Standards
NAAQS = National Ambient Air Quality Standards

## THRESHOLDS OF SIGNIFICANCE

Per Appendix G of the CEQA Guidelines and MBARD recommendations, air quality impacts are considered significant if implementation of the proposed project under consideration would do any of the following:

- Generate emissions during construction or operational activities from all sources greater than the following threshold limits (from Table 5-3 of the MBARD 2015 CEQA Guidance), which are based on the offset requirements in MBARD Rule 207 – Review of New or Modified Sources:

- 137 pounds per day of volatile organic gases (VOC or reactive organic gases [ROG], direct + indirect).
- 137 pounds per day of oxides of nitrogen ($NO_x$, as $NO_2$, direct + indirect).
- 82 pounds per day of respirable particulate matter ($PM_{10}$, on-site).
- 55 pounds per day of fine particulate matter ($PM_{2.5}$) (Rule 207).
- 550 pounds per day of carbon monoxide (CO, direct only).
- 150 pounds per day of oxides of sulfur as sulfur dioxide ($SO_x$ as $SO_2$, direct).

► Cause or contribute to a violation of any NAAQS or CAAQS (Table 4.3-2), specifically $PM_{10}$ from dust (per Page 5-7 of the CEQA Guidance);

► Conflict with or obstruct implementation of any applicable air quality plans;

► Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

**Table 4.3-18**
**$SO_2$ Dispersion Modeling Results**

| Location | Receptor[1] | Meteorological Data Year[2] | Ground Level $\mu g/m^3$ | Head Level $\mu g/m^3$ | CAAQS | NAAQS |
|---|---|---|---|---|---|---|
| **1-hour** | | | | | | |
| PMI | P23, P9 | 2018, 2020 | 27.1 | 28.9 | 655 $\mu g/m^3$ (0.25 ppm) | 196 $\mu g/m^3$[3] (75 ppb) |
| MEIR | RP_H9 | 2019 | 7.9 | 7.9 | 655 $\mu g/m^3$ (0.25 ppm) | 196 $\mu g/m^3$[3] (75 ppb) |
| **3-hour** | | | | | | |
| PMI | G80 | 2018, 2020 | 16.5 | 16.8 | NA | 1300 $\mu g/m^3$[4] (0.5 ppm) |
| MEIR | RP_H1 | 2019 | 6.2 | 6.3 | NA | 1300 $\mu g/m^3$[4] (0.5 ppm) |
| **24-hour** | | | | | | |
| PMI | P46 | 2019, 2018 | 4.92 | 4.96 | 105 $\mu g/m^3$ (0.04 ppm) | 364 $\mu g/m^3$[3] (0.14 ppm) (for certain areas) |
| MEIR | RP_H1 | 2018, 2019 | 1.44 | 0.66 | 105 $\mu g/m^3$ (0.04 ppm) | 364 $\mu g/m^3$[3] (0.14 ppm) (for certain areas) |
| **Annual Average** | | | | | | |
| PMI | P46 | 2020 | 1.415 | 1.470 | 105 $\mu g/m^3$ (0.04 ppm) | 364 $\mu g/m^3$[3] (0.14 ppm) |
| MEIR | RP_H1 | 2019 | 0.246 | 0.250 | 105 $\mu g/m^3$ (0.04 ppm) | (364 $\mu g/m^3$[3] (0.14 ppm) |

Source: Lawrence & Associates 2021.
Notes:
1. Ground Level Receptor Location, Head Level Receptor Location, when different.
2. Ground Level Receptor Highest Data Year, Head Level Receptor Location Highest Data Year, when different.
ry Standard.
4. Secondary Standard.
$\mu g/m^3$ = micrograms per square meter
ppm = parts per million
PMI = point of maximum exposure intensity
MEIR = maximum exposure impact residential
CAAQS = California Ambient Air Quality Standards
NAAQS = National Ambient Air Quality Standards

- Expose sensitive receptors to substantial pollutant concentrations. For TACs, the cancer risk significance threshold is greater than 1 in one hundred thousand for an individual project's contribution to excess lifetime cancer risk. The risk is defined as "excess" because it is above the background cancer risk to the population;

- Create objectionable odors affecting a substantial number of people; or

- Result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment under an applicable national or State ambient air quality standard (Ozone and $PM_{10}$).

## IMPACTS AND MITIGATION MEASURES

**IMPACT 4.3-1** **Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.** *Project construction activities would generate short-term criteria air pollutant and precursor emissions. However, these emissions are not projected to exceed the established thresholds of significance. Therefore, these construction activities would have a* ***less than significant*** *impact.*

Construction emissions are described as "short term" or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially $NO_x$ and particulate matter emissions. $NO_x$ emissions are associated primarily with exhaust emissions from employee commute trips and construction equipment. Particulate matter emissions are primarily from dust generated by heavy equipment on paved, graveled, and unpaved roads within construction areas.

Table 4.3-9 summarizes the project's construction emissions and as indicated in this table, no criteria pollutants would exceed the thresholds of significance (per MBARD Rule 207) during the most equipment intensive phase of construction (bulk excavation). Other periods of construction would generate lower emission levels. These construction activities, which are associated with construction of individual waste modules approximately every other year and the entrance facilities, would typically occur during the spring and early summer. Dust, particularly $PM_{10}$ from haul roads is the pollutant of greatest concern but will be reduced to below the threshold of significance with the operators current BMPs.

Because the emissions are temporary and would remain below the thresholds of significance for criteria pollutants, and assuming that the MBARD established the thresholds so as not to violate NAAQS or CAAQS, the construction emissions would not (1) cause an exceedance of the NAAQS and CAAQS (2) violate any air quality standard or contribute substantially to an existing or projected air quality violation, and (3) result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment under an applicable national or State ambient air quality standard. Therefore, the generation of criteria air pollutant emissions during project construction would be considered a **less-than-significant** impact.

**Mitigation Measure 4.3-1 Short-Term Construction-Generated Criteria Air Pollutant and Precursor Emissions.**

No mitigations required.

**IMPACT 4.3-2** **Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.** *The proposed project has the potential to generate criteria air pollutants and precursor emissions in excess of established thresholds. Therefore, this impact would be considered* ***potentially significant****.*

The proposed project would be expected to generate criteria air pollutants and precursor emissions associated with both construction and operations. The evaluation of the criteria air pollutant emissions was conducted during periods of simultaneous landfill construction and operation as evaluated for scenarios 1 through 5 above. The expected emissions would be less during periods when only landfill operations are occurring.

When evaluating construction and operation emissions concurrently, the analysis includes emissions from queuing at the entrance, flare emissions, fugitive LFG emissions, and indirect emissions. As described in Table 4.3-10, all of the five scenarios analyzed resulted in criteria air pollutant emission levels below the MBARD thresholds of significance for all criteria pollutants except $PM_{10}$ for scenario 5 and $SO_2$ for all scenarios. The $SO_2$ exceedance is primarily from combustion of LFG in a flare at peak anticipated flow.

When criteria air pollutant thresholds are exceeded, the MBARD CEQA Guidelines indicate that dispersion modeling can be used for some pollutants (including $PM_{10}$ and $SO_2$) to refute the significance determination using the threshold values. To refute the evaluation based on the thresholds of significance, modeling must demonstrate the following:

- For $PM_{10}$, the dispersion modeling must demonstrate that emissions would not cause an exceedance of the State $PM_{10}$ standard (50 $\mu g/m^3$) at an existing or reasonably foreseeable receptor as averaged over 24 hours (MBARD 2016, p 5-5).

- For $SO_X$ (assuming all $SO_X$ is $SO_2$), modeling must demonstrate that the source would not cause a violation of State or national AAQS at existing or reasonably foreseeable receptors (MBARD 2008, p. 5-9).

Based on dispersion modeling, as described above and summarized in Table 4.3-17, $PM_{10}$ for scenario 5 would not cause an exceedance of State or National AAQS at an existing or reasonably foreseeable receptor averaged over a 24-hour period. Based on dispersion modeling, as described above and summarized in Table 4.3-18, $SO_2$ emissions, assuming the flare is combusting 2,400 cfm, would not cause a violation of State or National AAQS at existing or reasonably foreseeable receptors.

The proposed project includes the installation of an RNG facility before the project produces approximately 550 cfm of collected LFG landfill gas, which is anticipated to occur in 2027, to reduce greenhouse gas emissions. When operating, an RNG facility would collect and process approximately 92% of the collected LFG. The remainder would be flared, although at a lower flow rate than associated with current landfill operations. The RNG system would remove methane from the gas stream and compress it for off-site use. The waste biogenic $CO_2$ and atmospheric gases, such as nitrogen and oxygen in the gas stream, would be filtered and released into the atmosphere. During the RNG process, LFG is chilled to removed moisture in the gas and help remove VOCs. When the RNG facility is offline for maintenance, all of the LFG would be flared. The specific equipment that would be used to process the LFG would vary depending on the vendor but would generally consist of semipermanent shipping container type structure and tanks placed on pavement or concrete slabs. The most likely method to ship the RNG (methane gas) would be via a pipeline approximately one mile long. However, if the pipeline proves infeasible, the RNG would be compressed to 3,600 to 4,000 psi, placed in “tube” trailers and taken either to a pipeline injection point or CNG fueling facility within 50 miles of the project site. The RNG facility may also incorporate a landfill gas-to-energy facility that operates using LFG for fuel with its own separate emission source. The conditional use permit for the project will require review of the RNG site plan when the operator and final design for the RNG facility is determined to confirm that the RNG facility is substantially consistent with the facility analyzed in this EIR.

The analyses of criteria pollutants from landfill and RNG operations includes an average of 4 tube trailers per day at the peak LFG generation rate. Construction of the infrastructure for the RNG facility (e.g., buried utilities, rough grading) is included in the emissions calculations for the entrance construction project. Placement of the containers and tanks is considered negligible when compared to scenarios 1 through 5 above and would have lower emissions. Because the RNG would ship approximately half of the LFG off site, the flow would be less than the peak flow of 2,400 cfm analyzed for the flare. Emissions equipment for the RNG facility and associated landfill gas-to-energy facility (if used) would be required to meet the same 98% destruction efficiency for VOCs and criteria pollutants, except for $SO_2$, which would be required to remain below the $SO_2$ concentration of 215.19

lb./day analyzed for the flare, thus the emissions from RNG facility would remain below the thresholds of significance.

A permit-to-construct and permit-to-operate for the RNG facility would be required by the MBARD. The RNG facility developer selected by the project proponent would be required to submit a design report to the MBARD to obtain a permit-to-construct demonstrating that the emissions limits required by the MBARD would be met. After construction, the RNG facility developers would be required to perform a source test to demonstrate that the VOC emission destruction meets a 98% destruction efficiency, remains below the thresholds of significance for criteria pollutants, and remains below the modeled limit of 214.91 lb./day for $SO_2$.

As shown in Table 4.3-10, the emissions for criteria pollutants would remain below the thresholds of significance during peak emissions conditions except for $PM_{10}$ for Scenario 5 and $SO_2$ for all scenarios (based on peak flare emissions projected in 2021). Because the emissions would remain below the thresholds of significance for criteria pollutants, and the MBARD established the thresholds were adopted so as not to violate NAAQS or CAAQS, the construction emissions would not (1) cause an exceedance of the NAAQS and CAAQS (2) violate any air quality standard or contribute substantially to an existing or projected air quality violation, and (3) result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment under an applicable national or State ambient air quality standard. Based on dispersion modeling, the emissions of $PM_{10}$ and $SO_2$ would not result in an exceedance of the NAAQS or CAAQS at existing or reasonable potential receptors, therefore the projected concentrations of these constituents would fall below the thresholds of significance and would meet the standards for Items 1 through 3. However, because there is a potential that emissions from the future RNG facility could be higher than predicted and could result in criteria air emissions that could exceed MBARD's significance thresholds, this impact is considered **potentially significant**.

#### Mitigation Measure 4.3-2 Long-Term Operational (Regional) Criteria Air Pollutant and Precursor Emissions.

a. The project proponent shall retain a qualified air quality professional to prepare an RNG design report that demonstrates operations of the RNG facility will not result in construction or operational criteria pollutant emissions greater than the LFG flare described above when combined with emissions from on-site operations. The design report shall be submitted along with an application to construct the RNG facility to the MBARD for review and shall include a demonstration that the thresholds of significance will be met for criteria air pollutants, except $SO_2$ as described below, and the VOC destruction efficiency will be met as described below.

b. VOCs from any emitted gas shall either be destructed or filtered to the 98% destruction or removal efficiency similar to that required for an LFG flare.

c. When operating the flare or RNG facility, emissions shall not exceed a maximum $SO_2$ concentration of 214.91 lb./day.

### Level of Significance After Mitigation

Because the identified mitigation measures limit $SO_2$ emissions from the flare, establish a VOC destruction efficiency requirement, and limit RNG criteria pollutant emissions from the RNG facility, the implementation of the proposed project would not be expected to generate criteria air pollutants in excess of MBARD's thresholds of significance and this impact would be reduced to **less than significant**.

**IMPACT 4.3-3** ***Conflict with or Obstruct Implementation of any Applicable Air Quality Plans.*** *The proposed project would not contribute to an exceedance of the CAAQS or NAAQS. Therefore, the proposed project would not conflict with or obstruct implementation of the MBARD Air Quality Management Plan and there would be* ***no impact****.*

The proposed project is subject to the requirements of the MBARD Air Quality Management Plan. The proposed project would generate criteria air pollutants however, the generation of the ozone precursors ROG and $NO_X$ from project operations would not exceed the MBARD threshold of significance and would not contribute to an exceedance of the CAAQS (Table 4.3-8). The proposed combined project emissions would exceed the MBARD threshold of significance for $PM_{10}$, which required that additional analysis be conducted to determine if this exceedance would conflict with the MBARD Air Quality Management Plan. $PM_{10}$ was further analyzed using a dispersion model to determine the concentration at the off-site existing and potential sensitive receptors with the highest estimated concentration. For the analysis, the source with the highest concentrations of $PM_{10}$ (off-road dust from scenario 5) was modeled. Additionally, peak $SO_2$ emissions from the flare were analyzed using dispersion modeling. The modeling results concluded that the emissions of $PM_{10}$ emissions from off-road dust and $SO_2$ emissions from the flare would be well below the CAAQS and NAAQS. Accordingly, the proposed project would not conflict with or obstruct the MBARD Air Quality Management Plan and there would be **no impact**.

**Mitigation Measure 4.3-3 Conflict with or Obstruct Implementation of any Applicable Air Quality Plans.**

No mitigation required.

**IMPACT 4.3-4** **Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminant Emissions.** *The generation of diesel particulate matter and fugitive landfill gas emissions associated with project construction and operations could expose potential future residents directly adjacent to the project site to TAC emissions in excess of MBARD thresholds. This impact would be considered* ***potentially significant****.*

The exposure of sensitive receptors to emissions of TAC can occur during both the construction and operational phases of the project. Figure 4.3-10 shows the locations of the analyzed receptors. The nearest existing receptor (RP_H1) is 350 feet west of the project property line and 1,500 feet west of the proposed waste limit. The next nearest receptor (RP_H31) is 2,000 feet southeast of the project property boundary and 2,700 feet from the proposed waste limit. The nearest business receptor (CR_WP_2) is 1,300 feet from the northern project property boundary and 2,200 feet from the proposed waste limit. All other receptors are farther away.

## Exposure to On-Site and Off-Site Mobile Sources

Diesel exhaust emissions would be generated from the proposed project's construction and operational activities include:

- Periodic use of diesel-powered equipment to construct landfill modules, the landfill entrance, and the closure cap.
- Daily on-site use of diesel-fueled off-road equipment such as dozers, excavators, compactors, off-road dump trucks, and truck tippers that generate DPM.
- A mixture of heavy diesel tractor-trailers that generate DPM emissions and gasoline powered light vehicles used by the public to deliver waste and employees to access the site, including on-site traffic and off-site traffic on John Smith Road.

Construction of the project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment used in site grading and excavation, and other activities related to liner deployment. These emissions would be intermittent, would vary through the site area, or would be of relatively short duration (less than 180 days).

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substances. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to OEHHA, health risk assessments, which determine the exposure of sensitive residential receptors to TAC emissions, should be based on a 70-year exposure period. Thus, because the use of mobilized construction equipment would be temporary (several months every two years or so) in combination with the dispersive properties of diesel PM, module construction activities would not cause long-term constant emissions suitable for health risk analysis when evaluated alone. Therefore, an evaluation of combined construction and operation impacts associated with exposure to DPM was performed.

The average DPM generation rate for the life of the landfill, including emissions from construction vehicles, on site vehicles and project vehicles traveling on John Smith Road in the project vicinity, were modeled to estimate excess cancer and chronic health risks. MBARD only has a threshold for lifetime cancer risk (Table 4.3-14), so commonly used (Bay Area Air Quality Management District) thresholds for chronic and acute hazard indices were provided for reference. The residential estimated cancer risk levels are conservatively based on a hypothetical individual exposed to carcinogenic DPM emissions from the project site continuously, 24 hours per day, 365 days per year for a 70-year lifetime (minus a time allocation for vacations). These assumptions are very conservative because individuals are unlikely to remain in one location for that length of time. For worker risk, the modeling assumed that a worker would be exposed to DPM emissions for 8 hours per day over 25 years. Table 4.3-14 summarizes the modeled risks due to the exposure to DPM, which is below the MBARD thresholds of significance for residents, schools, and workers.

### Exposure to Stationary Sources

The LFG generation associated with the proposed project is projected to peak in 2071 shortly after the landfill is expected to reduce to in-County only waste.[13] For the peak emissions used to calculate health risk, it was assumed that 2,400 cfm of LFG at 50% methane would be combusted in the flare and 160 cfm would escape the landfill surface in a diffuse manner as fugitive emissions (approximately 93% collection efficiency).

The effects on off-site sensitive receptors were analyzed using dispersion models for both the flare and fugitive emissions. The concentrations of flare and fugitive emissions were modeled at each identified residential receptor, worker receptor, school receptor, and potential receptors at the property line and adjacent grid for each year analyzed. The receptors with the highest sum of concentrations for the three-year period were analyzed for health risk within these limits. As shown on Table 4.3-15, the excess cancer, chronic hazard, and acute hazard risk for the existing and potential receptors exposed to LFG were below the thresholds of significance.

### Exposure to Combined Stationary and Mobile Sources

When the risks from exposure to DPM and LFG are combined, Table 4.3-16 indicates that the excess cancer risk for the PMI (Location P40) would be above the threshold of significance. As described above, the PMI is at a location along the property line adjacent to JSRL that lacks sensitive receptors. Therefore, G68 on the property across JSRL from P40 was analyzed and found to be below the thresholds of significance, but this location also does not contain a sensitive receptor. Based on LFG emissions alone, the excess cancer risk would remain below the threshold of significance with up to 322 cfm of fugitive emissions. The MEIR would remain below the

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[13] This is an approximation. Depending on the long-term waste disposal rate, the site life may be longer or shorter. A shorter lifespan would result in a higher peak LFG generation rate and a longer lifespan would result in a lower peak LFG generation rate.

threshold of significance with fugitive emissions up to 670 cfm (73% collection efficiency at a peak flow of 2,449 cfm). With addition of the risk from DPM, the fugitive flows would need to remain below 242 cfm to ensure the threshold is not exceeded at G68 and below 588 cfm to ensure the threshold is not exceeded at the MEIR.

The property containing point G68 is currently used for cattle grazing and does not contain any residences. Because of a lack of groundwater in the area, it is unlikely to become a residential receptor in the future. Unless a residence is constructed in the vicinity of grid point G68, the MBARD cancer risk threshold is not predicted to be exceeded. However, if a residence is constructed at grid point G68, the generation of diesel particulate matter and fugitive landfill gas emissions associated with project construction and operations could expose that future resident to TAC emissions in excess of the MBARD threshold and this impact would be **potentially significant**.

As described in Section 8.6.3 of Appendix C, cattle grazing is currently allowed on the unused portion of the landfill property. As the landfill footprint expands on the property, a 50-foot setback between the waste boundary and grazing cattle would be maintained, similar to the separation required between the waste and property line by the current landfill Waste Discharge Requirements (Order No. R3-2013-0047, Prohibition No. 6). With this setback implemented, no food chain exposures to humans are expected, and all food chain pathways would be considered incomplete.[14] Therefore, **no impact** would be anticipated associated with food chain pathways between animals and humans.

#### Mitigation Measure 4.3-4 Exposure of Sensitive Receptors to Substantial Concentrations of Toxic Air Contaminant Emissions.

Fugitive LFG emissions shall be limited to an average of 588 cfm over the landfill footprint as analyzed under the closure footprint area based on the risk at the MEIR. If a residence is constructed on the portion of property in which point G68 is located, the fugitive LFG emissions shall be limited to 242 cfm.

### Level of Significance After Mitigation

The mitigation measure would ensure that project emissions would remain below levels that could expose residents to TAC emissions in excess of MBARD standards. Therefore, implementation of the proposed project would result in a **less-than-significant** impact.

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| **IMPACT 4.3-5** | **Exposure of Sensitive Receptor to Odorous Emissions.** *The proposed project would introduce new odor sources into the area. However, these odor sources would not be expected to adversely affect adjacent land uses. Therefore, this impact would be considered **less than significant**.* |

The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and sometimes generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose a substantial number of members of the public to objectionable odors would be deemed to have a significant impact.

In general, the predominant wind direction is from the west-northwest during the spring, summer, and fall and transitions to from the southeast in the winter. However, in general, most odor complaints occur during low-windspeed or stagnant periods. As described above, no reported odor complaints have been found in the landfill's

[14] Plants can be exposed to bioaccumulating contaminants through direct deposition and through root uptake from contaminated soil, which can be consumed by the next level in the food chain. The 50-foot setback requirements is considered safe for humans, thus it is considered safe for cattle grazing. Furthermore, cattle graze the entire pasture, and would be much farther than 50-feet from the waste boundary for the majority of grazing.

log since 2017 and no recorded complaints were filed within a year of the Notice of Preparation release based on a review of CalRecycle inspection records.

Construction of the proposed project would result in diesel exhaust emissions from on-site construction equipment. The diesel exhaust emissions would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance.

In addition, the proposed project would expand the tonnage of waste received at the landfill working face. Odors are generated at the landfill working face due to the tipping and processing of putrescible wastes (waste which rots, such as food and other organic matter). The primary means of controlling odor at the landfill working face is through the application of cover material, which eliminates odor sources at the working face by covering the waste with six inches of compacted soil or alternative daily cover at the end of each day. Odors are also generated in the form of LFG by the decomposition of buried waste and can escape through the landfill cover sometimes even with a properly operating LFG extraction system.

The overall footprint of the landfill is proposed to be laterally enlarged and the tonnage of waste permitted to be accepted at the site would increase; however, the size of the working face would not be expected to substantially change, and soil or alternative daily cover would continue to be applied daily. Therefore, significant increases in landfill odors originating at the working face would not be anticipated. Furthermore, with continued operation of the landfill gas collection and control system, substantial increases in surface emissions generated from the decomposition of waste in closed modules would not be anticipated.

Because the proposed project is located in a relatively remote and rural area of the County, few residences are located within the project vicinity. The nearest residence is located approximately 350 feet west of the proposed project property boundary and 1,500 feet from the proposed waste boundary. Other existing residences would be approximately a half mile or more from the waste boundary.

Both the current solid waste operations and the proposed project would be subject to MBARD Rule 402 regarding the control of nuisances. In addition, both the current operation and the proposed project would be required to control odor nuisances at the site through the implementation of BMPs, including the application of daily cover and the operation of the LFG collection and control system. When combining required compliance with MBARD Rule 402, required ongoing implementation of odor-reducing BMPs, and the remote project setting, the proposed project would not be expected to create objectionable odors that would affect a substantial number of people. Therefore, this impact would be considered **less than significant**.

**Mitigation Measure 4.3-5 Exposure of Sensitive Receptor to Odorous Emissions.**

No mitigation measures are required.

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|---|---|
| **IMPACT 4.3-6** | **Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions.** *The proposed project would increase mobile-source carbon monoxide emissions in the local area. However, this increase would not cause local mobile-source CO emissions to exceed applicable standards. Therefore, this impact would be considered* ***less than significant****.* |

The concentration of CO is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions); particularly during peak commute hours. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals. As a result, the MBARD recommends analysis of CO emissions at a local level when the projected CO emissions would exceed a threshold of 550 lb./day. The proposed project's CO emissions are anticipated to remain well below the MBARD threshold; therefore, additional monitoring was not performed. As a result, the impact of long-term operational emissions of local CO associated with the proposed project would be considered **less than significant** as it would not contribute towards exposing sensitive receptors to substantial pollutant concentrations related to CO.

**Mitigation Measure 4.3-6 Long-Term Operational (Local) Mobile-Source Carbon Monoxide Emissions.**

No mitigation is required.

## 4.3.4 References


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## 4.4 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

The purpose of this section is to describe the setting of greenhouse gas (GHG) emissions and climate change relative to the project site and surrounding area. This section includes a brief description of the existing conditions, with an overview of the regulatory, climate change, GHG emissions, and operational settings of the proposed project. An explanation of the impact assessment methodology and a discussion of the potential impacts and mitigation measures is also provided.

The existing John Smith Road Landfill accepts up to 1,000 tons per day of municipal solid waste (MSW) for disposal. In addition, waste for beneficial reuse, such as soil that is used for waste cover, is accepted. The average for all waste (including largely inert beneficial reuse waste) was 923 tons per day including both waste from within San Benito County and outside of the County. Without the proposed project, the current landfill would accept at approximately the 2020 average rate until March 31, 2022, and then reduce waste acceptance to in-County waste only (190 to 200 tons per day) for another 15 years after which the landfill would close. During that 15-year period, the County would find another means of waste disposal, possibly a transfer station and waste would be transported to another location. The proposed project would increase the maximum daily tonnage to 2,300 tons per day and the analysis of GHG emissions assumes a 15-year ramp up to an average of approximately 1,700 tons per day. The site is estimated to have capacity for approximately 50 years of disposal at this rate before reducing to in-County waste only for another 15 years.

When MSW is landfilled, the organic constituents (i.e., yard waste, wood, food, paper) decay anaerobically (in the absence of oxygen) and create landfill gas (LFG). LFG contains 50 to 60% methane ($CH_4$), a greenhouse gas with a global warming potential 25 times that of the greenhouse gas carbon dioxide ($CO_2$) (although methane remains in the atmosphere for a much shorter time, generally 12 years compared to 100 years or more for $CO_2$). Most of the $CH_4$ generated at the site is currently collected and 99% of the collected $CH_4$ is combusted in a burner called a "flare." Some of the $CH_4$ escapes into the atmosphere as fugitive $CH_4$. Most current vehicles release anthropogenic (human caused) $CO_2$ from burning of fossil fuel and current traffic to the landfill generates $CO_2$. Other potential sources of GHG emissions could include indirect sources such as the use of grid electricity. At landfills, LFG emissions are the predominant source of methane emissions. Vehicle traffic generates some emissions but to a much lesser extent. Indirect emissions are typically negligible by comparison.

### 4.4.1 EXISTING SETTING

Global climate change is generally defined as the changes in the average weather of the earth measured by temperature, wind patterns, precipitation, and storms over a long period of time (IPCC 2013, Chapter 1, paraphrased).[1] Gases that trap heat in the atmosphere are called greenhouse gases. The United States Environmental Protection Agency (USEPA) states that, "*Greenhouse gas pollution threatens the American public's health and welfare by contributing to long-lasting changes in our climate that can have a range of negative effects on human health and the environment*" (USEPA 2019). The most recent U.S. National Climate Assessment states that, "*Global annually averaged surface air temperature has increased by about 1.8°F (1.0°C) over the last 115 years (1901–2016). This period is now the warmest in the history of modern civilization,…*" and that "*…based on extensive evidence, that it is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century*." (U.S. Global Change Research Program, 2017).

#### THE CARBON CYCLE

The carbon cycle describes the process in which carbon atoms continually travel from the atmosphere to the earth and then back into the atmosphere. Carbon containing gases such as $CO_2$ are used by plants to obtain carbon from the atmosphere and when they die and decay aerobically (in the presence of oxygen), the $CO_2$ is released back

As of this writing the next revision (IPCC, 2021) is still in draft form.

into the atmosphere. $CO_2$ from this cycle is called biogenic $CO_2$. Over the history of the earth, plants and animals have been buried before they can decay aerobically, become geologically trapped (such as in the form of oil, coal and natural gas) and are removed or sequestered from the atmosphere. Humans play a major role in the carbon cycle through activities such as the burning of fossil fuels, which releases the sequestered carbon in the form of anthropogenic $CO_2$ (meaning $CO_2$ generated by human activity).

When carbon-containing organic materials are buried in a landfill, they cease decaying aerobically and instead of emitting biogenic $CO_2$, they emit a combination of anthropogenic $CH_4$ and biogenic $CO_2$. When $CH_4$ is combusted in an LFG flare, the $CO_2$ from the combustion process is considered anthropogenic $CO_2$. Fugitive $CH_4$ that escapes into the atmosphere is an anthropogenic gas that is reduced by effective capture and flaring or beneficially reused to reduce the human impacts on climate change. Diversion of organics from landfills, aerobic composting, or other recycling, maintains the carbon cycle with minimal methane generation and avoids the need to collect and flare methane.

### GREENHOUSE GASES

GHGs are any gases that absorb infrared radiation in the atmosphere, thus increasing the absorption of heat in the atmosphere. This phenomenon is referred to as the greenhouse effect. Because primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere is generally independent of the point of emission. The connection between climate change and man-made GHG emissions, and the types of impacts that will result are not clearly understood. Furthermore, the ability to predict and quantify local or regional GHG impacts is still developing. The following discussion reviews the common types of GHGs of concern.

GHGs include, but are not limited to, water vapor, carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrochlorofluorocarbons (HCFCs), ozone ($O_3$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$). Of these, $CO_2$ and $CH_4$ are emitted in the greatest quantities from human activities. Table 4.4-1 provides descriptions of the GHGs that the California Air Resources Board (CARB) is responsible for monitoring and regulating. Emissions of individual and total gases are typically reported as a carbon dioxide equivalent ($CO_2e$) to provide a standardized unit of measure for GHG emissions.

Different GHGs have varying climate change impacts. The most commonly accepted metric for the radiative forcing (heat trapping) impact of GHGs is the global warming potential (GWP) value, which reflects the forcing of a kilogram of emissions relative to the same mass of carbon dioxide ($CO_2$). The California Air Resources Board (CARB) uses GWP estimates from the Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4) (IPCC 2007) for emission inventory purposes. Table 4.4-1 shows the GWP for the CARB referenced compounds described above.

### GLOBAL AND NATIONAL GREENHOUSE GAS EMISSIONS

According to the USEPA (2020a, page ES-4), in 2018, total gross U.S. greenhouse gas emissions were 6,676.6 million metric tons of $CO_2e$ (MMT $CO_2e$). Total U.S. emissions have increased by 3.7 percent from 1990 to 2018, down from a high of 15.2 percent above 1990 levels in 2007. Emissions increased from 2017 to 2018 by 2.9 percent (188.4 MMT $CO_2e$ Eq.). Net emissions (including sinks) were 5,903 MMT $CO_2e$. Overall, net emissions increased 3.1 percent from 2017 to 2018 and decreased 10.2 percent from 2005 levels. The decline reflects many long-term trends, including population, economic growth, energy market trends, technological changes including energy efficiency, and energy fuel choices.

In 2018, the primary greenhouse gas emitted by human activities in the United States was $CO_2$, representing approximately 81.3 percent of total greenhouse gas emissions. The largest source of $CO_2$, and of overall

| Table 4.4-1<br>Greenhouse Gases | | |
|---|---|---|
| **Greenhouse Gas** | **Global Warming Potential[1] x $CO_2e$** | **Description[2]** |
| Carbon Dioxide ($CO_2$) | 1 | Carbon dioxide ($CO_2$) is the primary greenhouse gas emitted through human activities. The main human activity that emits $CO_2$ is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation, although certain industrial processes and land uses also emit $CO_2$. In 2014, $CO_2$ accounted for about 80.9 percent of all U.S. greenhouse gas emissions from human activities. |
| Methane ($CH_4$) | 25 | Methane ($CH_4$) is the second most prevalent greenhouse gas emitted in the United States from human activities. Methane is emitted by natural sources such as wetlands, as well as human activities such as the raising of livestock; the production, refinement, transportation, and storage of natural gas; the decomposition of waste in landfills; and in the treatment of wastewater. |
| Nitrous Oxide ($N_2O$) | 298 | In 2014, nitrous oxide ($N_2O$) accounted for about 6 percent of all U.S. greenhouse gas emissions from human activities. Nitrous oxide is naturally present in the atmosphere as part of the Earth's nitrogen cycle. Human activities such as agricultural soil management (adding nitrogen to soil through use of synthetic fertilizers), fossil fuel combustion, wastewater management, and industrial processes are increasing the amount of $N_2O$ in the atmosphere. |
| Hydrofluorocarbons (HFCs) | 124-14,800[3] | Hydrofluorocarbons (HFCs) are man-made chemicals, many of which have been developed as alternatives to ozone-depleting substances for industrial, commercial, and consumer products such as refrigerants, aerosol propellants, solvents, and fire retardants. They are released into the atmosphere through leaks, servicing, and disposal of equipment in which they are used. |
| Perfluorocarbons (PFCs) | 7,390 – 12,200[3] | Perfluorocarbons (PFCs) are colorless, highly dense, chemically inert, and nontoxic. There are seven PFC gases: perfluoromethane ($CF_4$), perfluoroethane ($C_2F_6$), perfluoropropane ($C_3F_8$), perfluorobutane ($C_4F_{10}$), perfluorocyclobutane ($C_4F_8$), perfluoropentane ($C_5F_{12}$), and perfluorohexane ($C_6F_4$). Perfluorocarbons are produced as a byproduct of various industrial processes associated with aluminum production and the manufacturing of semiconductors. |
| Sulfur Hexafluoride ($SF_6$) | 22,800 | Sulfur hexafluoride ($SF_6$) is an inorganic compound that is colorless, odorless, nontoxic, and generally nonflammable. $SF_6$ is primarily used in magnesium processing and as an electrical insulator in high voltage equipment. The electric power industry uses roughly 80 percent of all $SF_6$ produced worldwide. |
| Nitrogen Trifluoride ($NF_3$) | 17,200 | Nitrogen trifluoride is a colorless, odorless, nonflammable gas that is highly toxic by inhalation. It is one of several gases used in the manufacture of liquid crystal flat-panel displays, thin-film photovoltaic cells and microcircuits. |

Notes:
1. Source: IPCC, 2007, Table TS.2. assuming 100-year Time Horizon.
2. Source: California Air Resources Board, 2018; California Health and Safety Code §38505(g).
3. Depending on specific constituent.

greenhouse gas emissions, was fossil fuel combustion. Methane emissions ($CH_4$) account for nearly 10 percent of emissions and have decreased by 7 percent since 2005 and 18.1 percent since 1990. The major sources of methane include enteric fermentation associated with domestic livestock, natural gas systems, and decomposition of wastes in landfills. Agricultural soil management, stationary fuel combustion, manure management, and mobile sources of fuel combustion were the major sources of $N_2O$ emissions. Ozone depleting substance substitute emissions and emissions of HFC-23 during the production of HCFC-22 were the primary contributors to aggregate hydrofluorocarbon (HFC) emissions. Perfluorocarbon (PFC) emissions were primarily attributable to electronics manufacturing and primary aluminum production. Electrical transmission and distribution systems accounted for most sulfur hexafluoride ($SF_6$) emissions. The electronics industry is the only source of nitrogen trifluoride (NF3) emissions (USEPA 2020a, ES-9). Of the 634.5 million metric tons of $CO_2e$ ($MMTCO_2e$) of methane generated in the U.S. in 2018, roughly 17 percent was estimated to be from landfills (CARB 2011). Landfill gas (LFG) accounted for 1.7 percent of all the monitored emissions as $CO_2e$ (USEPA 2020a, calculated using values from Table ES-2).

California is a substantial contributor of global GHGs – the second largest contributor in the United States and the 14th largest contributor in the world in 2007 (CARB 2011). In 2018, emissions from GHG emitting activities statewide were 425 $MMTCO_2e$, 0.8 $MMTCO_2e$ higher than 2017 levels and 6 $MMTCO_2e$ below the 2020 GHG limit of 431 $MMTCO_2e$ required by the California Global Warming Solutions Act (Assembly Bill 32). As of 2018, the primary source of GHGs in California was transportation, contributing 40 percent of the state's total GHG emissions. Electricity generation is the second largest source, contributing 15 percent of the state's GHG emissions, emissions from recycling and waste comprise two percent of California's GHG inventory, and half of that amount (or 1 percent of the inventory) was methane from landfills (CARB 2020a).

### ANTICIPATED GHG FROM THIS PROJECT

Anticipated GHG sources from this project would come from landfill gas (LFG) emissions ($CO_2$ and $CH_4$), the combustion products from flared or LFG to energy ($CO_2$ and to a much lesser extent $N_2O$), and from vehicle emissions ($CO_2$, $CH_4$, and $N_2O$), as described in this chapter.

### EFFECTS OF GLOBAL CLIMATE CHANGE

Global climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. According to CARB "Sharp rises of GHGs over the last century and a half have led to higher overall worldwide temperatures, reduced snowpack in the higher elevations, greater fluctuations of temperature and precipitation, global sea level rise and more frequent and severe extreme weather events, including hurricanes, heatwaves and droughts." (CARB 2020b). The global mean surface temperature change for the period 2016–2035 relative to 1986–2005 will likely be in the range of 0.3°C to 0.7°C (IPCC 2013, p 20). Below is a summary of some of the potential effects, reported by an array of studies, which could be experienced in California because of global climate change.

The connection between climate change and anthropogenic GHGs, and the types of impacts that will result are known with a high level of certainty. However, our ability to predict and quantify the new extremes of climate-related variables, and procedures for downscale modeling to estimate localized impacts, is still evolving. Thus, the following discussion reviews the types of impacts considered possible.

#### Air Quality

Higher temperatures are conducive to some types of air pollution formation and could potentially worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. The effect of higher temperatures will also vary depending on whether they are accompanied by drier or wetter conditions. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. If higher temperatures are accompanied by wetter conditions, however, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires.

### Water Supply

According to the California Climate Change Center (CCCC 2018, p. 25), "[o]n an annual basis, climate model projections do not present a strong consensus towards the whole of California "getting wetter" or "getting drier." The models do show a tendency for the northern part of the state to become wetter, and the very southern portion of California, extending and intensifying in Mexico, to become drier; however, this tendency is relatively small compared to the amount of year-to-year variation in precipitation in the region. Because of large annual variations, changes in annual mean or longer-term precipitation are likely not the best metrics to understand societal impacts of precipitation changes, which often result from drought and shorter period extremes.

The CCCC also indicates that "Importantly, the decline in spring snowpack occurs even if the amount of precipitation remains relatively stable over the central and northern California region; the snow loss is the result of a progressively warmer climate. Furthermore, while the models indicate that strong year-to-year variation will continue to occur, the likelihood of attaining spring snowpack that reaches or exceeds historical average is projected to diminish markedly…"

According to the Department of Water Resources (DWR 2018, preface), "It was found that flow seasonal pattern shift will become a major climate change factor and sea level rise a secondary factor, leading to a half million acre feet of Delta export reduction as well as a roughly 25% decrease of North of Delta carryover storage by around 2060. The results also indicate that the extra runoff from early snow melting and higher percentage of rain in the winter and early spring is not conserved in reservoirs and thus cannot be used to meet the higher summer demand in the current SWP [State Water Project]/CVP [Central Valley Project] system. This extra water is released as flood water in the winter and early spring to become Delta outflow."

The DWR (ibid., page 35) also stated that "There are different levels of uncertainty associated with every step of this climate change impact study on the SWP and CVP. For example, climate model projections give relatively consistent change of temperature in the future, less consistent sea level rise projections because of difficulties in predicting ice shelf melting in Antarctica and Greenland, and inconsistent projections in precipitation change. Climate model projections could give completely opposite measurements for change of precipitation in the future (drying versus wetting). As a result, the selection of different global climate model projections could affect climate change assessment results."

This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. It appears, however, that Sierra snowpack remains a significant concern.

### Hydrology

As discussed above, climate change could potentially affect the amount of snowfall, rainfall, and snowpack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide, and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for saltwater intrusion. Sea level rise can be a product of global warming through two main processes - expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion.

### Agriculture

As of the 2019 crop year, California has a $50 billion agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (CDFA 2020). Higher $CO_2$ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply, and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality (CCCC 2018).

While the above-mentioned potential impacts identify the possible effects of climate change at a global and potentially statewide level, in general the currently available technology and scientific modeling tools are unable to predict what, if any, impacts would occur locally.

## 4.4.2 REGULATORY SETTING

Under the Clean Air Act of 1970 (CAA), the USEPA and State of California regulate man-made GHG emissions. In addition to being subject to the requirements of the CAA, air quality in California is also governed by regulations under the California Clean Air Act of 1988 (CCAA). Implementation of the Federal CAA in California is the shared responsibility of the California Air Resources Board (CARB) and its 35 air-pollution control agencies (districts) and USEPA, Region 9. CCAA implementation is regulated by CARB by the local and regional districts.

At the local level, the authority to implement the Federal and state CAAs is the Monterey Bay Air Resources District (MBARD), under the oversight of CARB, and in some cases (Title V Permits as described below), under the oversight of USEPA District 9. MBARD is designated by law to adopt and enforce State and Federal regulations to achieve and maintain ambient air quality standards. In addition, the MBARD adopts and enforces controls on stationary sources of air pollutants. All projects in San Benito County are subject to applicable MBARD rules and regulations.

### CLEAN AIR PLANS

Clean Air Plans also known as State Implementation Plans (SIPs) address state and federal Clean Air Act mandates. Federal clean air laws require areas with higher-than-established threshold levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide (known as nonattainment) to develop plans SIPs. SIPs are comprehensive plans that describe how an area will attain national ambient air quality standards (NAAQS). SIPs are not single documents, they are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations and federal controls (CARB 2020). These plans do not directly regulate GHG, except that many of the regulated constituents are also GHGs, and reduction of the gases also reduces GHGs.

### FEDERAL REGULATIONS

#### General

The federal requirements of the CAA have been incorporated into Chapter 40 of the Code of Federal Regulations (40 CFR).

In 1990, amendments to the CAA established a comprehensive air quality permit program under the authority of Title V of the CAA. Title V requires certain facilities that emit large amounts of air pollution, or that meet other specified criteria, to obtain an operating permit, known as a Title V permit. The regulations for Title V are found in 40 CFR Part 70. Title V permits are regulated by the USEPA and delegated to the local district (in the case of San Benito County, MBARD).

#### Landfills

In 1999, the USEPA developed regulations for landfills, called "*New Source Performance Standards and Emission Guidelines for Municipal Solid Waste Landfills*", in 40 CFR Part 60, Subparts WWW and Cc, that required landfills exceeding emissions guidelines (Subpart Cc) to design and install an LFG-collection system and obtain a Title V permit. Landfills with a design capacity of equal to or greater than 2.5 million megagrams (Mg) or 2.5 million cubic meters were subject to the regulation. The emissions guidelines required an LFG system when LFG emission exceeded a non-methane organic compound (NMOC) generation rate of 50 megagrams per year (Mg/yr). In 2016, the limit was reduced to 35 Mg/year. In addition to installation of an LFG-collection system, Title V requires monitoring including, among other things, landfill surface emissions screening for methane emissions exceeding 500 ppm (parts per million). These regulations were intended to promote control of priority pollutants but would also serve to reduce GHGs by requiring a flare to combust methane and to reduce surface emissions of LFG.

At many landfills in California, by 1999, landfill-gas extraction systems had already been installed in response to detected subsurface perimeter gas migration per California regulations. In addition, when above the design capacity described above yet below the 50 Mg/year limit, landfills were regulated by local air districts under a Title V permit in which the monitoring requirements of Title V would not be required until the 50 Mg/year NMOC limit had been reached. As operating landfills of a sufficient capacity per regulation have added more waste with a corresponding increase in landfill-gas generation, they have gradually reached the 50 Mg/year and more recently, the 35 Mg/year limit that requires full Title V compliance. As described below, however, subsequent state regulations required more stringent regulation than those described in the federal regulation and have been implemented at most operating landfills in California.

In 2009, the USEPA published a rule for the mandatory reporting of greenhouse gases (GHG) from sources that, in general, emit 25,000 metric tons or more of $CO_2e$ per year in the United States. Smaller sources and certain sectors such as the agricultural sector and land use changes are not included in the GHG Program. Implementation of 40 CFR Part 98 is referred to as the Greenhouse Gas Reporting Program. The rule requires reporting of GHG but does not require control. The program does not include biogenic $CO_2$ gas from flared LFG or via direct fugitive emissions from landfills in the GHG emissions inventory.[2] According to the guidelines compiled by the Intergovernmental Panel on Climate Change (IPCC), $CO_2$ emissions from bioenergy sources should not be counted in national greenhouse gas inventories because the emission from bioenergy sources is already fully included in the Agriculture, Forestry and Other Land-Use sector. Therefore, bioenergy is always referred as a carbon neutral source of energy and promoted by government policies as a substitute for fossil fuels (IPCC 2006). The program requires that emissions of uncombusted methane (from an LFG flare) and fugitive methane from landfill gas and nitrous oxide (generated during combustion of LFG) be included in the GHG inventory as they would not have been generated as part of the carbon cycle. 40CFR Part 98, subpart HH describes reporting requirements for landfill gas.

In 2010 (implemented January 2, 2011), the USEPA promulgated rules addressing the prevention of significant deterioration (PSD) for GHGs as detailed in 40CFR 52.21 et seq. PSD applies to new major sources or major modifications at existing sources for pollutants where the area source is located is in attainment or unclassifiable area related to the National Ambient Air Quality Standards (NAAQS). PSD rules are implemented by the local Air Pollution Control District within the Title V Permit under USEPA's GHG Tailoring Rule, issued in May 2010.

The GHG Tailoring Rule set initial emission thresholds, known as Steps 1 and 2 of the Tailoring Rule, for PSD and Title V permitting based on $CO_2e$ emissions. New facilities with GHG emissions of at least 100,000 short tons per year (tpy) $CO_2e$ and existing facilities with at least 100,000 short tpy $CO_2e$ making changes that would increase GHG emissions by at least 75,000 short tpy $CO_2e$ are required to obtain PSD permits for GHGs and all other GHG emissions over PSD significance levels. New and existing sources with GHG emissions above 100,000 short tons $CO_2e$ must also obtain Title V operating permits.

[2] Per 40 CFR Part 98.6 – Definitions: Biogenic $CO_2$ means carbon dioxide emissions generated as the result of biomass combustion from combustion units for which emission calculations are required by an applicable part 98 subpart. Biomass means non-fossilized and biodegradable organic material originating from plants, animals or micro-organisms, including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized [non-petroleum based] and biodegradable organic material.

Step 3 of the GHG Tailoring Rule, issued on June 29, 2012, continues to focus GHG permitting on the largest emitters by retaining the permitting thresholds that were established in Steps 1 and 2. In addition, Step 3 improves the usefulness of plant-wide applicability limitations (PAL) by allowing GHG PALs to be established on $CO_2e$ emissions, in addition to the already available PALs for mass emissions, and to use the $CO_2e$-based applicability thresholds for GHGs provided in the subject-to-regulation definition in setting the PAL on a $CO_2e$ basis. Step 3 also revises the PAL regulations to allow a source that emits or has the potential to emit at least 100,000 tpy of $CO_2e$, but that has minor source emissions of all other regulated New Source Review pollutants, to apply for a GHG PAL while still maintaining its minor source status.

Via the Fiscal Year 2008 Consolidated Appropriations Act (H.R. 2764, Public Law 110-161), USEPA issued the Greenhouse Gas Mandatory Reporting Rule (74 Federal Register [FR] 56260) on October 30, 2009. The rule applies to fossil fuel and industrial gas suppliers, direct GHG emitters, and manufacturers of heavy duty and off-road vehicles and engines. The rule requires that sources above certain threshold levels monitor and report GHG emissions but does not require control or mitigation of GHG emissions. The current operation is, and the proposed project would be, subject to the reporting requirements or the rule as described in 40 CFR Part 86, Subpart HH, via annual electronic reporting to the USEPA electronic Greenhouse Gas Reporting Tool (e-GGRT). This reporting is not regulated by the MBARD. This reporting would indicate when the GHG emissions reach the limit that would require incorporation of a PSD into the Landfill's Title V Permit.

JSRL has not yet reached the limit requiring compliance with this Title V regulation. However, an LFG extraction system was already in place prior to promulgation of the Title V requirements as described above. Because the landfill has the potential to exceed the 50 Mg/yr NMOC limit, the MBARD regulates the landfill under the Federal Title V permit. Because the landfill has not exceeded the 50 Mg/yr NMOC limit, portions of the Title V permit conditions currently do not apply to monitoring for LFG emissions and operation of the LFG extraction system. As described above, Title V permits are regulated locally by the MBARD.

Regardless of the need for a landfill-gas extraction system, 40 CFR Part 98 Subpart HH requires annual monitoring and reporting of GHG (in this case LFG) emissions from landfills via the USEPA electronic Greenhouse Gas Reporting Tool.

### Vehicle Emissions

On a federal level, vehicle emissions of GHGs are regulated jointly by the USEPA and the National Traffic Safety Administration. The federal standards for on-road emissions were established in two phases. Model years 2012 – 2016 and Phase 2 Model Years 2017-2025. Newer engines are required to have lower emissions and newer vehicles are required to have improved fuel economy that result in reduced emissions including GHGs.

Off-road vehicle emissions requirements have gradually changed (improved) over time starting in 1994/96 with requirements for Tier 1 diesel emissions requirements and culminating with Tier 4 Final (Tier 4F) emissions requirements in 2004. The Tier 4F requirements were phased in and came fully into effect in 2015. The regulations have led to a gradual phase out of lower tier engines and as older equipment wears out it is replaced by newer equipment meeting the standard in effect at the time the equipment was produced. Since 2015, all new trucks have been produced with Tier 4F engines.

## STATE REGULATIONS

The following state regulations and polices are described in rough chronological order as the sequence of the promulgation or implementation as regulations related interrelate. There are numerous other regulations related to GHG and global warming. Only ones that pertain to vehicle emissions, waste, and landfills are described below.

## Assembly Bill (AB) 939

The California Integrated Waste Management Act (AB 939, Sher, Chapter 1095, Statutes of 1989 as amended [CIWMA]) made all California cities, counties, and approved regional solid waste management agencies responsible for enacting plans and implementing programs to divert 25 percent of their solid waste by 1995 and 50 percent by year 2000. Later legislation mandates the 50 percent diversion requirement be achieved every year. The initial goals of AB 939 were to conserve natural resources, reduce pollution and extend the life of landfills (ILG 2015). However, these regulations help reduce state and local greenhouse gas emissions because recycled materials use less energy than is needed to produce virgin materials (e.g., bottles, cans, plastics).

## California Diesel Risk Reduction Plan

In September 2000, CARB adopted the Diesel Risk Reduction Plan (CARB, 2020d), which recommends many control measures to reduce the risks associated with diesel particulate matter (DPM) and achieve a goal of 85 percent reduction in human health cancer risk associated with DPM emissions by 2020. The plan incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. CARB's ongoing efforts to reduce diesel-exhaust emissions from these sources includes the development of specific statewide regulations, which are designed to further reduce DPM emissions. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions.

Since the initial adoption of the Diesel Risk Reduction Plan in September 2000, CARB has adopted numerous rules related to the reduction of DPM from mobile sources, as well as the use of cleaner-burning fuels. Transportation sources addressed by these rules include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty equipment.

Title 13 CCR Section 2449 describes the phaseout of older Tier 0, Tier 1, and Tier 2 engines from off-road vehicles and transition to the lowest emissions category, Tier 4F for diesel powered engines over 50 horsepower. The phase out of older more polluting engines to newer less-polluting engines is based on fleet size (large, medium, and small). As of 2023 all vehicles added to a fleet (of any size) must be Tier 3 or higher. The manufacture of Tier 3 engines ended in 2018 and since then only Tier 4 engines have been manufactured. As older equipment wears out and is replaced with new equipment, only Tier 4 engines will be available.

The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program; CARB 2018) provides grant funding for cleaner-than-required engines, equipment, and other sources of air pollution both off-road and on-road equipment.

While the plan is oriented toward DPM emissions, it also helps to reduce GHG emissions.

## Assembly Bill 1493

Assembly Bill 1493, which required CARB to develop and adopt regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light duty trucks, and other vehicles used primarily for personal transportation in the state beginning with the 2009 model year, was signed into law in September 2002 by Governor Gray Davis. (California Health and Safety Code, § 43018.5.) CARB approved regulations, sometimes called the Pavley regulations, at its September 2004 hearing, and they were adopted in their final form in August 2005. In December 2005, CARB submitted a request to USEPA for a waiver of preemption under the federal Clean Air Act to allow California to enforce its greenhouse gas emission standards. On July 8, 2009, USEPA granted California a waiver for the Pavley regulations. (74 Fed. Reg. 32,744, July 8, 2009.) After adopting these initial greenhouse gas standards for passenger vehicles, CARB adopted continuing standards for future model years.

### Senate Bill (SB) 1078

To address the production of GHG emissions through the generation of electricity by means of fossil fuels combustion (*e.g.*, natural gas, coal, and petroleum), SB 1078 was passed in 2002 to establish the State's Renewables Portfolio Standard (RPS) Program. The goal of SB 1078 is to increase the amount of electricity generated and sold to retail customers from eligible renewable energy resources. Initially, SB 1078 would increase the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2017. The Renewables Portfolio Standard has been subsequently amended, most recently in September 2018 by SB 100, which codified a target of 60 percent renewable energy in the state's electric mix by 2030. SB 100 also sets a goal of completely phasing out electricity produced by fossil fuels by 2045. As the use of renewable energy sources for electricity generation increases, GHG emissions will continue to decrease.

### Executive Order S-3-05

Governor Arnold Schwarzenegger issued Executive Order S-3-05 in 2005, which established statewide GHG emissions reduction goals. Executive Order S-3-05 sets a goal for the state to reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent of 1990 levels by 2050 (CAT, 2006). The 2020 goal was established to be an aggressive, but achievable, mid-term target, and the 2050 greenhouse gas emissions reduction goal represents the level scientists believe is necessary to reach levels that will stabilize climate.

In response to Executive Order S-3-05, the CalEPA created the Climate Action Team, which in March 2006 published the Climate Action Team Report (the 2006 CAT Report). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These strategies could be implemented by various state agencies, within their existing authority, to ensure that the governor's targets are met. The strategies included, but were not limited to, reduction of passenger and light duty truck emissions, reduction of idling times for diesel trucks, overhaul of shipping technology and infrastructure, increased use of alternative fuels, increased recycling, and increased landfill $CH_4$ capture.

### CARB Resolution 07-54

CARB Resolution 07-54 established 25,000 metric tons of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions.

### AB 32

The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), as defined under Title 17 CCR §95460 et seq., required California to reduce its greenhouse gas (GHG) emissions to 1990 levels by 2020; a reduction of approximately 15 percent below emissions expected under a business-as-usual scenario (as of 2006). Pursuant to AB 32, the California Air Resources Board (CARB) was required to adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. The full implementation of AB 32 was intended to help mitigate risks associated with climate change, while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste.

### Executive Order S-01-07

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. The order mandated that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The Low Carbon Fuel Standard (LCFS) regulations were finalized on February 1, 2010 and amended in December 2011. An enforcement injunction was placed on the LCFS in December 2011, but it was lifted on April 24, 2012. As such, the LCFS regulations are currently in effect.

### Senate Bill 97

SB 97, signed in August 2007, acknowledged that climate change is an important environmental issue that requires analysis under CEQA. This bill directed the California Office of Planning and Research (OPR) to prepare, develop, and transmit to the Natural Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions by July 1, 2009.

In response to SB 97, OPR submitted its recommended amendments to the CEQA Guidelines for addressing GHG emissions to the Secretary for Natural Resources on April 13, 2009. Those recommended amendments were developed to provide guidance to public agencies regarding the analysis and mitigation of GHG emissions and the effects of GHG emissions in draft CEQA documents. The amendments were adopted by the Natural Resources Agency on December 30, 2009 and became effective on March 18, 2010.

There are currently no adopted State or local CEQA thresholds for GHG emissions, however, §15064.4 of the CEQA Guidelines states that a lead agency has the discretion to determine whether to use a model or methodology to quantify GHG emissions, or to rely on a qualitative or performance-based standard. The GHG analysis should consider: (1) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, (2) whether the project emissions exceed a threshold of significance that the lead agency determines to apply to the project, and (3) the extent to which the project complies with any regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. If there is substantial evidence that the potential effects of a project are still cumulatively considerable even with compliance with adopted regulations or requirements, an Environmental Impact Report must be prepared for the project.

### 2008 AB 32 Scoping Plan

The 2008 Scoping Plan identified that to attain 1990 levels (427 $MMTCO_2e$), a 10 percent decrease below 2002-2004 levels and 30 percent decrease below projected 2020 business as usual levels (596 $MMTCO_2e$) would be required. Of the total emissions, the Recycling and Waste sector was estimated to account for 5.6 percent of the 2002-2004 total CO2e and would represent 7.7 percent of the projected 2020 business as usual total of 596 $MMCO_2e$. The recommended actions included a 9 $MMTCO_2e$ reduction of the recycling and waste sector described as “mandatory commercial recycling” and “other measures.” The 2008 Scoping Plan also recommended “discrete early actions,” including “improved landfill capture.”

As described on page 62 of the 2008 Scoping Plan:

> “Reduction in Landfill Methane
>
> Methane emissions from landfills, generated when wastes decompose, account for one percent of California’s greenhouse gas emissions. Greenhouse gas emissions can be substantially reduced by properly managing all materials to minimize the generation of waste, maximize the diversion from landfills, and manage them to their highest and best use. Capturing landfill methane results in greenhouse gas benefits, as well as reductions in other air pollutants such as volatile organic compounds. ARB is working closely with the California Integrated Waste Management Board (CIWMB [now called CalRecycle]) to develop a Discrete Early Action measure for landfill methane control that will be presented to ARB in January. CIWMB is also pursuing efforts to reduce methane emissions by diverting organics from landfills, and to promote best management practices at smaller uncontrolled landfills. Landfill gas may also provide a viable source of liquefied natural gas (LNG) vehicle fuel. Reductions from these types of projects would be accounted for in the Transportation sector.”

The 2008 Scoping plan suggested that a reduction of 1 $MMTCO_2e$ could be achieved by the discrete early action landfill methane control (measure RW-1), and reductions of 5 $MMTCO_2e$ related to high recycling/zero waste specific to mandatory commercial recycling, 2 $MMTCO_2e$ by increased production and markets for organic products, and 2 $MMTCO_2e$ for anaerobic digestion (measure RW-3). Landfill methane control accounted for 0.16 percent of the projected 2020 business as usual. The other measures accounted for 1.5 percent of the projected 2020 emissions.

### Landfill Methane Emissions Regulation Development

In 2008, CARB (CARB, 2009) in collaboration with CIWMB developed and issued a *Staff Report: Initial Statement of Reasons for the Proposed Regulation to Reduce Methane Emissions from Municipal Solid Waste Landfills* describing the proposed regulation to reduce methane emissions from landfills in response to AB 32 and the above Scoping Plan. Implementation of the Staff Report measures was projected to reduce 2020 emissions by 1.5 $MMTCO_2e$, of which 0.4 $MMTCO_2e$ would be from bringing 14 uncontrolled MSW landfills into compliance. The proposed early action measure applied to landfills having 450,000 tons of waste in place or greater and that waste being placed after January 1, 1977. Staff report included the following recommended requirements:

- Active LFG extraction systems (and flare or other destruction device) for landfills with the potential to generate a heat-input capacity of 3.0 million British thermal units or more per hour.
- Quarterly surface emissions monitoring (for landfills with the required LFG extraction systems) and a grid to verify that there is no instantaneous methane leak exceeding 500 parts per million by volume (ppmv) or integrated surface monitoring methane level exceeding 25 ppmv.
- Monitoring to ensure no leaks exceeding 500 ppmv on the pressurized side of the LFG extraction system.
- Flare or other destruction device destroys 99 percent or more methane.
- Require improvement and retesting for failing tests.
- LFG extraction system wellhead monitoring to ensure that a vacuum is maintained for wells outside of active waste filling or construction areas.
- Annual reporting.

As described on Table III-2 of the Staff Report, the following best management practices were suggested:

- Install horizontal or surface collectors.
- Tighter spacing of vertical wells.
- Mixed horizontal and vertical well systems.
- Connection of the leachate collection and removal system to the LFG extraction system.
- Deep multi-depth vertical wells.
- Entrance seals on landfill-gas wells and boreholes.
- Promote deeper landfills.
- Limiting delays on final cover systems.
- Earlier installation of gas collection systems.

The recommendations of the Staff Report were subsequently incorporated into Title 17 CCR Sections 96560 to 95476 that became effective on June 17, 2010 and were implemented in 2011. In June 2016, the CARB (CARB, 2016), issued an *Implementation Guidance Document for the Regulation to Reduce Methane Emissions from Municipal Solid Waste Landfills* that expanded on the proposed requirements described in the above Staff Report.

### Senate Bill 375

SB 375, signed in August 2008, required the inclusion of sustainable communities' strategies in regional transportation plans for the purpose of reducing GHG emissions. The bill required CARB to appoint a Regional Targets Advisory Committee by January 31, 2008 and required this committee to recommend factors to be considered and methodologies to be used for setting GHG reduction targets by December 31, 2009. Final reduction targets were established in February 2011. The bill also required metropolitan planning organizations to create Sustainable Community Strategies to align transportation funding with anticipated regional growth patterns and achieve GHG reductions from cars and light-duty trucks. The Association of Monterey Bay Area

Governments is the metropolitan planning organization in the project area and they adopted the 2040 Regional Transportation Plan/Sustainable Communities Strategy in June 2018.

### Executive Order S-13-08

Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, in December 2009, the California Resources Agency released its 2009 California Climate Adaptation Strategy. The Strategy is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

### Assembly Bill 341

Enacted in 2011, AB 341 requires most business and apartment owners/managers to recycle and requires cities and counties to educate businesses about the recycling requirements. The law also established a new statewide recycling goal of 75 percent by 2020. The 2013 update to the AB 32 Scoping Plan, described below, suggested that 20-30 $MMTCO_2e$ of greenhouse gas emissions reductions will result from reaching the 75 percent statewide recycling goal required in AB 341 (CARB 2014, p 66).

### 2013 Scoping Plan Update

CARB's first update to the Climate Change Scoping Plan (May 2014) addressed post-2020 goals and identified the need for a 2030 mid-term target, rather than focusing only on targets for 2020 or 2050. In addition, it identified AB32 as a means of achieving that goal by further reducing landfill emissions "via upstream organic material diversion." In addition, CARB's Low Carbon Fuel Standard incentivizes the capture and use of natural gas from landfills and digesters for transportation fuel [this is an incentive not a requirement]. The Scoping Plan recommended the following with regard to waste and recycling (per page 69, paraphrased):

- Development of Programs to eliminate disposal of organic materials in landfills.
- Identify financing/funding mechanisms to support waste management sector goals.
- CARB will develop a working group to address challenges associated with composting and anaerobic digestion.
- CARB will explore and identify opportunities for methane control at existing landfills and increase the utilization of captured methane.
- CARB will develop new GHG emissions reduction factors to evaluate various GHG reduction strategies.
- CalRecycle and the State Department of General Services improve state procurement of recycled content materials.

### Assembly Bill 1826

Enacted in 2014, AB 1826 – Mandatory Commercial Organics Recycling, requires most business and apartment owners/managers to separate their food scraps and yard trimmings from their trash so that they can be processed for reuse via composting or mulching.

AB 1826 required mandatory recycling of compostable materials (green waste, yard trimmings and food waste) and disallowed green waste from being claimed as diversion when used for intermediate landfill cover as of January 1, 2020. The goal was to reduce the greenhouses gases generated in landfills (although composting itself releases greenhouse gases).

### Senate Bill 32

Senate Bill 32 was approved in September 2016, continued the work of AB 32, and set a mid-term target of reducing state GHG emissions by at least 40 percent below the statewide greenhouse gas emissions in 1990 no later than December 31, 2030.

### Senate Bill 1383

Enacted in 2016, SB 1383 – Reduction of short-lived climate pollutants, methane emissions, dairy and livestock, organic waste, and landfills. SB 1383 required the development, adoption, and implementation of a Short-Lived Climate Pollutant Strategy (SLCP Strategy) that addresses methane, carbon black, hydrofluorocarbons [commonly found in refrigerants] and tropospheric ozone). It includes the following specific goals for 2030 from 2013 levels:

- 40 percent reduction in methane.
- 40 percent reduction in hydrofluorocarbon gases.
- 50 percent reduction in anthropogenic black carbon.

To accomplish the methane reduction goals, in addition to other strategies (such as dairy manure management), SB 1383 set a target for a 50 percent reduction of organics landfilled by 2020 from 2014 levels and 75 percent reduction by 2025. In addition, SB 1383 required that 20 percent of disposed edible food for human consumption will be recovered by 2025. These organic waste streams are required to be diverted from landfills through edible food recovery programs, composting, in-vessel digestion, or other similar processes. In-vessel digestion creates GHG similar to LFG and must be addressed as part of the process.

### Executive Order EO B-30-15

In 2015, Governor Edmund G. Brown Jr. issued executive order (EO) B-30-15 to establish a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030 and 80% below1990 levels by 2050. The EO required that state agencies implement measures to reduce GHG emissions.

### 2017 Scoping Plan Update

In November 2017, CARB's second update to the Scoping Plan (CARB, 2017) included strategies to achieve the 2030 mid-term target of 40 percent below 1990 levels (427 $MMTCO_2e$) as required by SB32, and with the assistance of AB 1826 and SB 1383. The Scoping Plan indicated that as of 2015, the total GHG emissions were 440.4 $MMTCO_2e$ and were on track to meet the original AB 32 2020 Goal, but that more effort would be needed to meet the new goal of 40 percent below 1990 levels (256 $MMTCO_2e$). The Scoping Plan indicated that the Waste Management Sector was responsible for 8.85 $MMTCO_2e$, two percent of the State's GHG emissions with landfill emissions accounting for 94 percent of this total.

The Scoping Plan presented the following goals with regard to waste management:

- Take full ownership of the waste generated in California.
- View waste as a resource and convert waste from all sectors to beneficial uses.
- Develop a sustainable, low carbon waste management system that processes collected waste within California and generates jobs, especially in disadvantaged communities.
- Maximize recycling and diversion from landfills.
- Reduce direct emissions from composting and digestion operations through improved technologies.
- Build the infrastructure needed to support a sustainable, low carbon waste management system within California.
- Increase organics markets which complement and support other sectors (such as biogas to renewable energy).

- Capture edible food before it enters the waste stream and provide to people in need.
- Increase production of renewable transportation fuels from anaerobic digestion of waste.
- Recognize the co-benefits of compost application.

The 2017 Scoping Plan notes that the SLCP Strategy has strategies to reduce landfill methane emissions by reducing the disposal of organics through edible food recovery, composting, in-vessel digestion, and other processes, as well as using the methane as a renewable source of natural gas to fuel vehicles or generate electricity. The 2017 Scoping Plan also continues to support displacing required natural gas with RNG, which can be sourced by in-vessel waste digestion (e.g., anaerobic digestion of food and other organics) and recovering methane from landfills, as well as by other methods. The 2017 Scoping Plan concludes that the capture and productive use of renewable methane from landfills and other sources is consistent with requirements of SB 1383.

CARB is currently working on the 2022 Scoping Plan.

### Executive Order B-55-18

Building on Executive Order S-03-05, Executive Order B-55-18 sets a target of statewide carbon neutrality by 2045. The Governor directed the CARB to work with relevant state agencies to develop a framework to implement and track progress towards the carbon neutrality goal and ensure future Scoping Plans identify measures to achieve the goal.

### Senate Bill 100

Enacted in 2018, SB 100 requires 50 percent renewable energy in California by December 31, 2026, and 60 percent by December 31, 2030, and recommends planning for 100 percent renewable and zero carbon resources by December 31, 2045.

### Executive Order N-79-20

Executive Order N-79-20 establishes a goal to end the sales of new internal combustion engine passenger vehicles by 2035 to help the state reach carbon neutrality by 2045. Under the Order, 100 percent of in-state sales of new passenger cars and trucks are to be zero-emission by 2035; 100 percent of in-state sales of medium- and heavy-duty trucks and busses are to be zero-emission by 2045, but only where feasible; and 100 percent of off-road vehicles and equipment sales are to be zero-emission by 2035 where feasible. The Governor also directed the CARB and other state agencies to develop regulations or take other steps within existing authority to achieve these goals.

### Summary of Above Regulations

The above regulations addressed climate change and GHG emissions on a state-wide basis with reductions in GHG from across the public and industrial spectrum that are implemented outside of the control of a single facility, such as required reductions of vehicle emissions, through improving technology, and diversion of organics prior to a landfill receiving the waste.

### California Environmental Quality Act Guidelines

The CEQA Guidelines contain guidance regarding how to establish and analyze GHG emissions in CEQA documents. The relevant portions of the CEQA Guidelines are excerpted below:

CEQA Guideline 15064(h)(3). A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, and plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.

When relying on a plan, regulation or program, the lead agency should explain how implementing the requirements in the plan, regulation, or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable.

If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project.

CEQA Guideline 15064.4(a). The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Quantify GHG emissions resulting from a project; and/or

2. Rely on a qualitative analysis or performance-based standards.

CEQA Guideline 15064.4(b). In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

CEQA Guideline 15064.4(c). A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

### REGIONAL/LOCAL REGULATIONS

To date, neither the MBARD nor San Benito County have formally adopted thresholds of significance for GHGs. The MBARD Draft Guidelines for Implementing the California Environmental Quality Act (MBARD 2016), revised February 2016, suggested a threshold of:

- Emit less than the significance level of 10,000 metric tons per year (MT/yr) $CO_2e$, or
- In accordance with the State CEQA Guidelines Section 15064.4(b)(3), the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions such as, sources subject to the Cap-and-Trade requirements pursuant to Title 17, Article 5 (California Cap on Greenhouse Gas Emissions and Stationary source projects include equipment, processes and operations that require an Air District permit to operate). Project GHG emissions include direct and indirect sources emissions. Direct emissions occur because of onsite equipment, and offsite sources directly related to the project such as emissions from worker commute trips and haul truck trips. Indirect emissions occur because of a project's actions but are produced from sources not owned or controlled by the project such as offsite emissions from electricity generation, water conveyance, and waste disposal.

As described in the Santa Barbara County's Air Pollution Control District (SBCAPCD 2015), the following agencies have adopted stationary source GHG emission significance thresholds of 10,000 $MTCO_2e$/yr:

- South Coast Air Quality Management District (adopted in 2008) [for stationary or industrial sources].
- Bay Area Air Quality Management District (adopted in 2010).
- San Luis Obispo Air Pollution Control District (adopted in 2012) [for industrial or stationary sources].
- Sacramento Metropolitan Air Quality Management District (adopted in 2014).
- Mendocino County Air Pollution Control District (adopted in 2010).
- San Diego County Air Pollution Control District (adopted in 2013).

The SBCAPCD also adopted the 10,000, $MTCO_2e$ threshold for stationary sources. The SBCAPCD defines a stationary source project as one that includes "equipment, processes, and operations that require an Air Pollution Control District permit to operate." LFG would be the primary source of GHG emissions from the proposed project. The proposed project includes a LFG Flare and would include an RNG project to combust or remove the methane in the LFG, that both require permits to operate and are typical stationary sources. The Placer County Air Pollution Control District [adopted the 10,000 $MTCO_2e$/yr threshold for "the construction and operational phases of land use projects as well as stationary source projects" (PCAPCD 2016). The proposed project meets both of these categories.

As of this writing, this threshold has not been adopted by MBARD or San Benito County. As CARB notes in the Scoping Plan, lead agencies have the discretion to develop evidence-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan, the state's long-term GHG goals, and climate change science. Based on the common use of the 10,000 $MTCO_2e$/yr threshold, many lead agencies rely on it as a threshold of significance.

The State of California has more stringent requirements for LFG control than Federal requirements as defined under AB 32 (17 CCR §95460 et. seq) above, that apply to landfills containing more than 2.5 million megagrams of waste. The MBARD administers AB 32 and Title V requirements locally (except for Federal GHG reporting under subpart HH as described above). As described implementation of AB 32 requires that LFG-collection and destruction system be installed when repeatable methane emissions from a surface emissions scan exceeds 500 ppm or the average methane content for a surface emission scan exceeds 25 ppm. An LFG extraction system was already in place at JSRL at the time that AB 32 was promulgated.

As described above, AB 32 requires that the landfill surface be monitored quarterly for methane emissions. AB 32 sets strict limits on methane surface emissions from the landfill and requires a minimum 99 percent methane destruction efficiency for the flare used to destruct collected LFG. In addition to quarterly surface emissions monitoring, the landfill flare is tested annually to verify that the methane destruction efficiency is greater than 99 percent. AB 32 requires annual reporting of the previous year's monitoring to the MBARD.

### San Benito County General Plan

San Benito County does not currently have a Climate Action Plan (CAP). The 2035 San Benito General Plan (San Benito County, 2015) contains the following policies regarding Climate Change and GHG applicable to the proposed project.

- **Policy PFS-1.6 Adaptive Facilities and Services**. The County shall monitor expected impacts of climate change on public facilities and services and make appropriate adaptive modifications and upgrades as needed. Where public facilities and services are provided by other agencies, the County shall assist with identifying impacts and solutions.

- **Policy PFS-2.2 Sustainable Plans and Operations**. The County shall integrate sustainability concepts, greenhouse gas reduction strategies, and climate change resiliency planning into County facility and service plans and operations.

- **Policy PFS-2.3 Reducing GHG Emissions**. The County shall reduce GHG emissions from County facilities and activities.

- **Policy HS-1.15 Climate Change Monitoring and Adaptation**. The County shall monitor the potential impacts of climate change and use adaptive management to develop new strategies and modify existing strategies to respond to the impacts of climate change.

- **Policy HS-1.16 Public Awareness of Climate Change**. The County shall support public awareness of water conservation measures, agricultural changes, storm and flood preparedness, forest/range fire protection, air quality issues, extreme weather events, and disease prevention to help prepare for the potential impacts of climate change.

- **Policy HS-5.8 GHG Reduction Targets**. The County acknowledges that the state endeavors to achieve 1990 greenhouse gas (GHG) emission levels and establish a long-term goal to reduce GHG emissions by 80 percent below 1990 levels by 2050. The County will encourage projects that support these goals, recognizing that these goals can be met only if the state succeeds in decarbonizing its fuel supply.

- **Policy HS-2.4 Climate Change Impacts to Flood Control Facilities**. The County shall coordinate with local, regional, State, and Federal agencies to define existing and potential flood problem areas associated with expected impacts from climate change and develop and implement strategies to improve and maintain flood control facilities accordingly.

- **Policy HS-5.9 GHG Reduction Monitoring**. The County shall monitor its greenhouse gas emissions and encourage appropriate adjustments to its programs and standards to further efforts to make progress towards achieving the state's GHG reduction targets.

- **Policy HS-5.11: Prepare and Implement a GHG Reduction Strategy**. To reduce GHG emissions, the County shall prepare and adopt a greenhouse gas reduction strategy that meets the following CEQA Guidelines §15183.5 standards:

1. Quantifies greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

2. Establishes a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable (*i.e.*, in alignment with 2035 General Plan Policy HS-5.8);

3. Identifies and analyzes the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;

4. Specifies measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; and

5. Be adopted in a public process following environmental review.

As of this writing, San Benito County has not prepared a GHG reduction strategy.

## 4.4.3 IMPACTS AND MITIGATION MEASURES

## METHODS OF ANALYSIS

### EXISTING OPERATIONAL SETTING

The currently permitted "gross" (including liner, cap, waste, daily, and intermediate cover) volume of the landfill is 9.35 million cubic yards and the "effective" (including only waste, daily, and intermediate cover) capacity is 8.76 million cubic yards. Gross capacity is commonly used for permitting purposes and effective capacity is used for site-life and LFG-generation calculation purposes. The landfill is permitted to accept up to 1,000 tons per day of waste for burial with no limit on recyclables and materials designated for "beneficial reuse." The landfill currently accepts both in-County (San Benito) and out-of-County waste. As of 2020, the average annual waste acceptance rate was 923 tons per day including materials designated for beneficial re-use. Materials for beneficial reuse include those that can be used as alternate daily cover (substitute for daily soil cover), or that can replace other materials used at the landfill (such as for erosion control). Under the current operations without any expansion, the landfill began accepting only in-County waste around March 31, 2022, resulting in significant reduction in waste receipt per day. The landfill will operate for another 15 years until closing in approximately 2036.

Under the prosed project, the landfill would be expanded by 253 acres and increase the effective capacity by 48 million cubic yards within the expansion area property. The daily tonnage would increase to a peak of 2,300 tons per day (excluding waste designated for beneficial reuse), with the average waste acceptance rate increasing from the current 923 tons in 2020 to approximately 1,700 tons per day (waste for disposal only) within 15 years of the approved expansion. The increased daily tonnage would be primarily sourced from out of the County in addition to growth in the waste stream associated with expected County population increases. The proposed increase in daily tonnage would be expected to increase traffic and LFG related emissions. The acceptance of the projected average daily tonnage (1,700 tons per day) would be anticipated to continue until 2070 after which only in-County waste would be accepted. The landfill would operate at a lower daily in-County tonnage for another 15 years.

JSRL actively receives waste at a roughly 200-foot by 50-foot working face within the site. Daily operations at the existing landfill consist of typical waste disposal activities. Resulting GHG emissions are not anticipated to differ materially from similarly operated MSW landfills in this region.

The operation of landfills and the associated emission rates are unique in comparison to typical land development projects as landfill operations require the continuing use of heavy-duty construction equipment as well as waste collection vehicles. In addition, other sources of regulated emissions may result from exposure of non-vegetated soil layers, movement of soil and refuse, and management of LFG. Currently, an LFG collection system has been installed in inactive and active areas of the landfill. An 800-cubic feet per minute (cfm) flare has been added to combust the collected LFG. Air emissions from landfill operations are associated with fugitive LFG emissions, operation of the flare station, construction vehicles, and waste transfer trucks and public vehicles at the working face. Air emissions would also be generated from landfill closure activities when it reaches capacity.

### LANDFILL GAS EMISSIONS

**LFG Generation Concepts** – After organic material is placed in a landfill, the bioavailable carbon facilitates bacterial digestion, initially in an aerobic (with oxygen) mode with a gradual transition to anaerobic digestion (without oxygen). It is within this anaerobic phase that methane is produced.

One to two years after burial, anaerobic digestion predominates, with generated LFG consisting of (typically) 50 percent methane, 45 percent carbon dioxide and the remaining 5 percent a combination of nitrogen, oxygen and trace non-methane organic compounds.

The rate of LFG generation depends on the percent of bioavailable carbon, the material in which it is contained and the environment in which these anaerobic bacteria are incubated and maintained. For example, carbon with food waste can generally be accessed easily and quickly by methanogenic bacteria, while carbon within wood waste less so. Landfills within arid climates tend to generate LFG more slowly than those within wet climates, etc. While each landfill must be examined individually to properly assess LFG generation characteristics, the general tenets of bioavailability of carbon, moisture and temperature are generally good predictors of the LFG generation curve.

As waste is being added to the landfill every day, the LFG generation rate gradually increases over the active life of the landfill, peaking at the day of closure or more correctly, the last day of waste receipt. After landfills are closed and capped, further reduction in LFG generation may occur via loss of moisture infiltration. In the most extreme cases, capped landfills that do not allow moisture to enter are called “dry-tomb” landfills in which waste digestion effectively ceases. As LFG contributes to GHG emissions, this dry tomb effect may be regarded as a mode of sequestration as carbon digestion may be severely restricted.

As required by AB 32 (described below) and other earlier regulations, most operating landfills now have LFG extraction systems consisting of both horizontal collectors (pipes buried in gravel filled trenches in the waste), and vertical wells (with perforated pipe in a gravel filled hole) that are installed incrementally as waste is placed. The wells are connected to a vacuum blower via a series of air-tight pipes and wellheads with valves for flow adjustment. The vacuum blower collects LFG by placing a vacuum on the wells, collectors, and thereby reducing the pressure in the landfill to less than that existing in the atmosphere. The LFG follows a path to lower pressure and is collected, passed through a flare (burner), internal combustion engine or turbine that burns the LFG in a controlled manner to ensure near-complete combustion. Per AB 32, LFG must be collected to minimize LFG escaping from the landfill surface as fugitive emissions. Limits for these fugitive emissions are described and defined in AB 32 guidance.

Title 27, CCR requires that enough LFG be collected to prevent excessive migration into the surrounding soil (most relevant to older unlined landfills). On the other hand, LFG extraction systems must be operated so that they do not lower pressure excessively within the landfill and cause a condition called overdraft. Such a condition may introduce excess oxygen into the landfill, which damages methanogenic bacteria and may result in heating of buried waste. The LFG temperature, methane and oxygen content are measured periodically at each well or horizontal collector, and the flow from each well head is adjusted periodically to optimize LFG collection while preventing excessive oxygen intrusion.

During combustion, every mole of methane generates one mole of carbon dioxide and two moles of water:

$$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$$

Methane has a GWP of 25 times carbon dioxide, so combustion of as much methane as safely feasible is desired to reduce GHG impacts. AB 32 requires that LFG flares destroy 99 percent of collected methane. Methane that is not collected and flared is generally emitted as a fugitive release. It is noted that a portion of fugitive methane may be effectively oxidized as it passes through landfill cap or cover soils (generally estimated at 10 percent). The remainder escapes to the atmosphere as a direct fugitive methane emission.

In 1990, the USEPA introduced a first-order decay Landfill Generation Emission Model, or LandGEM that is used to quantitively estimate LFG emissions from landfills. The model requires a historical account of waste receipt, assignment of the value of Lo (potential methane generation capacity of the waste), and k (methane generation rate). The value of k is generally related to the moisture condition within the landfill and bioavailability of organic carbon. The model does not predict the rapid drop-off of methane after closure in dry-tomb landfills (Lawrence & Associates 2020) although multiple model runs may be conducted to simulate such environmental changes.

The LandGEM model was used to calculate projected LFG flow as described below.

**Current LFG Collection** – An LFG collection system has been installed in inactive and active landfill areas, and an 800-cfm flare has been added to combust the collected gases. The system includes vertical gas wells, horizontal collectors, and pipelines to collect the LFG under vacuum. The collected gas is monitored to be sure that the collection system is operating without excessive ambient air intrusion. The collected gas is combusted in a flare, which converts $CH_4$ into $CO_2$. JSRL currently operates one onsite LFG flare capable of combusting 800 cfm at 50% $CH_4$. The flare provides no less than 99 percent methane destruction efficiency and no less than 98% destruction of volatile organic compounds.

LFG collection systems typically collect 60% to 90% of the generated gas, with efficiencies as high as 98% for landfills using synthetic liner capping systems. Recent research on operating California landfills (Hansen &Yesiller 2020) suggests LFG collection efficiency ranges from 88% to over 90% for most landfills with LFG collection systems. The remainder of the LFG escapes the landfill surface as fugitive emissions and/or, for unlined landfills into the surrounding soil.

Several best management practices are currently taken to minimize emissions of LFG from the landfill surface:

- Gauge pressure is negative relative to atmospheric pressure at the gas extraction wells and horizontal collectors, meaning that gases in the waste will preferentially move into the collection system, not out of the waste into the air around the landfill.
- Nitrogen and oxygen concentrations are monitored to minimize excess air infiltration to limit the potential for methanogenic disruptions or waste heating.
- LFG temperatures at the gas extraction wells are monitored to limit the potential for subsurface heating.
- $CH_4$ concentrations across the entire landfill surface are monitored to minimize fugitive emissions of $CH_4$ gas from the landfill surface.
- Horizontal collectors are installed in newer waste before vertical wells are able to be installed.
- Vertical wells combined with horizontal collectors are closely spaced to overlap of the collection zone of influence.
- The leachate collection and removal systems (LCRS) are also connected to the LFG collection system (where feasible).
- Multi-depth wells are provided either by installing single wells with long screens near finished grade, installing nested dual completion wells with two screens, or installing shallower wells near deeper wells as waste depth increases.

- Enhancing seals on vertical wells by increasing the thickness of the bentonite seals in areas that will receive additional waste, and/or adding a well skirt on wells completed to final grade.
- Promote deeper landfills that inherently provide more efficient gas collection.
- An LFG-collection system is already in-place and was installed earlier than required by regulation promoting control of surface emissions (AB 32).

The baseline condition, as of 2021, includes an estimated collection efficiency of 80% at a total LFG flow rate of 625 cubic feet per minute measured at the landfill flare. Methane content of the LFG is approximately 38 percent as currently measured. This results in a total landfill methane generation rate of approximately 297 cfm, collection of 238 cfm, soil oxidation of approximately 6 cfm and fugitive emission of approximately 53 cfm.

**Proposed Project Projected LFG Collection** – SB 1383 set a target for a 50 percent reduction of organics landfilled by 2020 from 2014 levels and 75 percent reduction by 2025. Removal of organics from the waste stream will result in reduced LFG production over time.[3]

Attachment A of Appendix C contains the results of a LandGEM model that projects LFG generation assuming the proposed project tonnage from the Design Basis Report (Lawrence & Associates 2021) is disposed in the landfill and SB 1383 is implemented as planned. The model indicates that the LFG generation rate would peak at 2,447 cfm at 50% methane in 2071, slowly decline over the subsequent 15 years of reduced waste placement and would continue to drop after closure.

Table 4.4-2 summarizes the baseline and proposed project LFG flow rates.

**Table 4.4-2**
**Summary of LandGEM Model Results - Unmitigated**

| Variable | Baseline | Proposed Project Peak[2,3] | Difference |
|---|---|---|---|
| Year | 2021 | 2071[2] | 51 |
| Assumed collection efficiency | 80% | 95% | 15% |
| Total LFG generated, cfm at 50% methane | 594 | 2,447 | 1,853 |
| Total methane generated, cfm | 297 | 1,224 | 927 |
| Methane flared, cfm | 238 | 1,162 | 924 |
| LFG flared, cfm @ 50% methane | 475 | 2,325 | 1,850 |
| Fugitive LFG, cfm @ 50% methane[1] | 119 | 122 | 3 |
| Methane oxidized, cfm | 6 | 6 | 0 |
| Fugitive methane, cfm | 53 | 56 | 3 |

Notes:
1. Fugitive: Emitted through cap or into surrounding soil.
2. Filling will continue until 2086 but at a much lower rate with a resulting diminishing LFG generation rate.
3. Assumes 95% current collection efficiency and 10% fugitive methane oxidization in cap (unaffected by RNG facility implementation).

As described in Attachment A to Appendix C, the change in GHG emissions related to the increased waste from the expansion was modeled and graphed on Figure 6 (of Attachment A). Without planned indirect emissions reduction, collection efficiency improvements, and implementing an RNG facility and assuming the estimated current 80% collection efficiency, 99% flare destruction efficiency and 10% oxidation of methane in the cover

[3] If SB 1383 is not implemented on the schedule or to the degree envisioned, LFG generation rates could be higher than described in this chapter.

soil, GHG emissions from LFG methane (above the baseline) would peak at approximately 66,000 $MTCO_2e$/yr in approximately 2071 and diminish thereafter.

**Landfill Gas to Energy or Renewable Natural Gas (RNG) Facility** – The project includes installation of a RNG facility to collect and beneficially reuse the methane when the LFG generation is sufficient to support an RNG facility (approximately 550 cfm of collected LFG landfill gas, which is anticipated to occur in 2027). RNG facilities increase renewable energy as described in the 2013 and 2017 Scoping Plans, summarized above. An RNG facility, in which the LFG would be processed would commonly have the following attributes (there are numerous different technologies to attain the same goal):

- Chilling to remove moisture in the gas.
- Filtering or adsorption to remove siloxanes (silica compounds) and sulfur compounds.
- Compression to a range of 400 to 600 pounds per square inch (psi) for filtering.
- Chilling for liquid $CO_2$, $O_2$, and $N_2$ separation in a column, leaving liquid methane.
- Provide a methane capture efficiency of 92% (the remaining 8% would be flared).
- Utilize a flare or thermal oxidizer to combust residual methane.
- Transport RNG via conventional pipeline to a compressed natural gas (CNG) pipeline at 300 to 400 psi or compress the LFG to 3,600 to 4,000 psi and ship (via mobile tanker or tube trailer) to either a pipeline injection point or a CNG fueling facility for reuse.
- RNG-fueled trucks would transport the compressed RNG trailers.
- RNG facilities sometimes have an LFG to Energy component to provide electricity to operate the equipment.

It is assumed that the RNG facility would have the attributes listed above, which are commonly found in RNG facilities. Although the project plans to install a pipeline to transport the RNG, to be conservative, this CEQA analysis assumes that trucks (tube trailers) are used to transport the RNG rather than a pipeline. With an anticipated range from 475 cfm to a peak of 2,447 cfm at 50% methane and a tube trailer containing 471,694 standard cubic feet per minute compressed to 3,600 psi, between 1 and 4 truckloads per day would be required to transport the compressed RNG to a pipeline injection point (Attachment V in Appendix C). RNG facilities have significant electrical requirements and would require an upgrade to the existing electrical service panel.

While feasibility of pipeline injection is likely, the project analyzed in calculating GHG emissions includes the use of a virtual pipeline in which the methane is further compressed to approximately 3,600 to 4,000 psi, injected into tube trailers and taken to a facility where it would either be injected into a natural gas supply line or CNG fueling facility for site-specific use (such as running garbage trucks or school buses). The emission analysis included the use of RNG trucks to haul tube trailers to either an RNG injection point or CNG fueling facility within 30 miles (one way) of the JSRL. Depending on the market for RNG, the RNG plant operator plans to use the physical pipeline, the virtual pipeline, or portions of the RNG delivered using both. For the purposes of CEQA GHG analysis, it is assumed that RNG will be trucked off site using RNG fueled trucks because that is the conservative assumption for GHG and transportation impacts.

## VEHICLE EMISSIONS SOURCES

**Mobile Source Exhaust Emissions (offsite) –** Off-site mobile emissions are considered predominantly emissions from vehicles that deliver waste to the site, and to a much lesser extent deliveries, employee, and visitor trips. The emission factors for on-road vehicles are based on miles traveled; therefore, average annual miles for three categories of waste delivery were estimated based on 2020 records:

- In-County Public/Self Haul consisting predominantly of pickup trucks and pickup trucks with trailers. Some smaller vehicles and some larger vehicles are within this category, but on average a gross vehicle weight (GVW or loaded) weight of 7,500 to 10,000 lb. (the empty weight is much less, and vehicles seldom have maximum load) similar to a Ford F150 or Ford F250. In 2020, these loads had an average weight of 0.57 tons (1,140 pounds). The trip count in this category includes employee and visitor trips.

- In-County commercial loads consisting of customers with a commercial account such as garbage trucks and contractor dump trucks. In 2020, the average load weight was 5.65 tons (11,300 pounds for these trips).
- Out-of-County commercial consisting of large trucks pulling semitrailers. These loads averaged 20.04 tons (40,080 pounds) in 2020.
- There were less than 10 out-of-County residential self-haul trips (less than 0.02%) in 2020 and this category is considered negligible.

The total trips for each were calculated based on the average trip days and include employee trips, visitor trips, and trips to monthly household hazardous waste events. Average trip days typically currently consist of 255 trips with 86% in-County loads. The out-of-County waste (currently averaging 36 trips) comes from multiple cities and counties with various distances from the JSRL as summarized in the Design Basis Report for the landfill (Lawrence & Associates 2021). Based on a combination of in-County population growth and an increase daily tonnage, the average number of trips is projected to peak in 2062 at 359 trips of which 73% are in-County.

Looking solely at out-of-County heavier diesel trucks, the average number of trips would peak in 2053 with 353 trips per day, of which 95 would be out-of-County transfer truck trips. Looking at all vehicle types, the average number of trips would peak in 2069 at 364 trips with 94 out-of-County transfer truck loads. In approximately 2070, out-of-County waste would cease, and only in-County trips would occur, with a maximum average of 282 trips per day around the time of closure in 2086 or 2087. Table 4.4-3 summarizes the baseline and projected traffic. Because the impacts of GHG emissions are based on long-term trends, the baseline and proposed average trips for each vehicle category were used for the GHG emissions calculations described below.

**Table 4.4-3**
**Baseline and Projected Average and Peak Waste Delivery Trips**

| Category | Baseline Average Day Trips | Baseline Peak Traffic Day Trips | Baseline Peak Tonnage Day Trips | Projected Average Day Trips Pre 2070 | Change from Baseline Average Day Pre 2070 | Projected Average Day, Post 2070 | Change from Baseline Peak Traffic Average | Projected Peak Traffic Day Trips | Change from Baseline Peak Traffic Average | Projected Peak Tonnage Trips | Change from Baseline Peak Tonnage Trips |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Occurrence Data Year | 2020 | 2020 | 2020 | 2070 | 2070 | 2086 | 2086 | 2070 | 2070 | 2042 | 2042 |
| In-County Residential/Self Haul including HHW, employees and visitors | 188 | 433 | 155 | 232 | 44 | 242 | 54 | 533 | 100 | 177 | 22 |
| In-County Commercial | 31 | 9 | 31 | 38 | 7 | 40 | 9 | 11 | 2 | 35 | 4 |
| Out-of-County Commercial | 36 | 27 | 73 | 94 | 58 | 0 | -36 | 34 | 7 | 151 | 78 |
| **Total** | 255 | 449 | 259 | 364 | 109 | 282 | 27 | 578 | 129 | 363 | 104 |

Source: Lawrence & Associates Design Basis Report, 2021 (Attachment E).

**Operational Emissions for Waste Burial and On-Site Mobile Emissions** – JSRL actively receives waste at a roughly 200-foot by 50-foot working face within the site. Daily operations at the existing landfill consist of typical waste disposal activities and facilities that contribute GHG emissions into the atmosphere. The operation of landfills and the associated emission rates are unique in comparison to land development projects because landfill operations require the regular use of heavy-duty construction equipment and collection vehicles, seasonal exposure of non-vegetated soil layers, constant movement of soil and refuse, and proper onsite disposal of LFG.

GHG pollutants are generated by off-road equipment used to bury waste (such as dozers and compactors), on-road equipment from support vehicles (such as the water and maintenance trucks), and waste delivery vehicles (mixture described above). Employee and visitor trips are included in the off-site trips described above. GHG emissions for off-road equipment were calculated for the current waste-burial operation based on the currently used equipment type, horsepower, hours per day of operation, emissions tier and similarly for future equipment for the proposed project. Included in the operational emissions are the portion of the waste delivery trips that occur on site.

The proposed project would include BMPs, required by state and local regulations, to reduce emissions during operation. Therefore, the following emission reductions to account for implementation of BMPs were included in the unmitigated operation:

- Equipment and vehicle idling time, including tipping, would be minimized per Title 13 CCR, Section 2485 (on-road) and 2449(d)(2)(A) (off-road).
- Equipment and vehicles would be maintained according to manufacturer's written emission-related instructions (per Title 13 CCR Section 2420).
- Vehicle emissions will decrease over time as the fleet is converted to better emission technology and eventually zero emissions technology (CARB's Advanced Clean Cars Program and the Zero-Emission Vehicle Market Development Strategy from the Governor's Office of Business and Economic Development).

**Construction Emissions** – Because landfills are constructed in cells or modules incrementally, construction projects would occur every several years over the life of the landfill, in addition to special projects such as the construction of the entrance facility and gas-to-energy facility. Construction projects typically start as early in the spring as weather permits but typically no earlier than April 15 and occur in the following time steps.

1. Mobilization in which the contractor moves their equipment onto the site – a few days.
2. Clearing in which the contractor strips and stockpiles topsoil and grass – less than a week.
3. Bulk excavation in which the contractor commonly moves over 100,000 cubic yards of soil to a stockpile – two to three months.
4. Concurrently with bulk excavation, the contractor screens some of the excavated soil for use in the liner components.
5. Clay liner installation – a week or two.
6. Geocomposite clay liner and geomembrane liner – a week or two.
7. Leachate collection piping, gravel leachate drainage layer, and geotextile separator fabric – two weeks.
8. Soil operation layer installation – a week or two.
9. Culverts, ditches, road gravel, and straw rolls, seeding and mulching of disturbed soil - two to three weeks.

The goal is to have the liner system done and ready to receive waste by the end of September and the remaining drainage and erosion control work done before the end of October. The most intensive use of high horsepower equipment and greatest GHG generating potential occurs during the bulk excavation phase of construction. Construction of the entrance and later construction of the closure cap would be similar to the bulk excavation phase of the module-construction project. Smaller projects with less earthwork, such as installation of a new flare or LFG to energy would have negligible construction emissions by comparison.

For the purpose of calculating construction GHG emissions, the following assumptions are made:

- Approximately 29 periods of module construction would occur over the life of the landfill, at approximately 7- to 8-acres each.
- It is assumed that the entrance construction would be similar to a module project and would have similar peak emissions.

- Construction of additional LFG flares and/or a landfill gas-to-energy facility requires negligible earthwork as they would be constructed within graded areas and are considered *de minimis* from an emissions standpoint (an LFG flare installation typically requires less than 50 cubic yards of earthwork, where a module construction project would commonly require over 100,000 cubic yards).
- For clean closure of the Class I Area, it is assumed that the excavation would be performed during module construction and the same peak emissions as the module construction project would be generated.
- The baseline closure cap construction would be 58 acres and the proposed project would be 4.34 times larger, generating 4.34 times more GHG emissions. It is assumed that the closure cap would be constructed incrementally to reduce fugitive methane emissions through the landfill surface. Attachment U of Appendix C shows a model of emissions over the life of the landfill (excluding LFG emissions).

Construction emissions would be generated from the above construction activities including emissions from off- and on-road equipment. During onsite construction, activities are assumed to occur for 8 hours per day, 5 days per week, or 22.5 days per month, although contractors may elect to work 4 longer days per week or occasionally work 6 days per week if behind schedule. The proposed project would include best management practices (BMPs) required by state and local regulations to reduce air pollutant emissions during construction. Therefore, the following emission reductions were included in the unmitigated construction GHG emissions to account for implementation of BMPs:

- Equipment and vehicle idling time would be minimized (less than 5 minutes per Title 13 CCR Section 2485).
- Equipment and vehicles would be maintained according to manufacturer's written emission-related instructions (per Title 13 CCR).
- Vehicle emissions will decrease over time as the fleet is converted to better emission technology and eventually zero emissions technology (CARB's Advanced Clean Cars Program and the Zero-Emission Vehicle Market Development Strategy from the Governor's Office of Business and Economic Development).

## EMISSIONS CALCULATIONS

**Vehicles, General** – All vehicle calculation methods or models multiply either miles traveled, or hours operated, by an emissions factor (EF) in grams or tons of pollutant per mile or per hour (depending in the source). For on-road vehicles, such as trucks and cars, EFs are applied on a per-mile basis for running emissions, or per trip for idling, or starting emissions as described in the following equation used by California Emissions Estimator Model® (CalEEMod; CAPCOA, 2017):

Emissions = EF x Activity x C

Where:

| | |
|---|---|
| Emissions = | pounds per period (day for GHG emissions or year for GHG) |
| EF = | Emissions Factor in grams per mile (g/mi), g/day, g/trip depending on the activity selected. |
| Activity = | Vehicle miles traveled for roadway travel, days for vehicle idling, or trips for vehicle starting for the calendar year, model year, speed, season (or annual) and fuel type of the vehicle being modeled. |
| C = | Conversion from grams to pounds (1/453.59 g/lb.). Because the threshold of significance is in pounds per day, the result is converted to pounds per day. |

For on-road equipment, EFs for $CO_2$, $CH_4$, and $N_2O$ were obtained from the California Air Resources Board (CARB) Emissions Factor (EMFAC) 2017 Web Database (the version in use at the time that the Notice of

Publication was issued). Emissions from on-road vehicles are proportional to miles traveled, engine size, and emissions control technology. Large vehicles such as transfer or garbage trucks generate more emissions than smaller pickup trucks, but typically have fewer trips because they carry much more weight. Federal and California regulations have and continue to require increasingly more efficient engines and emissions technology per mile and per emissions will decrease over time. EFs were based on annual aggregated (versus summer and winter options) emissions and speed.

For exhaust emissions for off-road vehicles, such as dozers and excavators, EFs are applied on a per-hour of operation basis. Emissions from off-road equipment are based on hours of operation using the following equation:

Emissions = EF x Activity x LF x HP x C

Where:

| | |
|---|---|
| Emissions = | Pounds per period (day for GHG emissions or year for GHG). |
| EF = | Emissions Factor in grams per hour per brake horsepower (g/bhp/hr), based on emissions tier (Carl Moyer program for $NO_x$, ROG, and $PM_{10}$) or model year (CalEEMod). |
| Activity = | Equipment or vehicle operation hours. |
| LF = | Load Factor for each equipment type (from CalEEMod or Carl Moyer). |
| HP = | Horsepower of the specific equipment. |
| C = | Conversion from grams to pounds. |

Emissions from off-road vehicles are proportional to hours of operation per day and engine size. Vehicles with larger engines such as off-road dump trucks and scrapers have larger engines and produce more exhaust emissions than smaller equipment, such as backhoes and excavators. The USEPA has gradually implemented requirements for increasingly more stringent emissions standards for diesel off-road equipment starting with Tier 1 and increasing through Tiers 2, 3, 4 Interim(I) to Tier 4Final (F). The manufacture of Tier 3 engines ended in 2018 and only Tier 4F engines are now being manufactured. There are still Tier 2 and 3 engines in most fleets, but California is requiring that they be phased out based on fleet size. In California, the Carl Moyer Program promotes upgrades and provides subsidies for some equipment. Over time, eventually all off-road equipment will be Tier 4F. For near term modeling, based on the current standard of practice for construction projects, it is assumed that the contract documents will require all equipment over 200 hp to be Tier 4I or F and equipment less than 200 hp would be Tier 3. Assuming EO N-79-20 is implemented, all EFs for newly sold light duty trucks would be zero after 2035 and all heavy-duty trucks after 2045. The EFs for $CO_2$ and $CH_4$ for off-road equipment were obtained from the CalEEMod, Appendix D, Default Data Tables 2017 (for off-road equipment; CAPCOA 2017).

In its simplest terms, the annual or project-specific (construction) greenhouse gas generation is calculated by multiplying the miles or hours of each vehicle type by the appropriate EF, converting the value to tons per project or year, multiplying by the applicable GWP (e.g., 25 for methane), and then summing the vehicle emissions to obtain the total GHG in $CO_2e$.

As described in Section 4 of Appendix C, GHG emissions were calculated for the following:

- On-road waste delivery vehicles from their point of origin.
- Employee and visitor trips.
- On-road vehicles for support of landfill operations (such as water truck).
- Off-road landfill equipment.
- Off-road landfill construction equipment and on-road support vehicles.

Executive Order N-79-20 establishes a goal to end the sales of new internal combustion engine passenger vehicles by 2035 to help the state reach carbon neutrality by 2045. Under the Order, 100 percent of in-state sales of new passenger cars and trucks are to be zero-emission by 2035; 100 percent of in-state sales of medium- and heavy-duty trucks and busses are to be zero-emission by 2045, but only where feasible; and 100 percent of off-road vehicles and equipment sales are to be zero-emission by 2035 where feasible. The Governor also directed the CARB and other state agencies to develop regulations or take other steps within existing authority to achieve these goals. The GHG emissions calculations assume that as of 2045, 60% of both on-road and off-road vehicles will be zero emission and that the remaining 40% of on-road vehicles will have 2050 emissions technology (as predicted by EMFAC2017) and off-road vehicles will have 2040 emissions as predicted by CalEEMod to provide a conservatively high projection of emissions. The 40% of non-zero emissions are intended to account for the "but only where feasible" provision.

### Traffic to Landfill

Appendix C, Section 4.2.2 describes GHG emissions from traffic travelling from point of origin within or outside the NCCAB boundary (as GHG is addressed regionally) to the landfill (including a mile each way within the landfill). Because GHG emissions are based on long-term trends, the average trips per day were used to calculate GHG emissions, rather than peak trips per day. GHG emissions were calculated by multiplying the average daily round trip miles from the point of origin (centroid of the city or county of origin) to the entrance of JSRL times emissions factors for each GHGs (multiplied by the corresponding global warming potential) times 361 operating days per year and converted to $MTCO_2e$/year. Attachment E in Appendix C shows how the distances were estimated. Attachments F and G in Appendix C summarize the GHG calculations for the baseline and proposed project configurations, respectively.

For the GHG analyses, (1) the emissions from the average baseline waste-delivery trips (in 2020) were calculated, (2) the subsequent projected project waste delivery emissions were calculated for each year of the project, and (3) the baseline emissions were subtracted from the projected emissions to calculate the net change in emissions each year. Attachment U in Appendix C shows the projected change in emissions over time.

Initially emissions from waste delivery trips would increase but would then decline as older models age out and the proportion of vehicles with updated emissions technology increases. EO N-79-20 sets a goal of 100 percent of in-state sales of medium- and heavy-duty trucks and busses are to be zero-emission by 2045, but only where feasible; and 100 percent of off-road vehicles and equipment sales are to be zero-emission by 2035 where feasible. Because ultimate feasibility cannot be predicted, the GHG emission calculations assume a conservatively low 60% of vehicles being zero emissions by 2045 and the remainder having emissions similar to 2040 to 2050 projected by EMFAC2017. After 2045, projected vehicle emissions would be less than baseline emissions.

The following summarizes the total GHG emissions from on-road waste delivery travel from the point of origin to the landfill (both ways) for both the current landfill and the proposed project:

- The annual emissions of GHG from average on-road traffic for waste delivery under current conditions is estimated to be 3,795 $MTCO_2e$/year (Attachment U).
- The average annual emissions of GHG from on-road traffic for waste delivery under the proposed project over the life of the project between 2022 and 2086 is estimated to be 2,982 $MTCO_2e$/year (Attachment U), emission would be less for the subsequent 15 years.
- Change: 813 $MTCO_2e$/year average decrease over the life of the landfill.

### Emissions from Operations Equipment

As described above, annual GHG emission from operations include off-road equipment used to bury waste and on-road equipment to support operations (i.e., water truck). As described in Section 4.3.1 of Appendix C, the GHG analysis for the proposed project assumes that all Tier 4F off-road equipment will be phased in within 15 years after expansion or sooner (2035) and EFs for an aggregate 2035 calendar year (CalEEMod Table 4.3 for $CO_2$ and $CH_4$) are assumed to represent the point at which waste acceptance reaches the projected average. For the proposed project, it is assumed that California Executive Order (EO N-79-20) would be implemented and by 2045 and thereafter (until 2070, when the tonnage is reduced to in-County waste only and the emissions would be less) 60% of all vehicles will be net zero emissions. Because GHG is based on long term emissions, the weighted average of pre- and post-EO N-79-20 was calculated to obtain the proposed project annual GHG emissions below. The analysis indicates that GHG emissions would increase as additional equipment is added, but that the increase would be offset by improving technology.

Attachment U in Appendix C summarizes the baseline, projected (modeled) annual emissions, and average GHG emissions over the site life. The emissions from operational equipment are summarized as follows.

- The average annual emissions of GHG from operations equipment under the current condition (baseline) is estimated to be 1,201 $MTCO_2e$/yr.
- Average projected emissions for the entire operating life of the existing landfill is estimated to be 980 $MTCO_2e$/yr.
- Average projected change in emissions over operating life of the existing landfill: 221 $MTCO_2e$/yr decrease.

As shown in Attachment U in Appendix C, emissions from operational equipment would increase above the baseline initially and then decrease below the baseline as better emissions technology is incorporated into the fleet.

### Emissions from Construction

The calculations for construction emissions are described in Appendix C, Section 4.4.2. For the existing landfill (baseline), only the 58-acre closure project remains. For the proposed project, the following assumptions were made:

- Calculating the $MTCO_2e$ emissions per construction project basis.
- Multiplying the result times 29 construction projects (over the 65-year site life).
- Calculating the $MTCO_2e$ emissions for the closure cap by multiplying the emissions for 48 acres x 4.36 (253 proposed project acres/58 current operation acres) to estimate the proposed project closure cap emissions.
- Summing items 2 through 4 and dividing by a site life of 65 years.

Table 4.4-4 summarizes the current and proposed project GHG construction emissions.

**Table 4.4-4**
**GHG Analyses from Construction Projects**

| Project | Current Operation, $MTCO_2e$ | Proposed Project, $MTCO_2e$ |
|---|---|---|
| Module Construction | None Remaining | 116/project[1] |
| Entrance Construction | NA | 227/project[2] |
| Class I Area Clean Closure | NA | 72/project |
| Final Closure | 695/project[3] | 3,031/7 projects[4] |
| Total Average Over Site Life | 46/year[5] | 86/year[6] |

Notes:
1. Assumed to be 29 construction projects over 65 years of the site life.
2. Assumes one entrance area construction project.
3. 58-acre closure in one year.
4. See Table U-1 in Attachment U. Assume 6 partial final closures and one final closure project for the purposes of modeling.
5. Assuming 15 remaining years.
6. Sum of the above projects (Cell construction x 29)/65 years.

The average annual GHG emissions would increase as a result of repeated construction projects during the life of the landfill. The baseline assumes that there are no new modules remaining to be constructed and one 58-acre closure project at the end of the site life.

### EMISSIONS FROM UTILITIES

**Emissions from Electrical Energy Consumption** – **Current Landfill (Baseline)** Appendix C, Section 5, lists the primary power consuming devices at the landfill including the two blowers at the flare, three leachate pumps, a sewage lift station for the office, and five groundwater extraction wells. Assuming 2.68 lb. of $CO_2$ per Megawatt hour (MWh) (Climate Registry, 2021), consumption of electrical energy produces 0.53 $MTCO_2e$ per year.

Similar to vehicles, GHG emissions are calculated by multiplying the projected power usage by an EF, except in this case, in tons of $CO_2e$ per megawatt hour (MWh) of power consumed. Consumption of electrical energy from the power grid contributes to region wide GHG emissions depending on the source of the power. Pacific Gas and Electric (PG&E) is the electrical supplier for JSRL. According to their 2021 Corporate Sustainability Report, as of 2020, approximately 85% of the electricity supplied to customers was GHG free (PG&E 2021).

**Emissions from Electrical Energy Consumption** – **Proposed Project** – Increased electricity use associated with the proposed project may include electricity used to power additional or larger blowers for the flare system, and pumps for five additional leachate collection sumps. Electricity usage per year is based on the number of new blowers in operation, motor horsepower, assumed motor efficiency of 90 percent, and the assumption that the blowers would operate 24 hours per day, 365 days per year. Electricity used to power landfill facilities, including offices, scale house, scales, and site lighting is not expected to increase due to operation of the proposed project, therefore emissions were not calculated for those sources. Calculations of indirect GHG from energy usage, excluding the proposed RNG Facility, are included in Appendix C and summarized in Attachment U within the Appendix.

SB 100 requires 50 percent renewable electricity energy in California by December 31, 2026, and 60 percent by December 31, 2030, and 100 percent zero carbon electricity by December 31, 2045. Because PG&E's electrical supply is already at approximately 85% GHG free (which is different than renewable), for the purposes of GHG analysis, the relatively low emissions factor described above was used to calculate operational emissions for the life of the project.

The following summarizes the estimated baseline and future emissions:

- GHG Emissions from current power usage: 0.53 $MTCO_2e$/yr
- GHG Emissions from proposed project at buildout: 1.05 $MTCO_2e$/yr
- Average increase over project life (Table U1 in Attachment U): 0.86 $MTCO_2e$/yr.

The above emissions include only operational emissions separate from the proposed RNG facility. GHG emissions from electricity used to operate the RNG facility are included in the emissions analysis for that facility. The RNG facility would bypass the LFG blowers during operation and reduce the proposed project operation emissions below the proposed project emissions described above.

**Emissions from Other Utilities** – The current landfill has sewer service provided by the City of Hollister. The current landfill generates domestic sewage from two restrooms, groundwater from four downgradient extraction wells, and leachate from the landfill leachate extraction system. With implementation of the proposed project, it is assumed that two additional restrooms would be added, that the same extraction wells would continue to discharge to the sewer, and that additional leachate would be generated. CalEEMod was used to estimate emissions for sewer usage from the current landfill and proposed project.

The landfill is not served by a water utility. Currently, non-potable water used at the facility to operate toilets and sinks is trucked in from the Sunnyslope County Water District. Emissions from trucking the water are included in the vehicle emissions calculations. Water is also used for dust control, when not available from on-site ponds. The project includes collecting rainwater in temporary basins and using that water, to the degree feasible, rather than trucking water from the water district. Indirect GHG emissions from water usage and wastewater disposal were calculated as described in Attachment J to Appendix C, Section 6, and are summarized per year in Attachment U to the Appendix. The following summarizes baseline and future project emissions.

- GHG Emissions from current operation: 19 $MTCO_2e$/yr
- GHG Emissions from proposed project at buildout: 37 $MTCO_2e$/yr
- GHG Emissions from proposed project average over project life (Attachment U): 32 $MTCO_2e$/yr
- Average increase over project life (Attachment U): 13 $MTCO_2e$/yr

**Emissions Reductions from Recycling** – The current landfill has a recycling center and has in 2020 recycled approximately 83 tons of recyclables. According to the USEPA Waste Reduction Model (WARM) website, recycling a ton of mixed recyclables provides a 2.89 $MTCO_2e$ reduction in GHG emissions resulting in 240 $MTCO_2e$ of avoided GHG emissions. Assuming that quantity changes with projected population growth, the average avoided emissions above this baseline would be an average of 40 $MTCO_2e$ per year over the life of the landfill. Increased recycling would provide greater reductions.

## EMISSIONS SUMMARY

### LFG

The majority of the landfill's GHG emissions come from LFG. A significant source of LFG emissions come through the landfill surface via fugitive emissions. Improvement in LFG collection efficiency reduces fugitive emissions and associated GHG impacts. The project includes an increase in collection efficiency from 80 percent initially to 85 percent by 2028 and then to 90 percent by 2032, and then to 95 percent by 2035. A 95 percent collection is feasible with temporary plastic covers and partial final closures based on professional literature and, absent mitigation, the project would include those measures beginning in 2035 (Hansen and Yesiller et al. 2020).

The project also includes installation of an RNG Facility that provides a means of separating methane to be trucked or piped as renewable natural gas elsewhere to offset other natural gas uses thereby reducing GHG emissions. The proposed future location of the RNG facility is shown on Figure 3-9 in Chapter 3, Project Description, of this Draft EIR. Figure 3-10 shows pictures of a typical RNG Facility. Based on discussions with PG&E, a backbone pipeline is located southwest of the landfill and potential connection points adjacent to Best Road and John Smith Road are located approximately a mile from the current landfill entrance and are likely to provide a location to inject RNG into the natural gas system (Figure 3-11). Because it is not known whether the pipeline to one of the injection points would be constructed, the GHG analysis conservatively evaluated trucking the compressed RNG using up to four compressed-gas tube-truck loads per day in a virtual pipeline to an as-of-yet undetermined CNG fueling station or pipeline injection point. The tube-trucks would be fueled by RNG and would not contribute to GHG emissions.

Accounting for the collection efficiency and the RNG facility, the maximum unmitigated LFG emissions for the project are 13,065 $MTCO_2e$/yr.

Based on the Federal GHG Tailoring Rule as defined in 40CFR Part 52.21(a)(49), the project is unlikely to have the potential to exceed the threshold that would require inclusion of PSD in the Title V permit (an increase of 75,000 tpy of $CO_2e$).

### WASTE DELIVERY, OPERATIONS, AND CONSTRUCTION

Table 4.4-5 summarizes the GHG emissions described in the foregoing sections except LFG emissions. LFG emissions change over time and are shown separately in Attachment A to Appendix C.

Table 4.4-5 summarizes the modeled emissions above baseline, by year for the life of the landfill (adapted from Attachment U in Appendix C). For waste delivery, emissions for on-road and off-road vehicles related to landfill operations, the calculations assume that vehicle emissions will improve as predicted by EMFAC2017 (CARB, 2020c) and CalEEMod emissions factor tables until 2045. The emissions during this period are conservatively high as they are based solely on non-renewable petroleum vehicle emissions and do not account for the phase-in of electrical vehicles during that time period. After 2045, the calculations assume that 60% of vehicles will be powered by net zero emissions vehicles (renewable electrical, fueled by renewable fuels [e.g., RNG]) in response to EO N-79-20. The remaining 40% would be fueled by conventional nonrenewable fuels assuming that the 100% goal of EO-79-20 will not be fully attained by 2045. Because the difficulty for contractors to adapt their fuel needs to various sites, the emissions for construction equipment are assumed to be based on non-renewable fuel with an average of 2020 emissions year and is considered conservatively high. For electrical emissions, the electrical provider PG&E indicated in their statement that as of 2019, approximately 85% of their electrical supply is carbon neutral and their 2019 electrical emissions factor was assumed for the life of the project. Emissions savings from recycling is assumed to increase based on recycled tonnage that increases proportionally with population growth. The project includes addition of a public waste drop-off point near the entrance, adjacent to the recycling area. The configuration is likely to provide an incentive for recycling and the emissions reductions from recycling are likely to be higher than analyzed.

### COMBINED EMISSIONS

As shown in Table 4.4-6, the GHG generation rate from combined operational emissions and LFG related emissions above baseline would peak at 11,575 $MTCO_2e$ in 2068. The implementation of Mitigation Measures 4.4-1 and 4.4-2, including required improvements in collection efficiency, reductions in vehicle emissions, and local offsets would decrease peak emissions from 11,575 $MTCO_2e$ to 11,541 $MTCO_2e$, but would provide an average reduction of 244 $MTCO_2e$/year, over the life of the landfill provided mostly by early adoption of landfill covers and other reductions early in the site life as described herein.

**Table 4.4-5**
**Summary of Average Unmitigated GHG Emissions During Operating Site Life**

| Emissions Category | Current Operation, $MTCO_2e$/yr (Baseline) | Average Proposed Project, $MTCO_2e$/yr[1] | Average Change, $MTCO_2e$/yr[1] |
|---|---|---|---|
| Road Traffic for Waste Delivery | 3,795 | 2,982 | -813 |
| Landfill Operations | 1,201 | 980 | -221 |
| Construction Projects | 41 | 86 | 45 |
| Electrical | 0.52 | 0.86 | 0.33 |
| Water/Sewer | 19 | 32 | 13 |
| Recycling | -240 | -280 | -40 |
| Operations & Delivery Subtotal | 4,776 | 3,792 | -984 |
| Landfill Gas | Note 2 | Note 2 | 8,948 |

Notes:
1: Average from Table U-1 in Attachment U of Appendix C.
2: Projected LFG Emissions were based on the difference in tons of waste received without the project and with the project. The baseline changes over time and cannot be summarized here. See Attachment A to Appendix C.

| Table 4.4-6<br>Modeled GHG Emissions by Year - Unmitigated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Waste Delivery Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Modeled Const. Project | Construction Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Operations Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Indirect Electrical Emissions Above Baseline $MTCO_2e/yr$ | Indirect Water & Waste-water Emissions Above Baseline $MTCO_2e/yr$ | Reductions from Recycling Above Baseline $MTCO_2e/yr$ | Non-LFG GHG Emissions Change from Baseline $MTCO_2e/yr$ | Total Emissions over Baseline, Including LFG $MTCO_2e/yr$[2] |
| Ave[1] | -813 | | 45 | -221 | 0.33 | 13 | -40 | -984 | 7,964 |
| 2021 | -97 | | 0 | 36 | | 10 | 4 | 0 | -47 |
| 2022 | 80 | | 0 | 73 | 0.01 | 10 | 3 | -47 | 1,668 |
| 2023 | 243 | Module 9 | 116 | 109 | 0.02 | 10 | 1 | 165 | 3,154 |
| 2024 | 394 | | 0 | 146 | 0.03 | 10 | -1 | 479 | 4,465 |
| 2025 | 530 | Module 10 | 116 | 182 | 0.04 | 10 | -3 | 549 | 6,061 |
| 2026 | 652 | Entrance | 227 | 219 | 0.05 | 10 | -5 | 835 | 7,705 |
| 2027 | 760 | Module 11 | 116 | 255 | 0.06 | 10 | -7 | 1,103 | 9,178 |
| 2028 | 852 | 24-acre Clo | 348 | 292 | 0.07 | 10 | -9 | 1,134 | 6,573 |
| 2029 | 930 | Module 12 | 116 | 328 | 0.08 | 10 | -12 | 1,492 | 7,288 |
| 2030 | 993 | | 0 | 365 | 0.10 | 10 | -14 | 1,373 | 8,138 |
| 2031 | 1,042 | Module 13 | 116 | 401 | 0.11 | 11 | -16 | 1,355 | 9,237 |
| 2032 | 1,075 | | 0 | 438 | 0.12 | 11 | -18 | 1,554 | 7,425 |
| 2033 | 1,054 | Module 14 | 116 | 474 | 0.13 | 11 | -20 | 1,505 | 8,216 |
| 2034 | 1,059 | | 0 | 511 | 0.14 | 11 | -22 | 1,635 | 8,821 |
| 2035 | 1,049 | Module 15 | 116 | 547 | 0.15 | 11 | -23 | 1,558 | 6,039 |
| 2036 | 1,161 | | 0 | 535 | 0.16 | 11 | -25 | 1,699 | 6,410 |
| 2037 | 1,128 | Module 16 | -579 | 524 | 0.17 | 11 | -27 | 1,677 | 6,183 |
| 2038 | 1,094 | Class I Clo | 72 | 512 | 0.18 | 11 | -28 | 1,045 | 7,112 |
| 2039 | 1,059 | Module 17 | 116 | 501 | 0.19 | 11 | -29 | 1,644 | 7,425 |
| 2040 | 1,024 | 24-acre Clo | 348 | 489 | 0.20 | 12 | -31 | 1,634 | 7,919 |
| 2041 | 987 | Module 18 | 116 | 477 | 0.21 | 12 | -32 | 1,811 | 7,942 |
| 2042 | 949 | | 0 | 466 | 0.22 | 12 | -33 | 1,524 | 8,075 |
| 2043 | 912 | Module 19 | 116 | 454 | 0.23 | 12 | -35 | 1,352 | 8,433 |
| 2044 | 873 | | 0 | 443 | 0.24 | 12 | -36 | 1,412 | 8,552 |
| 2045 | 835 | Module 20 | 116 | 431 | 0.25 | 12 | -37 | 1,239 | 8,898 |
| 2046 | -1,015 | | 0 | 419 | 0.27 | 12 | -38 | 1,298 | 6,269 |
| 2047 | -1,012 | Module 21 | 0 | 408 | 0.28 | 12 | -39 | -1,612 | 6,547 |
| 2048 | -1,010 | 24-acre Clo | 348 | 396 | 0.29 | 12 | -40 | -1,610 | 7,166 |
| 2049 | -1,008 | Module 22 | 116 | 385 | 0.30 | 12 | -40 | -1,261 | 7,200 |
| 2050 | -1,006 | | 0 | 373 | 0.31 | 13 | -41 | -1,491 | 7,345 |
| 2051 | -1,004 | Module 23 | 116 | -571 | 0.32 | 13 | -42 | -1,606 | 7,716 |
| 2052 | -1,002 | | 0 | -571 | 0.33 | 13 | -43 | -1,489 | 7,851 |
| 2053 | -1,022 | Module 24 | 116 | -571 | 0.34 | 13 | -44 | -1,603 | 8,191 |

| Table 4.4-6<br>Modeled GHG Emissions by Year - Unmitigated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Waste Delivery Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Modeled Const. Project | Construction Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Operations Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Indirect Electrical Emissions Above Baseline $MTCO_2e/yr$ | Indirect Water & Waste-water Emissions Above Baseline $MTCO_2e/yr$ | Reductions from Recycling Above Baseline $MTCO_2e/yr$ | Non-LFG GHG Emissions Change from Baseline $MTCO_2e/yr$ | Total Emissions over Baseline, Including LFG $MTCO_2e/yr$[2] |
| 2054 | -1,020 | | 0 | -571 | 0.35 | 13 | -44 | -1,508 | 8,316 |
| 2055 | -1,018 | Module 25 | 116 | -571 | 0.36 | 13 | -45 | -1,622 | 8,668 |
| 2056 | -1,016 | | 0 | -571 | 0.37 | 13 | -46 | -1,505 | 8,783 |
| 2057 | -1,014 | Module 26 | 116 | -571 | 0.38 | 13 | -47 | -1,620 | 9,125 |
| 2058 | -1,012 | 24-acre Clo | 348 | -571 | 0.39 | 13 | -47 | -1,503 | 9,579 |
| 2059 | -1,010 | Module 27 | 116 | -571 | 0.40 | 14 | -48 | -1,270 | 9,566 |
| 2060 | -1,008 | | 0 | -571 | 0.41 | 14 | -49 | -1,500 | 9,663 |
| 2061 | -1,007 | Module 28 | 116 | -571 | 0.42 | 14 | -50 | -1,615 | 9,989 |
| 2062 | -1,005 | | 0 | -571 | 0.44 | 14 | -50 | -1,498 | 10,078 |
| 2063 | -1,003 | Module 29 | 116 | -571 | 0.45 | 14 | -51 | -1,613 | 10,396 |
| 2064 | -1,001 | | 0 | -571 | 0.46 | 14 | -52 | -1,495 | 10,477 |
| 2065 | -999 | Module 30 | 116 | -571 | 0.47 | 14 | -53 | -1,610 | 10,786 |
| 2066 | -997 | | 0 | -571 | 0.48 | 14 | -53 | -1,493 | 10,859 |
| 2067 | -995 | Module 31 | 116 | -571 | 0.49 | 14 | -54 | -1,608 | 11,162 |
| 2068 | -993 | 24-acre Clo | 348 | -571 | 0.50 | 14 | -55 | -1,490 | **11,575** |
| 2069 | -992 | Module 32 | 116 | -571 | 0.51 | 15 | -56 | -1,258 | 11,522 |
| 2070 | -1,689 | | 0 | -571 | 0.52 | 15 | -56 | -1,488 | 10,882 |
| 2071 | -3,043 | Module 33 | 116 | -571 | 0.52 | 15 | -57 | -2,302 | 9,668 |
| 2072 | -3,041 | | 0 | -571 | 0.52 | 15 | -58 | -3,540 | 9,288 |
| 2073 | -3,039 | Module 34 | 116 | -571 | 0.52 | 15 | -59 | -3,655 | 9,145 |
| 2074 | -3,037 | | 0 | -571 | 0.52 | 15 | -59 | -3,538 | 8,776 |
| 2075 | -3,035 | Module 35 | 116 | -571 | 0.52 | 15 | -60 | -3,653 | 8,645 |
| 2076 | -3,033 | | 0 | -571 | 0.52 | 15 | -61 | -3,535 | 8,286 |
| 2077 | -3,031 | Module 36 | 116 | -571 | 0.52 | 15 | -62 | -3,650 | 8,164 |
| 2078 | -3,029 | 24-acre Clo | 348 | -571 | 0.52 | 16 | -62 | -3,533 | 8,163 |
| 2079 | -3,027 | Module 37 | 116 | -571 | 0.52 | 16 | -63 | -3,300 | 7,704 |
| 2080 | -3,025 | | 0 | -571 | 0.52 | 16 | -64 | -3,530 | 7,364 |
| 2081 | -3,023 | Module 38 | 116 | -571 | 0.52 | 16 | -65 | -3,645 | 7,261 |
| 2082 | -3,022 | | 0 | -571 | 0.52 | 16 | -65 | -3,528 | 6,931 |
| 2083 | -3,020 | | 0 | -571 | 0.52 | 16 | -66 | -3,642 | 6,721 |
| 2084 | -3,018 | | 0 | -571 | 0.52 | 16 | -67 | -3,641 | 6,516 |
| 2085 | -3,016 | | 0 | -571 | 0.52 | 16 | -68 | -3,640 | 6,315 |
| 2086 | -3,014 | | 0 | -571 | 0.52 | 16 | -69 | -3,638 | 6,118 |
| 2087 | -3,795 | 132-acre Final Clo | 1,582 | -1,201 | 0.52 | 16 | -69 | -3,637 | 5,527 |

| Table 4.4-6<br>Modeled GHG Emissions by Year - Unmitigated | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | Waste Delivery Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Modeled Const. Project | Construction Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Operations Vehicle Emissions Change from Baseline $MTCO_2e/yr$ | Indirect Electrical Emissions Above Baseline $MTCO_2e/yr$ | Indirect Water & Waste-water Emissions Above Baseline $MTCO_2e/yr$ | Reductions from Recycling Above Baseline $MTCO_2e/yr$ | Non-LFG GHG Emissions Change from Baseline $MTCO_2e/yr$ | Total Emissions over Baseline, Including LFG $MTCO_2e/yr$[2] |
| 2088 | -3,795 | | | -1,201 | 0.52 | -19 | | -4,033 | 4,355 |
| 2089 | -3,795 | | | -1,201 | 0.52 | -19 | | -5,015 | 4,110 |
| 2090 | -3,795 | | | -1,201 | 0.52 | -19 | | -5,015 | 3,871 |
| 2091 | -3,795 | | | -1,201 | 0.52 | -19 | | -5,015 | 3,636 |
| 2092 | -3,795 | | | -1,201 | 0.52 | -19 | | -5,015 | 3,406 |
| 2093 | -3,795 | | | -1,201 | 0.52 | -19 | | -5,015 | 3,180 |

Notes
1. Average of site life
2. Includes GHG for power for RNG plant operation.

## SUMMARY OF PROJECT EMISSIONS ASSUMPTIONS

The following GHG emission reductions have been incorporated into the emissions analysis for the proposed project (unmitigated) describe above:

- SB 1383 – Reduces Organics in the waste stream by 50% of 2014 levels by 2020 and 75% by 2025.
- Executive Order EO N-79-20, will result in converting all vehicles to zero emissions by 2045 (assume only 60% will be converted for conservative modeling purposes).
- SB 100 – Requires 60% renewable energy by 2030, with a 2045 goal of powering all retail electricity sold in California and state agency electricity needs with renewable and zero-carbon resources. As described above, as of 2019, 85% of PG&E's sources are carbon neutral and it appears that they are on track to meet this goal.
- Prior to 2045, improvements in vehicle emissions technology over time are anticipated by EMFAC2017 (CARB 2020c) and CalEEMod.
- A gas-extraction system with both vertical and horizontal wells with no less than one well per every two acres.
- 80% LFG collection efficiency initially with 95% LFG collection efficiency by 2035.
- Oxidation of 10% of the fugitive methane in the cover soil initially.
- Implementation of an RNG facility.
- The landfill would operate until 2086 after which it would close, but LFG would continue to be collected.
- Recycling will increase proportionally to population growth (Table D2 in Attachment D).
- RNG tube trailers will be powered by RNG and will be carbon neutral.

### Consideration of Carbon Sequestration

Emissions of GHGs from fuel use and organic matter decomposition is an inevitable consequence of management of the solid waste produced by society. However, the disposal of waste in landfills also causes substantial amounts of carbon to be removed from the carbon cycle and permanently sequestered.

The IPCC (2006) and CEC recognize landfills as carbon sinks and quantify such storage in national and state-wide GHG budgets. The IPCC approach in the 2006 Guidelines for National Greenhouse Gas Inventories, Volume 5, Chapter 3, page 3.23 covers waste, including carbon stored in solid waste disposal sites (SWDS):

"*Some carbon will be stored over long time periods in SWDS. Wood and paper decay very slowly and accumulate in the SWDS (long-term storage). Carbon fractions in other waste types decay over varying time periods (see Half-life under Section 3.2.3.). The amount of carbon stored in the SWDS can be estimated using the [first order decay] model (see Annex 3A.1). The long-term storage of carbon in paper and cardboard, wood, garden and park waste is of special interest as the changes in carbon stock in waste originating from harvested wood products which is reported in the Agriculture, Forestry and Other Land-Use sector volume (see Chapter 12, Harvested Wood Products)*."

The 2006 Inventory of California GHG Emissions and Sinks (CEC 2006, page 47) similarly considers this sequestration. CEC indicates that, "*Lumber and urban wood wastes disposed at landfills contain significant amounts of lignins, which contain carbon, which is sequestered in anaerobic landfills*." Quantification of storage for wood products and other organics was included in the 2006 Inventory.

Unfortunately, neither of these methodologies is adequate for analysis of a site-specific carbon balance. Again, the purpose for both was to produce national or state-wide GHG inventories without assigning emissions to particular locations. A comprehensive analysis of landfill storage using these references would require combining procedures from multiple sections, including the noted landfill discussions, and portions of Agriculture, Forestry, and Other Land Use analyses in IPCC 2006.

SCS Engineers (SCS 2009) recommends procedures for analysis of carbon storage in landfills, combining data from USEPA, IPCC, various researchers, and other sources. Estimates can be calculated regarding content and long-term storage of carbon for individual and combined waste streams. Using the referenced methodology, at buildout, the proposed project (39.7 million short tons of waste) would have sequestered 11.91 million $MTCO_2e$ ($MMTCO_2e$) or an average of 0.11 $MMTCO_2e$ per year over a 65-year lifespan of the landfill (including previous waste, see the calculation in Appendix C). This calculation is provided for informational purposes. The reduction in GHG emissions associated with sequestration was not included in the quantification of the proposed project's GHG emissions provided in the impact discussion below.

## THRESHOLDS OF SIGNIFICANCE

Per Appendix G of the CEQA Guidelines, greenhouse gas emission impacts are considered significant if implementation of the proposed project under consideration would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Neither San Benito County nor MBARD have established a threshold of significance for GHG emissions. Based on case law and the CEQA Guidelines, this EIR uses the following thresholds of significance for this project:

- Whether the project would achieve a net zero contribution to GHG emissions on average over the lifetime of the project; and
- Whether the project would significantly hinder or delay California's ability to meet the applicable reduction targets contained in the Scoping Plan and the County's General Plan.

*Net Zero*. Given the lack of landfill or County specific numeric GHG thresholds, the County has decided to rely on a net zero threshold. A net zero threshold is a conservative threshold under which any net positive change in GHG emissions would be considered a cumulatively considerable contribution to climate change. CARB has suggested in the 2017 Scoping Plan that achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new residential and commercial development, while acknowledging that achieving a net zero increase in GHG emissions may not be feasible or appropriate for every project. The MBARD Draft Guidelines suggest a threshold of significance of 10,000

$MTCO_2e$ for industrial facilities and that threshold is commonly used for landfills. Nevertheless, to provide a full analysis of the project's impacts, the County has chosen to use net zero GHG emissions as a threshold in this EIR.

*Consistency with Plans and Policies to Reduce GHG Emissions*. As described above, the Scoping Plan and the San Benito County have programs and policies regarding climate change and GHGs. As a second threshold, significance would be determined by whether the GHG emissions would hinder attainment of statewide GHG reduction targets under the Scoping Plan or San Benito's ability to implement the policies described in the General Plan.

Calculations of projected $CO_2$, $CH_4$, and $N_2O$ emissions were provided in the following section to identify the magnitude of potential effects of the proposed project. The analysis focuses on $CO_2$, $CH_4$, and $N_2O$ as these are the GHG emissions that the proposed project would emit in the largest quantities compared to other GHGs (such as HFCs and PFCs).

### IMPACTS AND MITIGATION MEASURES

**IMPACT 4.4-1** **Generation of GHG Emissions from Operations.** *Project features and regulations will reduce the project's contribution to global climate change, but with a conservative net zero threshold, impacts would be **significant**.*

As of the end of October 2020, JSRL's consumed effective airspace was 7.109 million cubic yards and the remaining effective air space was estimated to be 1.652 million cubic yards. The average tons of waste for burial and beneficial re-use for 2020 was 923 tons per day. For analysis of the proposed project, it is assumed that the expansion would add 46.421 million cubic yards of future effective airspace for a total of 55.182 million cubic yards. Of this total, 48.073 million cubic yards would be available as of the end of October 2020 (48.066 million cubic yards as of the end of 2020). It is understood that the requested peak daily tonnage of waste is 2,300 tons per day plus waste accepted for beneficial reuse (historically an average of 25 percent in addition to the buried waste, most of which is inert) with a total of approximately 2,875 tons/day.

The proposed project would generate direct emissions from the combustion of nonrenewable petroleum-based fuel, emissions of fugitive methane through the landfill surface, and from combustion of residual LFG not removed from the site by the RNG plant; and indirectly from the use (at least initially) of partially non-renewable electrical energy. As described in Table 4.4-6, the total emissions from operations and waste delivery would average -995 $MTCO_2e$ per year. When combined with LFG related emissions, the average would be 7,964 $MTCO_2e$ per year above baseline conditions. Annual emissions after 2045 are based on partial implementation of EO N-79-20 that cannot be assured. While there are other GHG emissions from the project as noted above, GHG emissions from LFG would be, by far, the largest source. The projected GHG emissions from LFG assumes that implementation of SB 1383 will reduce organics in the waste stream resulting in an LFG generation rate that would be less than without implementation of SB 1383. It is understood that San Benito County has obtained a rural waiver from compliance with SB 1383 until 2026. However, most of the waste (as of 2020 approximately 79% and projected to be 85% by 2026) is received from out of County sources, mainly from more populous counties that are required to comply with SB 1383). The LFG generation rate and associated GHG emissions would increase gradually over time as additional waste is added to the proposed landfill expansion until, in 2068 (at the proposed wase acceptance rates) after which LFG emissions would diminish.

The RNG facility is not viable and thus is not proposed to operate until the LFG flow rate (annual average) reaches approximately 550 cfm. At that time, the project would start up its RNG facility, which, when combined with improvements in collection efficiency included in the project, would keep net emissions[4] below 12,000 $MTCO_2e$ per year for the life of the project. However, as described in Table 4.4-6, GHG emissions would increase an average of 7,964 $MTCO_2e$ per year over the baseline. The RNG facility would be installed prior to the landfill

[4] Emissions in excess of those that would have been generated without the proposed expansion.

gas collection system reaching a flow rate (annual average) of 550 cfm and would remove most of the anthropogenetic methane from the site. Together with improvements in LFG collection efficiency, these project features would reduce fugitive methane emissions and increase captured LFG for processing into RNG. However, because the average GHG emissions generated from the project would exceed the net zero threshold, this would be a **significant** impact.

To ensure timely startup of the RNG facility and its continued operation, even though RNG is proposed as a project feature, this EIR adds requirements regarding the RNG facility's operation as a mitigation measure (Mitigation Measure 4.4-1).

Unlike most projects, the landfill project is anticipated to operate far into the future. It is reasonably foreseeable that technology to reduce GHG emissions from landfills and related mobile sources will change in the future, but impossible to predict what the changes will be. To address this fact, Mitigation Measure 4.4-1b incorporates flexibility consistent with the holding in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502.

To further reduce GHG emissions, Mitigation Measure 4.4-1c requires the project to optimize LFG collection efficiency and reduce fugitive LFG emissions from the landfill surface (the main source of methane emissions). To optimize LFG collection, Mitigation Measure 4.4-1c requires that a flexible membrane cover (i.e., geomembrane, minimum thickness of 12 mils) or a cover constructed of a material that is equally effective at reducing GHG emission be placed over all locations that are not projected to accept waste within the next year. These covers would be required to remain in place until additional waste is placed or a portion of the landfill is capped. Several references (Barlaz, et al. 2009; Banister and Sullivan 2022; New Hampshire DES 2010) indicate that geomembranes, when combined with an active LFG collection system provide improved gas collection efficiency, thereby reducing fugitive LFG emissions from the landfill surface. According to Greenwalt (2016), "Geomembranes also are pretty much the main choice these days for temporary covers. Instead of waiting to put a final cover down, operators will put a geomembrane down for a short time to mitigate odor as well as rainwater infiltration, thus reducing leachate generation," and "[t]o enhance the collection of gas, some landfill operators will install temporary geomembrane covers over inactive landfill areas, which help to block gas emissions and makes active gas collection more effective."

Already included in the project is periodic closure cap installation on portions of the landfill that have reached their final grade and have received additional waste, if needed, after initial settlement as a means of long-term LFG control. Portions of the landfill to be capped would typically consist of several cells or modules that have reached final grade and for which maintenance of temporary covers is no longer desirable.

With GHG emissions, CEQA prioritizes implementing all feasible mitigation measures to reduce emissions from the project. In its recently released draft Scoping Plan, CARB explains that "the lead agency must impose feasible design features and mitigation measures to minimize the impact" (CARB 2022). With implementation of the RNG facility as part of the expansion project and the project design and Mitigation Measures 4.4-1a to 4.4-1d, as well as Measure 4.4-2, emissions from the project will be reduced to the greatest extent feasible from onsite sources. CARB then explains, "[a]fter exhausting all the on-site GHG mitigation measures, CARB recommends prioritizing local, off-site GHG mitigation measures, including both direct investment and voluntary GHG reduction or sequestration projects, in the neighborhoods impacted by the project." The focus on exhausting all on-site mitigation measures and then focusing on off-site mitigation measures is consistent with the Office of Planning Research's Draft CEQA and Climate Change Advisory, which explains, "As a first level of mitigation, lead agencies may determine it is appropriate to focus on all reasonable and feasible on-site strategies to reduce or avoid greenhouse gas emissions such as on-site design features. ... Next, if the project requires further mitigation, lead agencies may consider off-site measures that are additional to on-site measures" (OPR 2018).

The County does not have a Climate Action Plan or GHG reduction or sequestration projects; however, the County has examined potential mitigation that would further reduce emissions from County operations related to landfill operations, which have been incorporated into Mitigation 4.4-1e. Currently, County staff with Integrated Waste Management, which is part of the Resource Management Agency, have responsibilities related to the existing and expanded landfill operations and utilize internal combustion engine fleet vehicles to drive to and from the landfill and other locations in the County related to landfill and waste operations. Mitigation 4.4-1e thus seeks to eliminate emissions from County operations related to the landfill expansion project, which also is consistent with the State's recognition that transitioning vehicle fleets within the state to electric vehicles contributes to greenhouse gas reduction goals. The County maintains a shared fleet for all Resource Management Agency operations, including Integrated Waste Management. Mitigation 4.4-1e thus seeks to replace the oldest engines and/or highest annual mileage vehicles in the County fleet to provide the greatest benefit from replacement. As discussed above, the federal standards for on-road vehicles were established in two phases with Phase 2 Model Years (2017-2025) required to have lower emissions and improved fuel economy. More significantly, because GHG emission are proportional to vehicle miles traveled, replacing vehicles that have the greatest number of miles annually provides the greatest reduction in GHG emissions. Thus, Mitigation 4.4-1e prioritizes replacing the oldest vehicles or those with the highest annual mileage first.

#### Mitigation Measure 4.4-1: Generation of GHG Emissions from Operations

To ensure that the GHG emissions, which are primarily from LFG generation, are mitigated, the following mitigations shall be implemented:

a. Before the project produces approximately 550 cfm (annual average) of recovered landfill gas, the RNG facility shall be fully operational. Any tube trailers associated with the RNG facility must be powered by RNG or another renewable fuel source (e.g., electric).

b. During the life of the project, the project applicant may substitute different LFG control measures that are equally effective or superior to the measures provided herein, including the RNG facility proposed by the project, as new technology and/or other feasible measures become available. Prior to undertaking a substitution, the project applicant shall provide the County with a report prepared by a qualified air quality specialist confirming that the substituted technology is equally effective or superior to the RNG facility for reducing project GHG emissions. If any substitution is made before the RNG facility is operational, it must be approved by the County before the trigger in Mitigation 4.4-1a. If any substitution is made after the RNG facility is operational, the substitution technology must be operational before RNG operations may cease. The County shall not issue a demolition permit to decommission the RNG facility until the substitution technology is fully operational.

c. To optimize LFG collection efficiency and reduce fugitive LFG emissions from the landfill surface, the following measures shall be performed:

1. Landfill sequencing plans will be evaluated annually to identify landfill locations that can be either partially closed (i.e., undergo partial final closure) or temporarily covered.
2. Locations that are to final grade and expected to settle appreciably and, therefore, likely to receive additional waste prior to closure will be covered with a flexible membrane liner (minimum thickness of 12 mils) until additional waste is placed.
3. Locations that are not to final grade and are not projected to accept waste within the next year will be covered with a flexible membrane liner (minimum thickness of 12 mils) until additional waste is placed.
4. At locations where flexible membrane liners are placed, the perimeter of the flexible membrane liners will be embedded in an anchor trench to trap LFG being emitted from the landfill surface; LFG collector pipes will be installed to collect the trapped LFG.
5. As an alternative to placing flexible membrane liner, a thickened compacted soil interim cover (possibly including processed green waste or compost) may be used if it can be demonstrated to be equal or better than flexible membrane liner in controlling LFG surface emissions. Prior to undertaking such a substitution, the project applicant shall apply to the County to allow a substitution and provide the County with a report prepared by a qualified air quality specialist confirming that the substituted technology is equally effective or superior to the flexible membrane for reducing project GHG emissions. No

substitution shall be made unless approved by the County based on evidence that the substituted technology is equally effective.

d. To further reduce GHG emissions, the project applicant shall implement the following measures:

1. Install a solar electrical system to offset GHG emissions from electricity from the project, including the RNG facility, or purchase 100 percent carbon-free energy from the electricity provider; and

2. Before waste is placed in the first new expansion cell, convert pick-up trucks and light construction equipment, such as small excavators and loaders, to renewable energy power source (i.e., renewable diesel, RNG or electricity). Before waste is placed in the first new expansion cell or as soon as commercially available and proven (i.e., with comparable product support, suitable for the necessary work, and reliability), convert water trucks and heavy equipment, such as compactors and dozers, to renewable energy power source or electricity. If not commercially available and proven before waste is placed in first new expansion cell, purchase or replacement must occur within four months of such equipment being commercially available and proven, and placement of such purchased equipment into operation must take place as soon as is commercially reasonable. For any heavy equipment that cannot be converted to renewable energy source or electric because it is not yet commercially available or proven, applicant shall monitor changes in technology and new equipment and include a summary of remaining fleet to be replaced with renewable energy power source or electricity in a written annual report submitted to Integrated Waste Management in December each year explaining why replacement or use of a renewable energy power source is not commercially available or proven. If County disputes applicant’s conclusions, County and applicant shall meet and confer and attempt to agree on the retention of a qualified third-party, to be retained at the applicant’s expense to assess whether replacement or use of a renewable energy power source is commercially available and proven and, if the qualified third-party reasonably concludes replacement is commercially available and proven, applicant shall purchase renewable energy power source or purchase replacement vehicles within two months and place such purchased equipment into operation as soon as is commercially reasonable.

e. To further reduce GHG emissions, the project applicant shall implement the following measures:

1. Before waste is placed in the first new expansion cell, the applicant shall provide funding for the design, purchase, and installation of four electric vehicle charging stations at County building(s) to be determined by County based on need and capacity of County park lots at the time of installation. County and applicant shall confer in good faith to determine a reasonable and appropriate amount of funding, and County shall implement the design, purchase and installation as soon as is reasonably feasible following the payment of funds to the County. It shall be presumed that contracts providing for the design, purchase, and installation of the electrical vehicle charging stations under this mitigation measure obtained consistent with San Benito County Purchasing and Contracting Policy Manual and state law governing a county’s procurement of goods and services (including requirements for competitive bidding and for accepting the lowest responsive bid) are a reasonable and appropriate amount of funding.

2. Before waste is placed in the first new expansion cell, the applicant shall provide funding for the replacement of two internal combustion engine vehicles in County Resource Management Agency fleet with electric vehicles of similar size and utility to be selected by County. The County shall prioritize replacement of Resource Management Agency fleet with the oldest model years and/or highest miles per year. County and applicant shall confer in good faith to determine a reasonable and appropriate amount of funding, and County shall implement the engine replacement as soon as is reasonably feasible following the payment of funds to the County. It shall be presumed that contracts providing for electric vehicles under this mitigation obtained consistent with San Benito County Purchasing and Contracting Policy Manual and state law governing a county’s procurement of goods and services (including requirements for competitive bidding and for accepting the lowest responsive bid) are a reasonable and appropriate

amount of funding.

### Level of Significance After Mitigation

GHG emissions from vehicles would increase because of increased trips until approximately 2036. Assuming 60 percent implementation of renewable energy powered vehicles after 2045, vehicle emissions would eventually decline below the baseline. Indirect GHG emissions from water, wastewater, and electrical usage (excluding electrical demand from the RNG facility) would be negligible over the long term.

Because LFG generation is the primary source of GHG emissions, implementation of an RNG facility and subsequent improvements of LFG collection efficiency would reduce GHG emissions. The feasibility of an RNG facility depends on the LFG generation rate, the technology available for treating the LFG, availability of low carbon-based electricity, and a market for the produced RNG. An RNG facility is technically feasible now and for the foreseeable future. Over time, the technology and/or demand for RNG could change, which is why the mitigation measure allows for substitute technology. To further reduce LFG emissions, Mitigation Measure 4.4-1c requires covering landfill areas even if not ready for closure. Covering the landfill minimizes fugitive emissions of LFG, which is the main source of GHG emissions. Although such covers would effectively reduce surface methane emissions from LFG to near zero, it is uncertain at any one time how much of the landfill would be covered, making modeling speculative.

Mitigation Measure 4.4-1d requires the installation of solar equipment or purchase of 100% carbon-free electricity and use of renewable fuels for vehicles. The installation of solar equipment or use of 100% carbon-free energy will reduce GHG emissions by 1 $MTCO_2e$ per year for landfill electricity. As described under the Post-Mitigation GHG Emissions Summary below, replacing light-duty pickup trucks and all-terrain vehicles (ATVs) with electric versions is achievable with currently emerging technology and would reduce GHG emissions by 5 $MTCO_2e$/year. Heavier landfill operational vehicles such as maintenance trucks, water trucks, and light construction equipment, such as small excavators and loaders could be replaced by electric vehicles in the near future. Current electric water trucks may not be suitable for the necessary work at a landfill or offer similar reliability, but it is anticipated that this will improve and that they would be available during the life of the project. Using electric light-duty vehicles would reduce emissions by approximately 23 $MTCO_2e$ per year. Heavier trucks could be fueled by RNG once the RNG facility is installed.

There currently are choices for electrically- or CNG-powered[5] pickup trucks, ATV's, water trucks, and light construction equipment (small excavators and loaders), but not for heavy equipment such as compactors and dozers. Upgrading site pickup trucks and the water truck to electric vehicles (EV) would be feasible under currently emerging technology. Renewable fuel options (such as electric and RNG) for heavier equipment are not yet readily available at the project site. Heavier equipment may be able to be powered by RNG after the RNG facility is installed depending on technological improvements by equipment manufacturers. For this reason, no GHG reductions are assumed for this part of the mitigation measure.

In addition, Mitigation Measure 4.4-2 requires the installation of five EV chargers and educational efforts at the landfill to increase recycling. As shown in Table 4.4-9, and as described in the Post-Mitigation GHG Emissions Summary, adding five vehicle charging stations, (when used by commuting employees and visitors) would reduce GHG emissions by approximately 36 $MTCO_2e$/year.

The average increase in annual GHG emissions above the baseline for the life of the project is estimated to be 7,964 $MTCO_2e$ without the added mitigation measures described above, with a peak of 11,575 $MTCO_2e$ and a minimum of 1,669 $MTCO_2e$. Early implementation of plastic covers, early adoption of zero emissions equipment, and the installation of solar (as well as the addition of EV chargers required by Mitigation Measure 4.4-2) has the

[5] Compressed Natural Gas (CNG) only provides a GHG reduction benefit, if the gas from renewable source such as RNG, which may not be available locally until the RNG facility is implemented.

potential to reduce the peak GHG emissions before 2032 as shown in Table 4.4-9, but because the project already includes aggressive LFG collection efficiency after 2037, the long-term average would decrease only marginally. The project has been designed to reduce emissions to the greatest extent possible based on available technology, which can also be expected to improve over the life of the project.

Because all feasible mitigation has been incorporated in the project design and unmitigated GHG emissions remain above the baseline in most years, the County has considered other feasible mitigation that could reduce GHG emissions in the County related to the expansion project. In 2022, the existing County fleet included five vehicles ranging in model years from 2006 to 2020 and average annual mileage usage of 8,650 miles/year. Based on this usage, replacing two County internal combustion engine fleet vehicles with electric vehicles of similar size and utility would reduce GHG emissions by approximately 8 $MTCO_2e$/year. Given that the County does not have electric vehicle charging stations at all County buildings, Mitigation 4.4-1e also requires the installation of electric vehicle charging stations at the County buildings that would be utilized for County electric fleet, commuting County employees, and the public. Adding vehicle charging stations for County employees and the public would reduce GHG emissions by approximately 14 $MTCO_2e$/year, assuming 8,724 vehicle miles per station per year and four stations used for County electric fleet and by commuting employees and the public. See Post-Mitigation GHG Emissions Summary below for more detail.

Nevertheless, even with the RNG facility, temporary flexible covers, EV chargers at the project site and County buildings, converting onsite vehicles to renewable diesel, RNG, or electric, converting additional operations equipment to renewable energy, replacing internal combustion engine County fleet vehicles with electric vehicles, and education, the project may have minimal unmitigated GHG emissions. Because it is infeasible at this time to accurately model the emission reductions from temporary covers in particular, to be conservative, especially when considered under the conservative net zero threshold, the County concludes that the project could result in a net increase in GHG emissions. This is a **significant and unavoidable impact.**

**IMPACT 4.4-2** **Conflict with Applicable Plan, Policy, or Regulation Adopted to Reduce GHG emissions.** *The proposed project could conflict with the state goal to reduce mobile-source transportation emissions. Therefore, this impact would be considered **potentially significant**.*

Implementation of the proposed project would be expected to be consistent with applicable local plans, policies and regulations adopted for the purpose of reducing the emissions of greenhouse gases. As identified in San Benito County 2035 General Plan Policy PFS-2.2, the County is required to integrate sustainability concepts, greenhouse gas reduction strategies and climate change resiliency planning into County facilities. General Plan Policy PFS-2.3 further states that the County shall reduce GHG emissions from County facilities and activities. Table 4.4-7 summarizes the project's consistency with the General Plan policies.

**Table 4.4-7**
**Project Consistency with the San Benito County 2035 General Plan**

| Policy | Primary Objective | Project Consistency Analysis |
|---|---|---|
| Policy PFS-1.6 Adaptive Facilities and Services | The County shall monitor expected impacts of climate change on public facilities and services and make appropriate adaptive modifications and upgrades as needed. Where public facilities and services are provided by other agencies, the County shall assist with identifying impacts and solutions. | **Consistent.** The project's emission control technologies and mitigation measures allow adaptation to changing conditions to further decrease emissions over the life of the landfill. |
| Policy PFS-2.2 Sustainable Plans and Operations | The County shall integrate sustainability concepts, greenhouse gas reduction strategies, and climate change resiliency | **Consistent.** The project includes control technologies, public education, and mitigation measures that reduce the impacts of the landfill on climate change. The landfill |

| Policy | Primary Objective | Project Consistency Analysis |
|---|---|---|
| | planning into County facility and service plans and operations | entrance area includes a recycling area and mercantile exchange (leave-one, take one) for used items. |
| Policy PFS-2.3 Reducing GHG Emissions | The County shall reduce GHG emissions from County facilities and activities. | **Consistent.** The project includes technologies to reduce net greenhouse gas emissions, including a RNG facility and a requirement to optimize LFG collection efficiency and reduce fugitive LFG emissions. |
| Policy HS-1.15 Climate Change Monitoring and Adaptation | Same as Policy PFS1.6 | Same as Policy PFS1.6 |
| Policy HS-1.16 Public Awareness of Climate Change | The County shall support public awareness of water conservation measures, agricultural changes, storm and flood preparedness, forest/range fire protection, air quality issues, extreme weather events, and disease prevention to help prepare for the potential impacts of climate change. | **Consistent**. The project stores stormwater to reduce imported water usage and includes measures to reduce GHG emissions. |
| Policy HS-5.8 GHG Reduction Targets | The County acknowledges that the state endeavors to achieve 1990 greenhouse gas (GHG) emission levels and establish a long-term goal to reduce GHG emissions by 80 percent below 1990 levels by 2050. The County will encourage projects that support these goals, recognizing that these goals can be met only if the state succeeds in decarbonizing its fuel supply | **Consistent**. As described above the project includes methods of reducing GHG emissions to help meet this goal. |
| Policy HS-2.4 Climate Change Impacts to Flood Control Facilities | The County shall coordinate with local, regional, State, and Federal agencies to define existing and potential flood problem areas associated with expected impacts from climate change and develop and implement strategies to improve and maintain flood control facilities accordingly | **Consistent.** The project is not within a flood plain. Methods to control peak stormwater runoff are described in the Hydrology and Water Quality Section. |
| Policy HS-5.9 GHG Reduction Monitoring | The County shall monitor its greenhouse gas emissions and encourage appropriate adjustments to its programs and standards to further efforts to make progress towards achieving the state's GHG reduction targets. | **Not Applicable**. The project does not interfere with the County's implementation of this policy. |
| Policy HS-5.11: Prepare and Implement a GHG Reduction Strategy | To reduce GHG emissions, the County shall prepare and adopt a greenhouse gas reduction strategy that meets the following CEQA Guidelines §15183.5 standards: (cited earlier) | **Not Applicable**. The project does not interfere with the County's implementation of this policy. |

The proposed project would be required to comply with state and federal regulations related to the control of GHG emissions including specifically AB 32 and subsequent Scoping Plans and Title V of the Clean Air Act. Table 4.4-8 describes the project's consistency with the 2017 Scoping Plan.

**Table 4.4-8**
**Project Consistency with Policies from the 2017 Scoping Plan**

| Policy | Primary Objective | Project Consistency Analysis |
|---|---|---|
| SB 350 (superseded by SB 100) | Reduce GHG emissions in the electricity sector by implementing the 50 percent RPS, doubling energy savings, and taking other actions as appropriate to achieve the planning targets regarding GHG emissions reductions in the Integrated Resource Plan process. | **Not Applicable.** This is a state program that requires no action at the local or project level. This program benefits project-related electricity and water consumption. |
| Low-Carbon Fuel Standard | Transition to cleaner/less-polluting fuels that have a lower carbon footprint. | **Potentially Inconsistent.** This is a state program that requires no action at the local or project level. Benefits project-related vehicle travel. The project would also be a source of RNG, which is a lower carbon footprint fuel than natural gas. The project does not propose electric vehicle chargers, which would encourage use of electric vehicles. With Mitigation Measure 4.4-2, the project would install electric vehicle chargers, making it fully consistent with this goal. |
| Mobile-Source Strategy (Cleaner Technologies and Fuels Scenario) | Reduce GHGs and other pollutants from the transportation sector through a transition to zero- and low-emission vehicles, cleaner transit systems, and reductions in VMT. | **Potentially Inconsistent.** This is a state program that requires no action at the local or project level. The project supports this goal through the production of RNG and, with implementation of Mitigation Measure 4.4-2, encouragement of electric vehicles. |
| SB 1383 | Approve and implement an SLCP strategy to reduce highly potent GHGs. | **Consistent.** This is a state program that requires no action at the local or project level. The project would support SB 1383 by maintaining the existing recycling facilities and reducing GHG from landfill gas through an RNG facility. |
| California Sustainable Freight Action Plan | Improve freight efficiency, transition to zero-emission technologies, and increase the competitiveness of California's freight system. | **Not Applicable.** This is a state program that requires no action at the local or project level. This program aims to improve freight efficiency by 25 percent, deploy more than 100,000 zero-emission freight vehicles, and increase the competitiveness of California's freight system. The project would not involve freight vehicles. |
| Post-2020 Cap-and-Trade Program | Reduce GHGs across the largest GHG emission sources. | **Not Applicable.** This a state program that requires no action at the local or project level. This program is not directly applicable to the project because the project is not a gross emitter of non-mobile-source GHG emissions that falls under the Cap-and-Trade Program. |

Source: California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed: November 3, 2021.

The proposed project could conflict with the state goal to reduce transportation emissions. Therefore, the project has the potential to conflict with applicable plans, policies or regulations adopted to reduce GHG emissions. Therefore, this impact would be considered **potentially significant**.

#### Mitigation Measure 4.4-2: Conflict with Applicable Plan, Policy, or Regulation Adopted to Reduce GHG emissions.

To ensure compliance with state [and County] goals to reduce GHG emissions, the project shall implement the following:

- Install five electric vehicle charging stations during construction of the entrance area expansion.
- Incorporate signage encouraging recycling at the landfill and have educational materials about the benefits of recycling available in the landfill buildings open to the public.

Adding vehicle charging stations, when used by commuting employees would reduce GHG emissions by approximately 21 $MTCO_2e$/year based on the assumptions described under the Post-Mitigation GHG Emissions Summary below.

### Level of Significance After Mitigation

With implementation of the identified mitigation measures, employee vehicles would transition to cleaner/less-polluting fuels that have a lower carbon footprint and the project's mobile-source transportation GHG emissions would be reduced. The implementation of these measures would ensure that the proposed project would not conflict with applicable plans, policies or regulations and this impact would be reduced to a **less-than-significant** level.

### Post-Mitigation GHG Emissions Summary

Listed below are the GHG emission reductions from implementation of the identified mitigation measures. Table U1 in Appendix C summarizes the modeled reductions in GHG emissions provided by the mitigations. Table 4.4-9 below summarizes the reductions described in Table U1. For vehicular emissions, the model summarized in Table 4.4-9 assumes that by 2045, 60% of all vehicles will be renewable fueled (battery or renewable fuel) zero emission. After that, 40% are still assumed to be non-renewable fueled. Reduction in GHG emissions by early change to renewable fuel are anticipated to continue until 2045 and after that a 40% emission reduction from modeled unmitigated vehicle GHG emissions is assumed.

**Mitigation Measure 4.4-1c – Early Adoption of Improved LFG Collection**. Early adoption (before the planned 2032 implementation) of flexible membrane liners would reduce the pre-2035 GHG emissions below those for currently shown before 2035 in the "Total Emissions over Baseline, Including LFG" column in Table 4.4-6. Table 4.4-9 summarizes the reduction in GHG emissions by implementing the Mitigation Measure 4.4-1c in 2024. The project already includes a phase-in of aggressive LFG collection efficiency starting in 2028 and gradually increasing until 2035. The mitigation would additionally reduce GHG emissions between 2024 and 2034.

**Mitigation Measure 4.4-1d(1) – Provide Carbon-Free Electricity or Solar Panels**. Replacement of the proposed project electricity with carbon-free electricity or solar panels would reduce GHG emissions by approximate 1 $MTCO_2e$ per year.

**Mitigation Measure 4.4-1d(2) – Convert Landfill Vehicles to Electric or Renewable Fuel**. Electric versions of small and medium sized cars and compact sport utility vehicles (SUVs) (collectively, EVs) are well established. Electric versions of light (less than 8,000 lb. gross vehicle weight [GVW]) and medium (6,001-10,000 lb. GVW; similar to Ford F150 or F250, or Chevy Silverado 1,500 or 2500) pickup trucks and full-sized sport utility vehicles (SUVs) are not currently readily available but are anticipated to be within the next few years. According to the landfill operator, the following vehicles could be replaced by electric versions as they become available within the next few years. Table 4.4-9 assumes that they could be replaced in 2024.

- On-Road, Two ½ ton pickup truck (3,600 miles per year each, 10 miles per day, 360 operating days per year = 7,200 miles).
- Off-Road, Two 18-hp ATVs (two hours per day, each or 387 hours per year, total).

According to Lie, et. al. (2021), GHG emissions reduction from replacing pickup trucks and vans (with a GVW of 6,001 to 10,000 lb.) containing internal combustion engines with electric vehicles is 478 grams $CO_2e$ per mile ($4.78 \times 10^{-4}$ $MTCO_2e$/mile). Assuming 7,200 miles per year total, replacement of two internal combustion engine trucks with EV trucks would reduce annual GHG emissions by approximately 3.4 $MTCO_2e$ per year. Based on two 18 hp engines, conversion of the two ATVs to EV would reduce GHG emissions by 1.4 $MTCO_2e$/year. The total emissions reduction would be approximately 5 $MTCO_2e$/year until 2045. Beginning in 2045, the model assumes that 60% of vehicles would be carbon free, leaving a 40 percent reduction in vehicle emissions due to the mitigation measure after 2045 (approximately 2 $MTCO_2e$/year).

On-road heavy trucks, such as water trucks, are not currently readily available in alternative-powered fuel forms but are estimated to be available within the next 10 years (by 2032). Based on the assumptions in Appendix C, Attachment G, replacing the following vehicles would reduce GHG emissions by 23 $MTCO_2e$/year until 2045 after which a 40% emission reduction from modeled unmitigated vehicle emissions is assumed (approximately 9 $MTCO_2e$/year).

- Fuel Truck
- Mechanic's Truck
- Water Truck

Conversion of heavier equipment, such as graders and dozers over time is already assumed in the modeled emissions. Replacement before 2045 would provide additional GHG reductions but cannot be predicted.

**Mitigation Measure 4.4-1e(1) – Four Electric Charging Stations at County Facilities.** Emissions reductions from EV charging stations are proportional to the miles traveled per charging station (ICF 2018a,b) and assume that providing charging stations will promote conversion from internal combustion engines to EVs, thereby reducing fossil fuel emissions. In their 2013 Climate Action Plan, the City of Santa Clara assumed community emissions GHG reduction factors of 0.000431 $MTCO_2e$/VMT (vehicle miles traveled) for gasoline vehicles and 0.001344 $MTCO_2e$/VMT for diesel vehicles for EV charging stations. For public charging stations (Santa Clara 2013, Section 6.3), they assumed 727 VMT per EV parking space per month (8,724 VMT per year) for a commercial or industrial development that would result in a GHG reduction of 3.8 $MTCO_2e$ per charging station assuming gasoline vehicles. The City of Los Altos assumed 4,704 VMT per year for a public parking lot. (ICF 2018b, Table A-2). For the purposes of estimating reductions, 3.8 $MTCO_2e$ per public EV charging station (rounded) is assumed. Assuming four charging stations, the reduction would be 14 $MTCO_2e$ per year until 2045 after which the GHG model for the unmitigated scenario assumes 60% renewable energy vehicles, leaving 40% of GHG reductions (6 $MTCO_2e$/yr, rounded).

**Mitigation Measure 4.4-1e(2) – Replace Two County Fleet Vehicles.** According to Lie, et. al. (2021), GHG emissions reduction from replacing internal combustion engine vehicles with electric vehicles is 478 grams $CO_2e$ per mile ($4.78 \times 10^{-4}$ $MTCO_2e$/mile) for pickup trucks and vans with a GVW of 6,001 to 10,000lb (similar to Ford F150 or F250, or Chevy Silverado 1,500 or 2000). Assuming that an average vehicle travels 8,650 miles per year over the life of the vehicle (San Benito County, 2022), replacing an internal combustion engine vehicle with an EV would provide a GHG reduction of 4.1 $MTCO_2e$ per year per vehicle. The difference in GHG emissions between model years is relatively small by comparison. Replacing vehicles with higher annual mileage is more beneficial from a GHG standpoint. According to the National Traffic Safety Administration, the average vehicle life is 15 years. For the purpose of projecting GHG emissions reductions in Table 4.4-9, it is assumed that the County would replace the EV vehicles with other EV vehicles at the end of their useful life and the GHG reductions would occur until 2045 at which time 60% the reductions would be offset by currently modeled emissions reductions, leaving 40%. Two vehicles would provide approximately 8 $MTCO_2e$ (rounded) of reductions per year until 2045 and then approximately 3 $MTCO_2e$ (rounded) of reductions per year until landfill closure.

**Mitigation Measure 4.4-2 – Five Electric Charging Stations at Landfill**. Assuming (1) an emissions factor of 0.0006 $MTCO_2e$/VMT for an employee commute (ICF 2018b, Table A-3), (2) 8.35 miles to the center of Hollister one way as a trip length and two round trips (33 miles) per day per charging station, and (3) 360 operating days per year, for five charging stations, the estimated generation of 59,400 VMT would provide 36 $MTCO_2e$ of GHG reductions staring in 2025 (the first full year after anticipated entrance construction) until 2045 and 14 $MTCO_2e$/yr thereafter.

**Sum of Mitigation Measure Reductions**

As shown on Table 4.4-9, the mitigation measures would provide an average reduction of 244 $MTCO_2e$/yr based on the assumptions described above. The peak emissions in 2068 would reduce from the currently modeled 11,575 $MTCO_2e$ to11,541 $MTCO_2e$; a reduction of 35 $MTCO_2e$.

**Table 4.4-9**
**Modeled GHG Emissions with Mitigations**

| Year | Total Change from Baseline without Mitigations $MTCO_2e$/yr | Early Adoption of Covers $MTCO_2e$/yr | Convert Light Duty Landfill Vehicles to EV $MTCO_2e$/yr | Convert Light Duty Landfill Vehicles to EV $MTCO_2e$/yr | Add 5 EV Charging Stations at Landfill $MTCO_2e$/yr | Convert to Renewable Electricity $MTCO_2e$/yr | Convert Two County Vehicles to EV $MTCO_2e$/yr | Four Charging Stations at County Facilities $MTCO_2e$ | Total with Mitigations, $MTCO_2$/yr |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| Average | 7,964 | -1,381 | -4 | -13 | -22 | -1 | -5 | -9 | 7,720 |
| | | | | | | | | Change in Average | -244 |
| 2021 | -47 | | | | | | | | |
| 2022 | 1,668 | 0 | | | | | | | 1,668 |
| 2023 | 3,154 | 0 | -5 | | | -1 | -8 | -14 | 3,126 |
| 2024 | 4,465 | -1,157 | -5 | | | -1 | -8 | -14 | 3,280 |
| 2025 | 6,061 | -1,438 | -5 | | -36 | -1 | -8 | -14 | 4,559 |
| 2026 | 7,705 | -1,766 | -5 | | -36 | -1 | -8 | -14 | 5,875 |
| 2027 | 9,178 | -2,361 | -5 | | -36 | -1 | -8 | -14 | 6,753 |
| 2028 | 6,573 | -1,604 | -5 | | -36 | -1 | -8 | -14 | 4,905 |
| 2029 | 7,288 | -2,231 | -5 | | -36 | -1 | -8 | -14 | 4,993 |
| 2030 | 8,138 | -2,780 | -5 | | -36 | -1 | -8 | -14 | 5,294 |
| 2031 | 9,237 | -3,151 | -5 | | -36 | -1 | -8 | -14 | 6,022 |
| 2032 | 7,425 | -1,094 | -5 | -23 | -36 | -1 | -8 | -14 | 6,244 |
| 2033 | 8,216 | -1,272 | -5 | -23 | -36 | -1 | -8 | -14 | 6,857 |
| 2034 | 8,821 | -1,866 | -5 | -23 | -36 | -1 | -8 | -14 | 6,868 |
| 2035 | 6,039 | 0 | -5 | -23 | -36 | -1 | -8 | -14 | 5,952 |
| 2036 | 6,410 | 0 | -5 | -23 | -36 | -1 | -8 | -14 | 6,323 |
| 2037 | 6,183 | | -5 | -23 | -36 | -1 | -8 | -14 | 6,096 |
| 2038 | 7,112 | | -5 | -23 | -36 | -1 | -8 | -14 | 7,025 |
| 2039 | 7,425 | | -5 | -23 | -36 | -1 | -8 | -14 | 7,338 |
| 2040 | 7,919 | | -5 | -23 | -36 | -1 | -8 | -14 | 7,832 |
| 2041 | 7,942 | | -5 | -23 | -36 | -1 | -8 | -14 | 7,855 |
| 2042 | 8,075 | | -5 | -23 | -36 | -1 | -8 | -14 | 7,988 |
| 2043 | 8,433 | | -5 | -23 | -36 | -1 | -8 | -14 | 8,346 |
| 2044 | 8,552 | | -5 | -23 | -36 | -1 | -8 | -14 | 8,465 |

| Table 4.4-9<br>Modeled GHG Emissions with Mitigations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Total Change from Baseline without Mitigations $MTCO_2e/yr$ | Early Adoption of Covers $MTCO_2e/yr$ | Convert Light Duty Landfill Vehicles to EV $MTCO_2e/yr$ | Convert Light Duty Landfill Vehicles to EV $MTCO_2e/yr$ | Add 5 EV Charging Stations at Landfill $MTCO_2e/yr$ | Convert to Renewable Electricity $MTCO_2e/yr$ | Convert Two County Vehicles to EV $MTCO_2e/yr$ | Four Charging Stations at County Facilities $MTCO_2e$ | Total with Mitigations, $MTCO_2/yr$ |
| 2045 | 8,898 | | -5 | -23 | -36 | -1 | -8 | -14 | 8,811 |
| 2046 | 6,269 | | -2 | -9 | -14 | 0 | -3 | -6 | 6,235 |
| 2047 | 6,547 | | -2 | -9 | -14 | | -3 | -6 | 6,512 |
| 2048 | 7,166 | | -2 | -9 | -14 | | -3 | -6 | 7,131 |
| 2049 | 7,200 | | -2 | -9 | -14 | | -3 | -6 | 7,165 |
| 2050 | 7,345 | | -2 | -9 | -14 | | -3 | -6 | 7,310 |
| 2051 | 7,716 | | -2 | -9 | -14 | | -3 | -6 | 7,682 |
| 2052 | 7,851 | | -2 | -9 | -14 | | -3 | -6 | 7,816 |
| 2053 | 8,191 | | -2 | -9 | -14 | | -3 | -6 | 8,157 |
| 2054 | 8,316 | | -2 | -9 | -14 | | -3 | -6 | 8,281 |
| 2055 | 8,668 | | -2 | -9 | -14 | | -3 | -6 | 8,633 |
| 2056 | 8,783 | | -2 | -9 | -14 | | -3 | -6 | 8,749 |
| 2057 | 9,125 | | -2 | -9 | -14 | | -3 | -6 | 9,091 |
| 2058 | 9,579 | | -2 | -9 | -14 | | -3 | -6 | 9,544 |
| 2059 | 9,566 | | -2 | -9 | -14 | | -3 | -6 | 9,531 |
| 2060 | 9,663 | | -2 | -9 | -14 | | -3 | -6 | 9,628 |
| 2061 | 9,989 | | -2 | -9 | -14 | | -3 | -6 | 9,955 |
| 2062 | 10,078 | | -2 | -9 | -14 | | -3 | -6 | 10,044 |
| 2063 | 10,396 | | -2 | -9 | -14 | | -3 | -6 | 10,361 |
| 2064 | 10,477 | | -2 | -9 | -14 | | -3 | -6 | 10,442 |
| 2065 | 10,786 | | -2 | -9 | -14 | | -3 | -6 | 10,752 |
| 2066 | 10,859 | | -2 | -9 | -14 | | -3 | -6 | 10,825 |
| 2067 | 11,162 | | -2 | -9 | -14 | | -3 | -6 | 11,127 |
| 2068 | **11,575** | | -2 | -9 | -14 | | -3 | -6 | **11,541** |
| 2069 | 11,522 | | -2 | -9 | -14 | | -3 | -6 | 11,488 |
| 2070 | 10,882 | | -2 | -9 | -14 | | -3 | -6 | 10,847 |
| 2071 | 9,668 | | -2 | -9 | -14 | | -3 | -6 | 9,633 |
| 2072 | 9,288 | | -2 | -9 | -14 | | -3 | -6 | 9,253 |
| 2073 | 9,145 | | -2 | -9 | -14 | | -3 | -6 | 9,111 |
| 2074 | 8,776 | | -2 | -9 | -14 | | -3 | -6 | 8,742 |
| 2075 | 8,645 | | -2 | -9 | -14 | | -3 | -6 | 8,610 |
| 2076 | 8,286 | | -2 | -9 | -14 | | -3 | -6 | 8,251 |
| 2077 | 8,164 | | -2 | -9 | -14 | | -3 | -6 | 8,130 |
| 2078 | 8,163 | | -2 | -9 | -14 | | -3 | -6 | 8,128 |
| 2079 | 7,704 | | -2 | -9 | -14 | | -3 | -6 | 7,669 |
| 2080 | 7,364 | | -2 | -9 | -14 | | -3 | -6 | 7,330 |

| Table 4.4-9 Modeled GHG Emissions with Mitigations | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Total Change from Baseline without Mitigations $MTCO_2e/yr$ | Early Adoption of Covers $MTCO_2e/yr$ | Convert Light Duty Landfill Vehicles to EV $MTCO_2e/yr$ | Convert Light Duty Landfill Vehicles to EV $MTCO_2e/yr$ | Add 5 EV Charging Stations at Landfill $MTCO_2e/yr$ | Convert to Renewable Electricity $MTCO_2e/yr$ | Convert Two County Vehicles to EV $MTCO_2e/yr$ | Four Charging Stations at County Facilities $MTCO_2e$ | Total with Mitigations, $MTCO_2/yr$ |
| 2081 | 7,261 | | -2 | -9 | -14 | | -3 | -6 | 7,227 |
| 2082 | 6,931 | | -2 | -9 | -14 | | -3 | -6 | 6,896 |
| 2083 | 6,721 | | -2 | -9 | -14 | | -3 | -6 | 6,686 |
| 2084 | 6,516 | | -2 | -9 | -14 | | -3 | -6 | 6,482 |
| 2085 | 6,315 | | -2 | -9 | -14 | | -3 | -6 | 6,280 |
| 2086 | 6,118 | | -2 | -9 | -14 | | -3 | -6 | 6,083 |
| 2087 | 5,527 | | | | | | | | 5,527 |
| 2088 | 4,355 | | | | | | | | 4,355 |
| 2089 | 4,110 | | | | | | | | 4,110 |
| 2090 | 3,871 | | | | | | | | 3,871 |
| 2091 | 3,636 | | | | | | | | 3,636 |
| 2092 | 3,406 | | | | | | | | 3,406 |
| 2093 | 3,180 | | | | | | | | 3,180 |

## CUMULATIVE IMPACTS

The analysis of a project's impact on climate change is inherently cumulative. Accordingly, under the conservative net zero threshold used for the analysis, even though the project would be consistent with relevant plans adopted to reduce GHG emissions, the project would make a cumulatively considerable contribution to global climate change.

Given that the need for landfill space would not decrease without the project, if the project did not occur, trash from County residents would be disposed at JSRL for approximately the next 15 years and the GHG emissions at JSRL would be less than with the project. The GHG emissions from out-of-County waste without the project are speculative as both the waste origin and destination are not yet determined.

Once JSRL reaches capacity, the County waste will have to travel farther (resulting in more vehicle emissions) to be disposed. These trips for County waste could be consolidated with construction of a transfer station, which would generate approximately 10 transfer trailers per day going to an out-of-County landfill. The next nearest landfills with capacity to accept County trash are approximately 35 (Marina landfill) to 50 (Johnson Canyon landfill) miles away from the John Smith Road Landfill. Accordingly, for County waste, even though the project would increase GHG emissions from the project site, allowing the landfill to close in approximately 15 years would increase GHG emissions from transportation of wastes from County residents and have increased GHG emissions.

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# 4.5 NOISE

## 4.5.1 EXISTING SETTING

This section includes a description of ambient noise conditions, a summary of the applicable noise regulations, and an analysis of potential noise impacts of the proposed project. This section is primarily based on *John Smith Road Landfill Expansion Project Noise and Vibration Study* (Rincon Consultants 2021), with additional information and adjustments based on additional noise measurements from March 2022 (Rincon Consultants 2022) and traffic count information from March 2022 (PHA 2022).

### ACOUSTIC FUNDAMENTALS

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound is mechanical energy transmitted in the form of a wave because of a disturbance or vibration, and as any pressure variation in air that the human ear can detect.

#### Sound and the Human Ear

Because of the ability of the human ear to detect a wide range of sound-pressure fluctuations, sound-pressure levels are expressed in logarithmic units called decibels (dB). The sound-pressure level in decibels is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is the absolute hearing threshold (Caltrans 2013). Use of this logarithmic scale reveals that the total sound from two individual 65 dB sources is 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB).

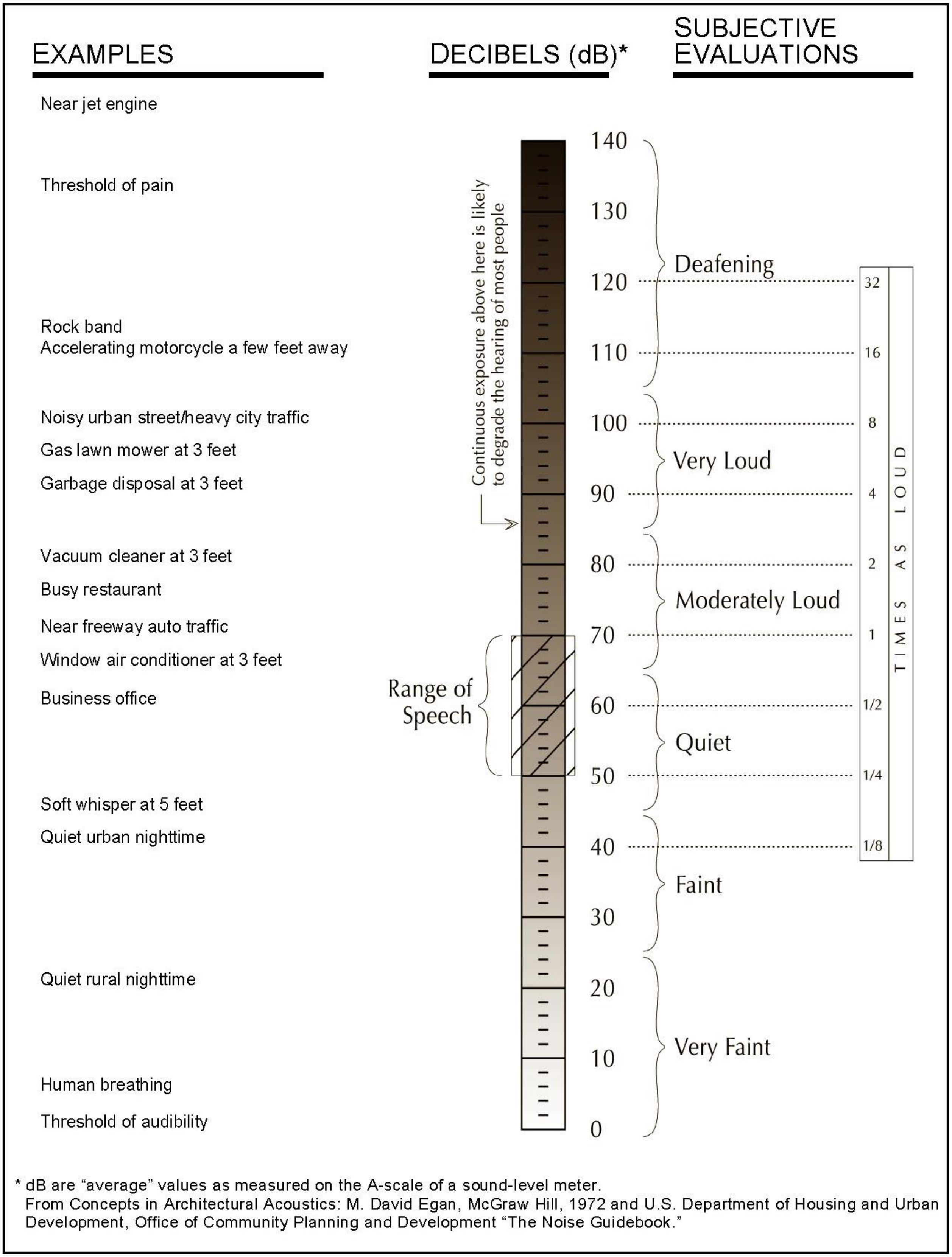
Because the human ear is not equally sensitive to all sound frequencies, a specific frequency-dependent rating scale was devised to relate noise to human sensitivity. An A-weighted dB (dBA) scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The basis for compensation is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dBA scale has been chosen by most authorities for the purpose of regulating environmental noise. Typical indoor and outdoor noise levels are presented in Figure 4.5-1.

With respect to how humans perceive and react to changes in noise levels, a 1 dBA increase is imperceptible, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10 dBA increase is subjectively perceived as approximately twice as loud (Egan 1988). This is presented in Table 4.5-1 and was developed on the basis of test subjects’ reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. For these reasons, a permanent noise level increase of 3 dBA or more is typically considered significant and/or substantial in terms of the degradation of the existing noise environment.

**Table 4.5-1**
**Subjective Reaction to Changes in Noise Levels of Similar Sources**

| Change in Level, dBA | Subjective Reaction | Factor Change in Acoustical Energy |
|---|---|---|
| 1 | Imperceptible (Except for Tones) | 1.3 |
| 3 | Just Barely Perceptible | 2.0 |
| 6 | Clearly Noticeable | 4.0 |
| 10 | About Twice (or Half) as Loud | 10.0 |

Source: Egan 1988




Source: EDAW, Elk Grove Transfer Station Project DEIR, July 2009

**Typical Noise Levels** **Figure 4.5-1**

## Sound Propagation

As sound (noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, is dependent on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse-square law describes the attenuation caused by the pattern in which sound travels from the source to receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance. However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBA per doubling of distance. The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels. Furthermore, the presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation is dependent upon the size of the barrier and the frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans 2013).

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dBA with its windows closed, whereas a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dBA with its windows closed (Paul S. Veneklasen & Associates 1973, cited in Caltrans 2002).

## Noise Descriptors

The selection of a proper noise descriptor for a specific source is dependent upon the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below (Caltrans 2013, FHWA 1978).

- **$L_{max}$** (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time. The **$L_{max}$** may also be referred to as the "peak (noise) level."

- **$L_{eq}$** (Equivalent Noise Level): The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the $L_{eq}$. In noise environments determined by major noise events, such as aircraft overflights, the $L_{eq}$ value is heavily influenced by the magnitude and number of single events that produce the high work levels.

- **$L_{dn}$** (Day-Night Noise Level): The 24-hour $L_{eq}$ with a 10 dBA "penalty" for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The $L_{dn}$ attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

- **CNEL** (Community Noise Equivalent Level): The CNEL is similar to the $L_{dn}$ described above, but with an additional 5 dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7:00 p.m. to 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. If using the same 24-hour noise data, the reported CNEL is typically approximately 0.5 dBA higher than the $L_{dn}$.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level, $L_{eq}$, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The $L_{eq}$ is the foundation of the composite noise descriptors such as $L_{dn}$ and CNEL, as defined above, and shows very good correlation with community response to noise.

### Negative Effects of Noise on Humans

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 2013).

### Vibration

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS), as in RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (FTA 2018, Caltrans 2020).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 4.5-2 describes the general human response to different levels of groundborne vibration-velocity levels.

**Table 4.5-2**
**Human Response to Different Levels of Groundborne Noise and Vibration**

| Vibration-Velocity Level | Human Reaction |
|---|---|
| 65 VdB | Approximate threshold of perception. |
| 75 VdB | Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable. |
| 85 VdB | Vibration acceptable only if there are an infrequent number of events per day. |

Note: VdB = vibration decibels referenced to 1 μ inch/second and based on the root mean square (RMS) velocity amplitude.
Source: FTA 2018

### EXISTING NOISE ENVIRONMENT

The proposed project site is in a hilly rural area east of the Hollister Valley and west of the rural Santa Ana Valley in unincorporated San Benito County. Access to the site is provided from John Smith Road, which provides access to State Routes 25 and 156 to the west via Fairview Road and to Santa Ana Valley Road to the east. Sources of ambient noise in the proposed project vicinity are primarily associated with operations at the JSRL and vehicle traffic on local roadways. The nearest sensitive receptor to the landfill operations is located approximately 150 feet from the western site boundary for the expansion project and the next nearest residence is located approximately 2,000 feet from the project boundary. The haul routes used by most in-County vehicles and all out-of-County vehicles accessing the proposed project site include John Smith Road west of the proposed project site, Fairview Road north of John Smith Road, Shore Road extending from Fairview Road to State Route 25, and McCloskey Road between Fairview Road and State Route 25. The land uses along these roadways include a mix of primarily agricultural, rural residential and residential subdivision uses. Along the western segment of John Smith Road, one residence is located approximately 75 feet from the roadway centerline but all other residences are located more than 300 feet from the roadway centerline. Multiple subdivisions are located along Fairview Road north of John Smith Road with residences located as close as approximately 65 feet from the roadway centerline. Several of the existing subdivisions along this roadway segment include existing sound walls. The northern segment of Fairview Road, Shore Road and McCloskey Road include lower density rural residential land uses, commercial uses, and agricultural fields.

To characterize ambient noise levels at and near the proposed project site and along the proposed truck haul route, ten 15-minute noise level measurements were conducted on July 21, 2021, and three 15-minute noise level observation were conducted on March 30, 2022. Noise measurements were conducted at the existing landfill entrance and tipping face to capture existing noise levels associated with landfill operations, and along John Smith Road, Fairview Road, Best Road, and McCloskey Road to capture existing traffic noise associated with each roadway. Table 4.5-3 summarizes the results of the noise measurements. Figure 4.5-2 identifies the noise measurement locations. Based on observations from the short-term measurements, the main source of noise in the proposed project vicinity is traffic noise and operations at the landfill. Additional noise sources included farm tractors, birds, and airplanes.

## 4.5.2 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. The San Benito County 2035 General Plan Health and Safety Element provides standards regarding noise levels for uses relevant to the proposed project (San Benito County 2015b). In addition, noise thresholds can be derived from the CEQA guidelines. The following provides a general overview of the existing regulations which would be pertinent to this proposed project.

### STATE REGULATIONS

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, set standards for occupational noise control, and identify noise insulation standards. The State has also developed land use compatibility guidelines for community noise environments that in many cases have been adopted by local jurisdictions, as described below.

### LOCAL REGULATIONS

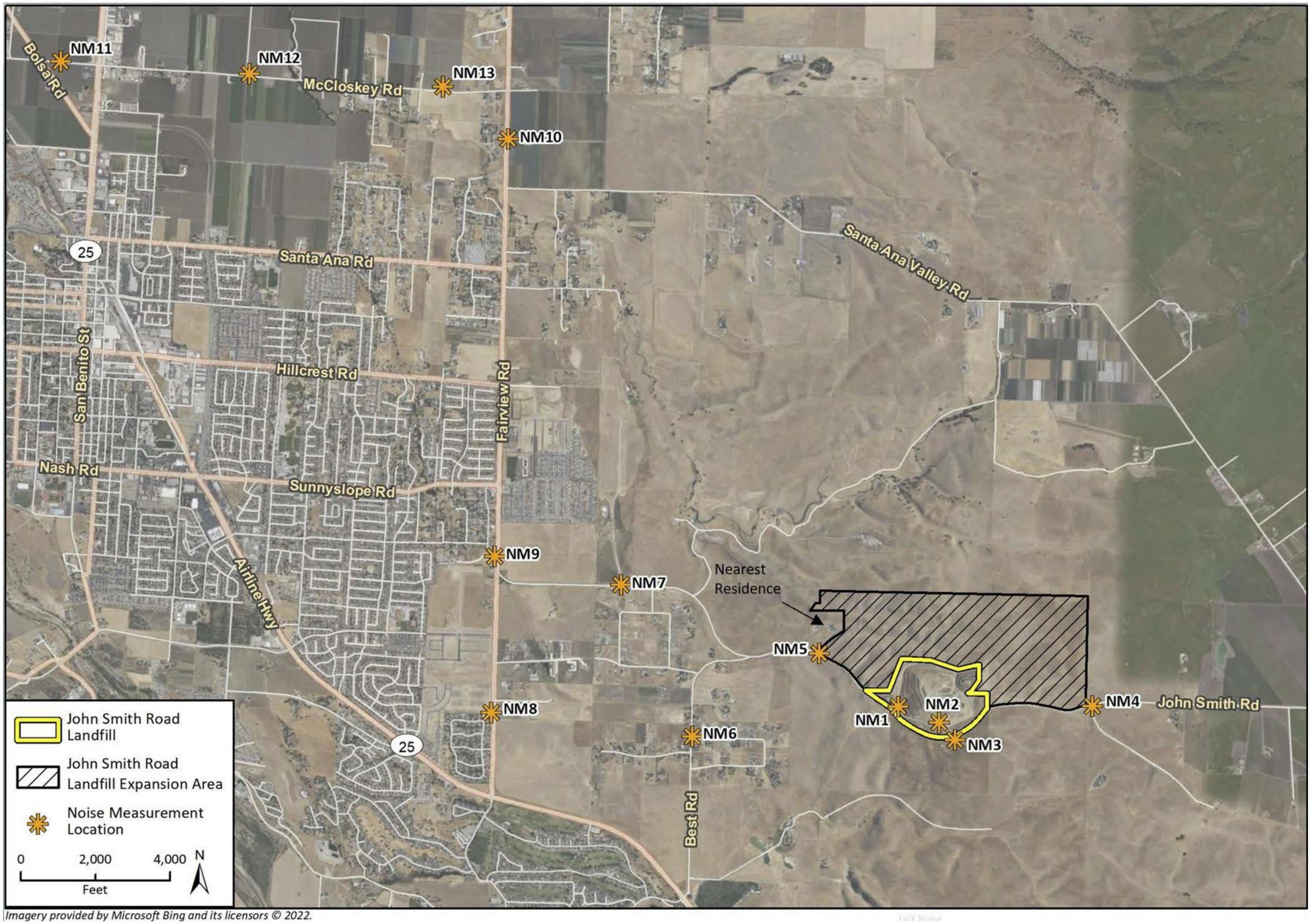
The land use compatibility guidelines for community noise environment provided in the San Benito County 2035 General Plan provides guidance for the acceptability of projects within specific CNEL/$L_{dn}$ contours.

**Table 4.5-3**
**Proposed Project Site Vicinity Sound Level Monitoring Results**

| Measurement Location | Time Period | Noise Levels (dBA) | Observations |
|---|---|---|---|
| NM 1: At the landfill entrance, approximately 50 feet to landfill access road centerline | Wednesday July 21, 2021<br>7:46 – 8:01 a.m. | 15-minute Leq: 59<br>Lmax: 78 | Main noise source was passing vehicles on John Smith Road |
| NM 2: South of Phase 1 (existing), approximately 150 feet to landfill working face | Wednesday July 21, 2021<br>8:16 – 8:31 a.m. | 15-minute Leq: 43<br>Lmax: 58 | Main noise source was operations at the landfill |
| NM 3: South of John Smith Road, approximately 100 feet to centerline of John Smith Road | Wednesday July 21, 2021<br>8:58 – 9:13 a.m. | 15-minute Leq: 60<br>Lmax: 80 | Main noise source was passing vehicles on John Smith Road |
| NM 4: South of the eastern expansion boundary, approximately 20 feet to centerline of John Smith Road | Wednesday July 21, 2021<br>9:23 – 9:38 a.m. | 15-minute Leq: 54<br>Lmax: 79 | Traffic counts on John Smith Road: 2 autos. Percentage: 100% autos |
| NM 5: North of John Smith Road-Lima property, approximately 100 feet to centerline of John Smith Road | Wednesday July 21, 2021<br>9:56 – 10:11 a.m. | 15-minute Leq: 56<br>Lmax: 75 | Traffic Counts on John Smith Road: 11 autos, 2 medium trucks, 2 heavy trucks. Percentage: 85% autos, 7.5% medium trucks, 7.5% heavy trucks |
| NM 6: East of Best Road and north of Foxhill Circle, approximately 300 feet from agricultural operations | Wednesday July 21, 2021<br>10:29 – 10:44 a.m. | 15-minute Leq: 48<br>Lmax: 70 | Traffic Counts on Best Road: 4 autos. Percentage: 100% autos |
| NM 7: North of John Smith Road and west of Heatherwood Drive, approximately 50 feet to centerline of John Smith Road | Wednesday July 21, 2021<br>10:56 – 11:11 a.m. | 15-minute Leq: 70<br>Lmax: 88 | Traffic Counts on John Smit Road: 21 autos, 7 medium trucks, 7 heavy trucks. Percentage: 60% autos, 20% medium trucks, 20% heavy trucks |
| NM 8: West of Fairview Road and south of Old Ranch Road, approximately 150 feet to centerline of Fairview Drive | Wednesday July 21, 2021<br>11:30 – 11:45 a.m. | 15-minute Leq: 66<br>Lmax: 81 | Main noise source was passing vehicles on Fairview Road |
| NM 9: West of Fairview Road and south of St. Benedict Way, approximately 150 feet to centerline of Fairview Drive | Wednesday July 21, 2021<br>11:57 – 12:12 p.m. | 15-minute Leq: 63<br>Lmax: 79 | Traffic Counts on Fairview Road: 141 autos, 2 medium trucks, 5 heavy trucks. Percentage: 92.2% autos, 1.3% medium trucks, 6.5% heavy trucks |
| NM 10: West of Fairview Road and south of McCloskey Road, approximately 150 feet to centerline of Fairview Drive | Wednesday March 30, 2022<br>12:27 – 12:42 p.m. | 15-minute Leq: 66<br>Lmax: 89 | Main noise source was passing vehicles on Fairview Road |
| NM 11: McCloskey Road, approximately 500 feet east of SR 25, approximately 25 feet to centerline of McCloskey Road | Wednesday March 30, 2022<br>9:38 – 9:53 a.m. | 15-minute Leq: 64<br>Lmax: 79 | Main noise source was passing vehicles on McCloskey. Tractor was operating between 100-500 feet during measurement |
| NM 12: McCloskey Road, near 743 McCloskey Road, approximately 25 feet to centerline of McCloskey Road | Wednesday March 30, 2022<br>10:01 – 10:16 a.m. | 15-minute Leq: 69<br>Lmax: 90 | Main noise source was passing vehicles on McCloskey. Tractor came within 20 feet in first few minutes of measurement |
| NM 13: McCloskey Road, 2,200 feet west of Fairview Road, approximately 25 feet to centerline of McCloskey Road | Wednesday March 30, 2022<br>10:28 – 10:43 a.m. | 15-minute Leq: 67<br>Lmax: 85 | Main noise source was passing vehicles on McCloskey. Additional Noise was birds and distant plane |

Detailed sound level data are included in the noise study (Rincon Consultants 2021) and noise measurement locations are shown in Figure 4.5-2.

Source: Rincon Consultants, Inc. 2021 and 2022.




**Noise Measurement Locations Figure** **4.5-2**

Table 4.5-4 identifies noise level performance standards for noise-sensitive uses exposed to non-transportation noise sources. Table 4.5-5 presents acceptable and unacceptable community noise exposure limits for various land use categories. Generally, residential uses are clearly acceptable in areas where exterior noise levels do not exceed 60 dB CNEL/$L_{dn}$. Residential uses are normally acceptable within 60 to 65 dB $L_{dn}$ and are normally unacceptable in areas exceeding 65 dB $L_{dn}$. Schools and other sensitive uses are normally acceptable in areas up to 65 dB $L_{dn}$ and normally unacceptable in areas exceeding 65 dB $L_{dn}$. Industrial uses are normally acceptable in areas up to 80 dB $L_{dn}$.

**Table 4.5-4**
**Non-Transportation Noise Level Performance Standards for Noise-Sensitive Uses**

| Noise Level Descriptors | Daytime (7:00 a.m. – 10:00 p.m.) | Nighttime (10:00 p.m. – 7:00 a.m.) |
|---|---|---|
| Hourly $L_{eq}$ dB | 55 | 45 |
| Maximum Level, dB | 70 | 65 |

Notes: These standards apply to new or existing residential areas affected by new or existing non-transportation sources.
Source: San Benito County 2035 General Plan Health and Safety Element Table 9-1 (San Benito County 2015b).

**Table 4.5-5**
**Land Use Compatibility Guidelines for Community Noise Environments**

| Land Use Category | Community Noise Exposure (dB, $L_{dn}$ or CNEL) | | | |
|---|---|---|---|---|
| | Clearly Acceptable[1] | Normally Acceptable[2] | Normally Unacceptable[3] | Clearly Unacceptable[4] |
| Residential – Low Density Single Family, Duplex, Mobile Home | <60 | 60-65 | 65-75 | 75+ |
| Residential – Multiple Family | <60 | 60-65 | 65-75 | 75+ |
| Transient Lodging – Motel, Hotel | <65 | 65-70 | 70-80 | 80+ |
| School, Library, Church, Hospital, Nursing Home | <60 | 60-65 | 65-75 | 75+ |
| Auditorium, Concert Hall, Amphitheater | | <60 | 60-70 | 70+ |
| Sports Arenas, Outdoor Spectator Sports | | 60-65 | 65-75 | 75+ |
| Playground, Neighborhood Park | <55 | 55-65 | 65-75 | 75+ |
| Golf Courses, Riding Stables, Water Recreation, Cemeteries | <60 | 60-70 | 70-80 | 80+ |
| Office Building, Business Commercial and Professional | <65 | 65-75 | 75-80 | 80+ |
| Industrial, Manufacturing, Utilities, Agriculture | <70 | 70-80 | 80+ | |

1 The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant.).
2 The noise exposure is great enough to be of some concern, but common building construction will make the indoor environment acceptable, even for sleeping quarters.
3 The noise exposure is significantly more severe so that unusual and costly building construction is necessary to ensure adequate performance of activities. (Residential areas: barriers must be created between the site and prominent noise sources to make the outdoor environment tolerable.)
4 The noise exposure is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)
Source: San Benito County 2035 General Plan Health and Safety Element Table 9-2 (San Benito County 2015b).

The San Benito County 2035 General Plan Health and Safety Element (San Benito County 2015b) includes the following noise goal and policies applicable to the proposed project:

**Goal HS-8:** To protect the health, safety, and welfare of county residents through the elimination of annoying or harmful noise levels.

- **Policy HS-8.1 Project Design.** The County shall require new development to comply with the noise standards shown in Tables 9-1 and 9-2 through proper site and building design, such as building orientation, setbacks, barriers (e.g., earthen berms), and building construction practices. The County shall only consider the use of sound walls after all design-related noise mitigation measures have been evaluated or integrated into the project or found infeasible.

- **Policy HS-8.2 Acoustical Analysis.** The County shall require an acoustical analysis to be performed prior to development approval where proposed land uses may produce or be exposed to noise levels exceeding the "normally acceptable" criteria (e.g., "conditionally acceptable", "normally unacceptable") shown in Table 9-2. Land uses should be prohibited from locating, or required to mitigate, in areas with a noise environment within the "unacceptable" range.

- **Policy HS-8.3 Construction Noise.** The County shall control the operation of construction equipment at specific sound intensities and frequencies during daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and 8:00 a.m. and 5:00 p.m. on Saturdays. No construction shall be allowed on Sundays or federal holidays.

- **Policy HS-8.7 Acceptable Vibration Levels.** The County shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby noise-sensitive uses based on FTA criteria.

- **Policy HS-8.9 Interior Noise Standards.** Adopt the State of California Code of Regulations' (Title 24) minimum noise insulation interior performance standard of 45 dBA $L_{dn}$ for all new residential construction including hotels, motels, dormitories, apartment houses, and single-family dwellings.

- **Policy HS-8.10 Reduction in Noise Levels at Existing Land Uses.** Reduce traffic noise levels where expected to significantly impact sensitive receptors through the installation of noise control measures such as quiet pavement surfaces, noise barriers, traffic calming measures, and interior sound insulation treatments.

- **Policy HS-8.11 New Project Noise Mitigation Requirements.** Require new projects to include appropriate noise mitigation measures to reduce noise levels in compliance with the Table 9-1 and 9-2 standards within sensitive areas. If a project includes the creation of new non-transportation noise sources, require the noise generation of those sources to be mitigated so they do not exceed the interior and exterior noise level standards of Table 9-2 at existing noise-sensitive areas in the project vicinity, unless an exception is made by the County on a case-by-case basis. However, if a noise-generating use is proposed adjacent to lands zoned for residential uses, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the standards shown in Table 9-2 at the property line of the generating use in anticipation of the future residential development, unless an exception is made by the County on a case-by-case basis.

- **Policy HS-8.12 Construction Noise Control Plans.** Require all construction projects to be constructed within 500 feet of sensitive receptors to develop and implement construction noise control plans that consider the following available controls in order to reduce construction noise levels as low as practical:

  - Utilize 'quiet' models of air compressors and other stationary noise sources where technology exists;

- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment;
- Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;
- Locate staging areas and construction material areas as far away as possible from adjacent land uses;
- Prohibit all unnecessary idling of internal combustion engines;
- Notify all abutting land uses of the construction schedule in writing; and
- Designate a "disturbance coordinator" (e.g., contractor foreman or authorized representative) who would be responsible for responding to any local complaints about construction noise.

The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. If complaints persist, a noise monitoring program shall be implemented to monitor hourly noise levels and require reduced activity levels until hourly noise levels from construction are reduced below 55 dBA, $L_{eq}$.

The San Benito County Zoning Code includes the San Benito County Noise Control Regulations Ordinance, which establishes county-wide standards regulating noise. However, the Noise Control Regulations Ordinance states that it is not intended to establish thresholds of significance for the purpose of any analysis required by CEQA (Section 19.39.002(B)). Also, the Noise Control Regulations Ordinance includes specific exemptions applicable to the proposed project including an exemption for construction activities that occur during the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday (Section 19.39.051(H)) and an exemption for facilities owned or operated by or for a governmental agency (Section 19.39.051(N)). The Noise Control Regulations Ordinance also exempts noise from refuse collection vehicles (Section 19.39.051(E)).

## 4.5.3 Impacts and Mitigation Measures

### Method of Analysis

To assess potential noise impacts, sensitive receptors and their relative exposures were identified. Noise (and vibration) levels of specific equipment expected to be used in construction or operation were determined and resultant noise levels at sensitive receptors were calculated assuming documented noise (and vibration) attenuation rates. The significance of short-term and long-term noise impacts was determined based on comparisons with applicable standards.

### Thresholds of Significance

In accordance with CEQA Guidelines Appendix G and the San Benito County 2035 General Plan Health and Safety Element (San Benito County 2015b), noise impacts are considered significant if implementation of the proposed project under consideration would result in any of the following:

- 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.

- Generation of excessive groundborne vibration or groundborne noise levels.

- 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, where the project would expose people residing or working in the area to excessive noise levels.

For construction, temporary construction activities would be significant if it occurred outside the adopted hours of construction of 7:00 a.m. to 7:00 p.m., except Sundays and federal holidays (San Benito County Noise Control Regulations Ordinance (Section 19.39.051(N))). For operations, the standard established in the San Benito County 2035 General Plan Health and Safety Element (Table 9-1) for non-transportation noise sources affecting noise-sensitive uses is an hourly average of 55 dBA $L_{eq}$ from 7:00 a.m. to 10:00 p.m. and 45 dBA from 10:00 p.m. to 7:00 a.m. For transportation noise sources, the noise impact would be significant if the proposed project caused existing noise levels for residential uses adjacent to the affected roadway to exceed 60 dBA, $L_{dn}$ or if the proposed project caused an increase of 3 dBA in a location with existing noise levels above 60 dBA, $L_{dn}$ (San Benito County 2015b).

### IMPACTS NOT DISCUSSED FURTHER IN THIS EIR

**Airport Noise** – The Hollister Municipal Airport is the nearest airport, located approximately 5.6 miles to the northwest of the project site. According to the noise compatibility contours figure for the Comprehensive Land Use Plan Hollister Municipal Airport (San Benito County Airport Land Use Commission 2012), the project site is located outside the 60 dBA CNEL noise contour for the airport. Therefore, no substantial noise exposure from airport noise would occur to construction workers, users, or employees of the project, and no impacts would occur. This impact is not discussed further in this EIR.

### IMPACTS AND MITIGATION MEASURES

**IMPACT 4.5-1** **Construction-Generated Temporary Increases in Ambient Noise Levels.** *Construction activities in the western portion of the expansion property would result in temporary increases in ambient noise levels for the existing residence located directly to the west. These construction noise levels would exceed the Health and Safety Element's noise threshold. As a result, this impact would be* ***significant****.*

The principal short-term noise impact would result from the construction activities associated with building the new entrance facilities, constructing the individual landfill modules, clean closing the Class I area, constructing landfill support facilities such as detention basins, constructing the renewable natural gas facility and associated offsite pipeline, and installing the final landfill cover. These construction projects would occur over the life of the project as individual components are needed. Construction for the landfill support facilities and the renewable natural gas facility would include grading, clearing, trenching, and excavation associated with the site preparation phase; paving; building or infrastructure construction; and the application of architectural coatings, in addition to other miscellaneous activities. For the landfill modules and closure activities, construction would include excavating native soil/bedrock, screening excavated soil to generate the required clay and operations layer, installing a composite liner, installing a leachate collection and removal system prior to module use for waste disposal, and ultimately placing final soil cover.  The equipment necessary for construction is anticipated to include scrapers, excavators, loaders, backhoes, haul trucks, and other miscellaneous construction equipment. Typical operating cycles may involve two minutes of full power followed by three to four minutes at lower settings.

Noise would also be generated during the construction phase by increased truck traffic onsite. Noise sources would include onsite truck traffic associated with the transport of heavy materials and equipment to and from internal construction sites and the movement of heavy construction equipment on the proposed project site.

During the construction phases of the proposed project, noise from construction activities would contribute to the noise environment in the immediate vicinity of the proposed project. Construction associated with the installation of the offsite RNG pipeline would generate noise along the selected pipeline route. Activities involved in construction would generate maximum noise levels, as indicated in Table 4.5-6, ranging from 75 to 80 dBA at a distance of 50 feet, with feasible noise control (e.g., mufflers). Construction activities would occur intermittently throughout the life of the landfill. Some construction activities (i.e., construction of new landfill modules) at the proposed project would be ongoing for months and would be similar to landfill operations and would occur concurrently with ongoing landfill operations. A total of 29 landfill liner construction projects are expected to be performed over the life of the landfill assuming an average module size of approximately 7 acres.

**Table 4.5-6**
**Typical Construction Equipment Noise Levels**

| Type of Equipment | Noise Level in dBA at 50 feet | |
|---|---|---|
| | Without Feasible Noise Control | With Feasible Noise Control[1] |
| Dozer or Tractor | 80 | 75 |
| Excavator | 88 | 80 |
| Scraper | 88 | 80 |
| Front End Loader | 79 | 75 |
| Backhoe | 85 | 75 |
| Grader | 85 | 75 |
| Truck | 91 | 75 |

[1] Feasible noise control includes the use of intake mufflers, exhaust mufflers and engine shrouds operating in accordance with manufacturers specifications.

Source: US Environmental Protection Agency 1971

Generally, if a construction project adheres to the construction times identified in the zoning ordinance, construction noise is exempt. In addition, facilities owned or operated by or for a governmental agency, such as the landfill are exempt from the San Benito County Noise Control Regulations Ordinance (Section 19.39.051(N)).

Policy HS-8.1 of the 2035 General Plan Health and Safety Element requires new development to comply with the noise standards shown in Tables 4.5-4 and 4.5-5 and Policy HS-8.11 requires new projects to comply with those standards in sensitive areas. Table 4.5-5 sets noise exposure thresholds based on land use categories, and the land surrounding the proposed project has agriculture land use designations, which have a substantially higher noise level thresholds in Table 4.5-5 than residential land uses (i.e., 70 to 80 $L_{dn}$ is normally acceptable for agriculture land use designations). However, because there is an existing residence 150 feet from the proposed project and, for purposes of Table 4.5-5, the haul route is adjacent to land with residential land use designations, the more stringent noise thresholds of a daytime hourly 55 $L_{eq}$ dB and nighttime hourly 45 $L_{eq}$ dB will be applied to the proposed project as the non-transportation noise level performance standard and the residential land use designations standards from Table 4.5-5 will be applied as the noise level performance standard for transportation noise. The more stringent thresholds are also applied because, while the proposed project includes relatively minor development of buildings or structures, some construction activities (i.e., construction of new landfill modules) at the proposed project would be ongoing for months and would be similar to landfill operations.

Using the construction noise levels from the modeling (Rincon Consultants 2021), at 85 feet, an excavator, a compactor, a dozer and a dump truck operating at the same area would generate an average noise level of 78 dBA, $L_{eq}$. The exterior noise levels at the residence to the west are estimated to be approximately 73 dBA, $L_{eq}$ when construction activities are directly adjacent to the western boundary (150 feet away from the residence). Construction activities directly adjacent to the western boundary would only occur when the western stormwater control basins are being constructed. This noise threshold of 55 dBA, $L_{eq}$ would be exceeded any time construction activities occur within approximately 800 feet of the western expansion boundary (using the soft site attenuation rate of 7.5 dB per doubling of distance). Because this noise level would exceed the 55 dB, $L_{eq}$ threshold identified in Table 4.5-4, it would be **significant**.

Noise levels at the next nearest residence, which is located approximately 2,000 feet from the proposed project's boundary, would be below the 55 dBA, $L_{eq}$ threshold. In addition, the trenching and pipeline installation required along the RNG pipeline route would generate daytime construction noise for residences located adjacent to the selected alignment. However, the trench construction activities in proximity to existing residences would be limited to several days and would not occur outside of the adopted hours of construction of 7:00 a.m. to 7:00 p.m. Therefore, these construction noise impacts would be considered **less than significant** per the San Benito County Noise Control Regulations Ordinance (Section 19.39.051(N)).

#### Mitigation Measure 4.5-1 Construction-Generated Temporary Increases in Ambient Noise Levels

Consistent with Policy HS-8.12, for all construction projects and landfill operations on the site that occur within 800 feet of the western expansion boundary, a written construction Noise Control Plan shall be developed and implemented. At a minimum, the plan shall include the following controls in order to reduce construction noise levels as low as practical:

- Utilize "quiet" models of air compressors and other stationary noise sources where technology exists;
- Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment;
- Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from adjacent land uses;
- Locate staging areas and construction material areas as far away as possible from adjacent land uses;
- Prohibit all unnecessary idling of internal combustion engines;
- Notify in writing all abutting land uses of the construction schedule at least one week in advance; and
- The plan shall designate a "disturbance coordinator" (e.g., contractor foreman or authorized representative) who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The determination and reasonable measures taken shall be tracked in a written log made available to the County. A telephone number for the disturbance coordinator shall be conspicuously posted at the construction site and it shall be included in the written notice sent to neighbors regarding the construction schedule.
- All construction equipment shall include the use of intake mufflers, exhaust mufflers and engine shrouds operating in accordance with manufacturers' specifications.

### Level of Significance after Mitigation

The exposure of the residence to the west of the proposed project site to high noise levels when temporary construction activities are occurring within the western portion of the project site would be minimized with the implementation of the construction Noise Control Plan and the feasible noise control measures. Therefore, the construction noise impacts of the proposed project would be reduced to **less than significant**.

**IMPACT 4.5-2** **Traffic-Generated Permanent Increases in Ambient Noise Levels.** *The proposed project would not result in a noticeable increase in traffic noise levels at off-site sensitive receptors. Therefore, this impact would be* ***less than significant****.*

The proposed project is estimated to increase traffic up to 99 vehicles per day. The primary traffic-related noise effect of the proposed project would be transfer vehicles using a proposed haul route of McCloskey Road to Fairview Road to John Smith Road to the landfill. The Federal Highway Administration (FHWA) noise model algorithms were used to estimate four scenarios (i.e., existing, existing + proposed project, 2035 No Project, and 2035 + proposed project) along the roadway segments most affected by the proposed project (Barry and Reagan 1978). The model conservatively assumed that the increase of 99 vehicles per day would use the route analyzed in Table 4.5-7, including out-of-County trucks coming from the north. The results are presented in Table 4.5-7.

As shown in Table 4.5-7, the proposed project would generate new vehicle trips that would only slightly increase noise levels along the roads used to access the site. As shown in the third column of results (Column: *Change Existing +Proposed Project from Existing (B-A)*), the changes would be less than 3 dB, $L_{dn}$. As shown in the next to last column (Column: *Change 2035 + Proposed Project from 2035 No Project (D-C)*) the changes would be less than 3 dB, $L_{dn}$.

Although the San Benito County General Plan identified a significant cumulative traffic-related noise impact, the evaluation in Table 4.5-7 shows that the project-related traffic-related noise increase on the most affected roads would be less than 3 dB, $L_{dn}$. Therefore, proposed project-generated off-site vehicle noise level increases along affected roadways would be **less than significant**.

The major change seen in the Table 4.5-7 is from the cumulative 2035 traffic (Column: *Change 2035 No Project from Existing (C-A)*) that is the result of overall growth of vehicles on County roads (from population increases) and not from the proposed project. The increase from 2035 cumulative growth would be greater than 3 dB, $L_{dn}$ and would be a significant cumulative impact of General Plan implementation. This significant cumulative impact of increased traffic-related noise was identified in the Revised Draft Environmental Impact Report 2035 San Benito County General Plan (San Benito County 2015a). Cumulative impacts are addressed in Chapter 5 of this Draft EIR.

#### Mitigation Measure 4.5-2: Traffic-Generated Permanent Increases in Ambient Noise Levels

No mitigation measures would be necessary.

**IMPACT 4.5-3** **Exposure of Sensitive Receptors to Excessive Operational Noise Levels.** *The site entrance activities and the working face operations would increase the noise levels generated from the proposed project site. However, these operational noise levels would not exceed established thresholds. Therefore, this impact would be* ***less than significant****.*

The proposed project would increase the maximum permitted tonnage of waste accepted at the landfill from 1,000 tons per day to 2,300 tons per day. Although it would not be expected that 2,300 tons of waste would regularly be delivered to the site, the resulting increase in the permitted tonnage would be expected to increase the daily waste disposal activity at the site over time generally commensurate with the tonnage

| Table 4.5-7<br>Estimated Traffic Noise Levels Along Roadways in the Proposed Project Vicinity | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Noise Level, dB, $L_{dn}$ | | | | | | | | | | |
| **Roadway[1,2]** | **Segment** | **Existing (A)** | **Existing + Project (B)** | **Change Existing + Proposed Project from Existing (B-A)** | **Significant? (Yes or No)[3]** | **2035 No Project (C)[4]** | **Change 2035 No Project from Existing (C-A)** | **2035 + Project (D)** | **Change 2035 + Proposed Project from 2035 No Project (D-C)** | **Significant? (Yes or No)** |
| McCloskey Road | San Felipe Road to Fairview Road | 63.0 | 64.1 | 1.1 | No | 70.5[5] | **<u>7.5</u>** | 70.8 | 0.3 | No |
| Fairview Road | McCloskey Road to Santa Ana Road | 66.0 | 66.8 | 0.8 | No | 72.4 | **<u>6.4</u>** | 72.5 | 0.1 | No |
| | Santa Ana Road to Hillcrest Road | 66.7 | 67.4 | 0.7 | No | 73.0 | **<u>6.3</u>** | 73.1 | 0.1 | No |
| | Hillcrest Road to John Smith Road | 67.7 | 68.2 | 0.5 | No | 72.0 | **<u>4.3</u>** | 72.2 | 0.2 | No |
| | McCloskey Road to Fallon Road | 66.6 | 66.8 | 0.2 | No | 70.1 | **<u>3.5</u>** | 70.1 | 0.0 | No |
| | Fallon Road to State Route 156 | 66.6 | 66.8 | 0.2 | No | 70.1 | **<u>3.5</u>** | 70.1 | 0.0 | No |
| Shore Road | San Felipe Road to Frazier Lake Road | 65.7 | 65.9 | 0.2 | No | 66.8 | 1.1 | 67.0 | 0.2 | No |
| | Frazier Lake Road to State Route 25 | 60.4 | 61.0 | 0.6 | No | 64.0 | **<u>3.6</u>** | 64.3 | 0.3 | No |
| John Smith Road | Fairview Road to Best Road | 60.6 | 62.8 | 2.2 | No | 61.1 | 0.5 | 63.1 | 2.0 | No |

**<u>Bold and Underlined</u>** numbers represent significant increases in noise levels resulting from cumulative traffic in the County, not significant impacts from the proposed project.

1. Road center to model receptor is 30 meters (approximately 100 feet) for values shown in this table. Noise levels were calculated using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108). An attenuation rate of 4.5 dB was used as traffic noise is a line source and the ground absorption characteristics were soft sites for all the modeled locations.
2. Vehicle mix, speed and volumes from PHA Associates, 2022
3. Significance Criteria: Significant if the incremental increase in noise is greater than 3 dB, $L_{dn}$, and a resulting noise level exceeding 60 dB, $L_{dn}$.
4. 2035 cumulative traffic from Revised Draft Environmental Impact Report 2035 San Benito County General Plan Update Chapter 19 Transportation and Circulation 2015a.
5. 2035 ADT on McCloskey Road assumes the buildout of Memorial Drive.

Source: RCH Group, Inc. 2022 and Revised Draft Environmental Impact Report 2035 San Benito County General Plan Update Chapter 19 Transportation and Circulation 2015a.

increase. This would result in an increase in truck traffic at the site entrance and a greater volume of waste being managed at the working face daily. All equipment operating at the working face includes alternative CAL-OSHA approved back up alarms that minimize noise drift.

The site entrance facilities are located in a relatively low area at about 660 feet above mean sea level (msl) that is bounded by a relatively steeply cut slope and natural hillside to the northwest that quickly rises to over 790 feet msl. To the northeast and east, the steep slope of the existing landfill extends up to over 880 feet msl. To the south and southwest, the existing rolling hills rise to over 780 feet msl. In effect, the proposed site entrance facilities are surrounded by intervening topography. These slopes and hillsides substantially attenuate noise propagation in the vicinity of the proposed project.

The JSRL is open for commercial refuse disposal operations seven days a week during daylight hours, meaning that portion of the day between sunrise and sunset. The landfill receives refuse from the public from 8:00 a.m. to 4:00 p.m. Monday through Friday and 9:00 a.m. to 3:00 p.m. on Saturdays and Sundays. No landfill activity currently occurs during nighttime hours and no nighttime activities are proposed to occur with implementation of the proposed project.

Primary traffic noise sources associated with scale house operations would most likely be heavy trucks stopping (air brakes), progressing gradually toward the scale house (engine idling and slightly revving), and pulling away from the scale house and driving to the working face (revving engines and rumble strips). Working face operations typically include vehicles idling while dumping waste loads and a bulldozer scraping and organizing the working face debris. Bulldozers are also used for daily cover application activities. Noise levels at the nearest properties from each noise source and their combined noise levels are shown in Table 4.5-8.

**Table 4.5-8**
**Operational Noise Levels at Off-site Land Uses**

| | | Noise Level (dBA $L_{eq}$) | | | | |
|---|---|---|---|---|---|---|
| **Receiver** | **Description** | **Entrance Activities** | **Working Face Operations** | **Daily Cover Activities** | **Combined** | **Exceed Thresholds?[2]** |
| Residential | West of site | 23[1] | 49[1] | 50[1] | 53 | No |
| Residential | South of site | 24 | 43[1] | 44[1] | 47 | No |
| Residential | East of site | 18 | 42[1] | 43[1] | 46 | No |

[1] Assumes a -3 dBA reduction for intervening topography.

[2] Thresholds would be exceeded if exterior noise levels at off-site land uses exceed hourly averages of 55 dBA $L_{eq}$ from 7:00 a.m. to 10:00 p.m.

Source: *John Smith Road Landfill Expansion Project Noise and Vibration Study*. Rincon Consultants, Inc. 2021.

As shown in Table 4.5-8, combined operational activities on the proposed project site would generate average noise levels up to 53 dBA $L_{eq}$ at the nearest noise sensitive residential use to the west. The combined operational noise from site entrance activities, working face operations, and daily cover application activities would not exceed the San Benito County daytime noise standard of 55 dBA, $L_{eq}$.

Because the working face moves around the site over time as new modules are being filled, the location of the noise generation associated with the working face would also move over time. At its closest location, the working face would be approximately 1,500 feet east of the closest residence to the project site. Assuming the combined noise level generated by several pieces of equipment operating at the working face would be approximately 83 dBA at 50 feet, the projected noise level at the residence would be below the residential daytime noise threshold of 55 $L_{eq}$ dB identified in the Health and Safety Element (San Benito County 2015b). For this reason, the operational noise generated by the operations at the working face would not exceed the established residential noise threshold.

The proposed project also includes a renewable natural gas facility in the entrance area. In addition to daytime activity, this facility would operate during the night and therefore noise levels would be required to remain below the 45 dBA, Leq limit at off-site sensitive receptors. The closest off-site sensitive receptors to the entrance area would be approximately 2,500 feet away to the northwest and about 3,000 feet away to the south of the entrance area. Based on an acoustical study with details specifications on the renewable natural gas equipment, noise levels can be reduced to 45 dBA, Lmax or lower at 650 feet from the renewable natural gas plant, with shrouding of equipment, and noise walls/barriers as needed in the direction of sensitive receptors (Illingsworth & Rodkin, 2020). Noise levels in the 2020 study were reduced to 45 dB at 650 feet, with the noise wall and equipment shrouding. The study included sound level estimates for the equipment at the renewable natural gas conditioning plant that included compressors, coolers, vacuum pumps, a thermal oxidizer, and feed blowers. From the results of the acoustical study, it is apparent that noise attenuation measures typically implemented in renewable natural gas facility design, including noise walls/barriers and shrouding of equipment, would be sufficient to comply with the hourly 45 dB, Leq nighttime standard in San Benito County at the closest sensitive receptors. The other activities would not be operating at night so the noise from those activities would not combine with the renewable gas facility at night. The conditional use permit for the project will require review of the RNG site plan when the operator and final design for the RNG facility is determined to confirm that the RNG facility is substantially consistent with the facility analyzed in this EIR, including reduced noise to 45 dB at 650 feet.

Operational noise would be combined with construction noise (i.e., landfill module construction) whenever construction activities occur. If the construction noise is close to the receptors, it would be the dominant noise source and would be required to implement Mitigation Measure 4.5-1. Operational noise as shown in Table 4.5-8 would result in minimal increases to the overall noise decibel levels when combined with the construction noise, which would be much louder when in closest proximity of off-site residences.

Overall, the increased noise associated with expanded entrance facility operations in combination with landfill activities would not increase noise levels for offsite sensitive receptors above the established thresholds (55 dBA, $L_{eq}$ daytime and 45 dBA, $L_{eq}$ nighttime). For these reasons, the operational noise generated by the proposed project would not exceed the established residential noise threshold and this impact would be **less than significant**.

#### Mitigation Measure 4.5-3: Exposure of Sensitive Receptors to Excessive Operational Noise Levels

No mitigation measures would be necessary.

| | |
|---|---|
| **IMPACT 4.5-4** | **Exposure of Sensitive Receptors to Vibration Levels.** *The vibration levels generated by the proposed construction and operational activities would not expose adjacent residences to excessive vibration levels. Therefore, this impact is **less than significant**.* |

Construction activities and landfill operations have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific equipment used and operations involved. Construction of the proposed project would utilize typical construction equipment and would not generate significant sources of vibration such as pile driving and/or blasting. Furthermore, vibrational effects from typical construction activities are only a concern when construction occurs within 25 feet of existing structures (Caltrans 2002). Because the nearest sensitive receptor is located approximately 150 feet from the western site boundary and vibration levels diminish quickly, vibration levels from distant construction equipment would not affect nearby structures. As a result, this impact would be **less than significant**.

#### Mitigation Measure 4.5-4: Exposure of Sensitive Receptors to Vibration Levels

No mitigation measures would be necessary.

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# 4.6 BIOLOGICAL RESOURCES

This section describes biological resources present on, or with potential to occur on, the proposed John Smith Road Landfill Expansion Project (project) site, including biological communities, common plant and wildlife species, and special-status species. It also includes an overview of the Federal, State and local laws and regulations pertaining to the protection of biological resources in the City of Hollister and County of San Benito. Potential impacts on biological resources resulting from implementation of the proposed project are evaluated and mitigation measures are provided, where appropriate.

The biological resources information presented in this section is based on a review of available background reports, previous studies conducted on the project site, and biological resource databases; aerial photography interpretation; and observations made during site surveys. Specific biological resource background reports reviewed in preparing this section are identified in Table 4.6-1.

**Table 4.6-1**
**Biological Resource Background Reports**

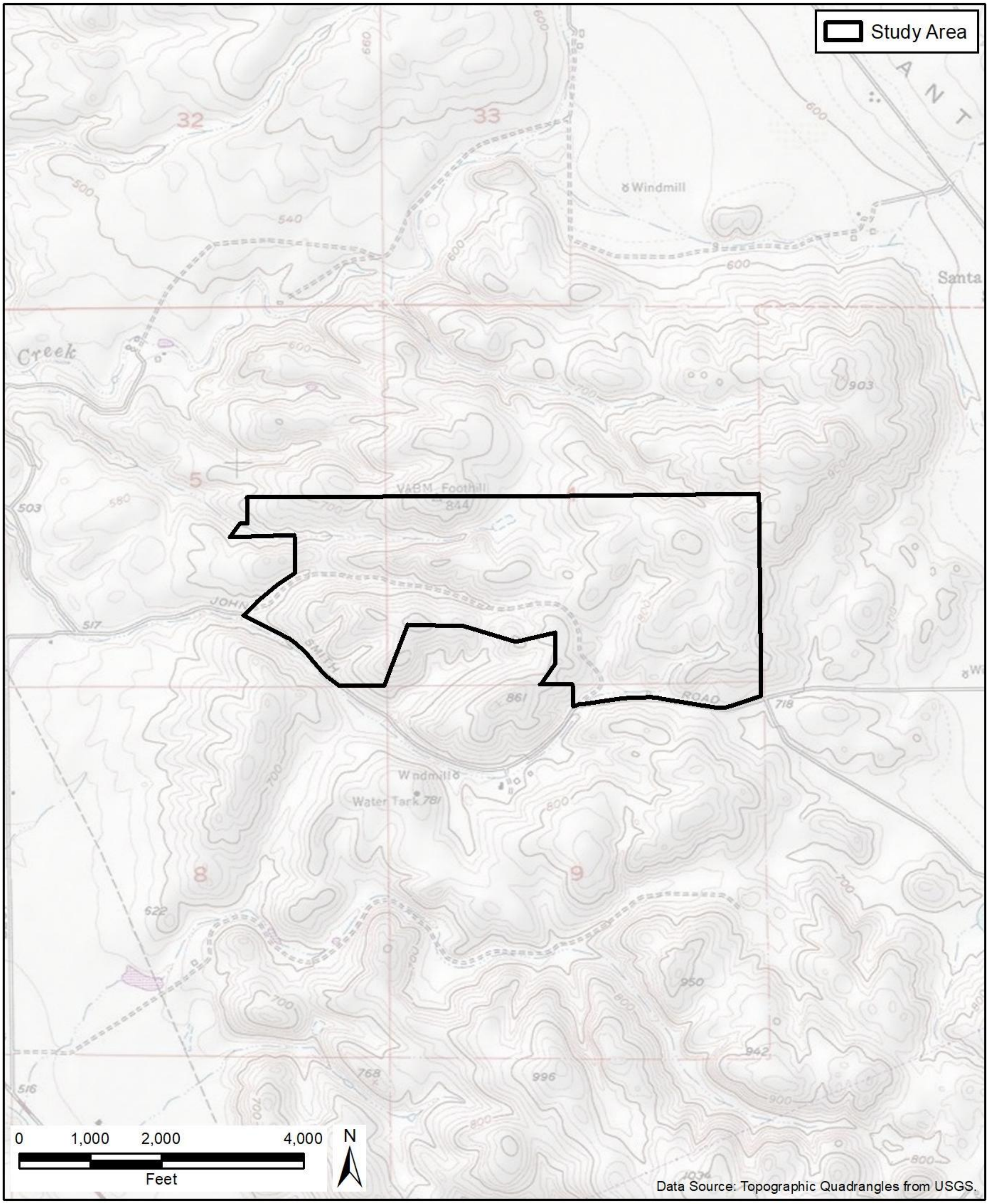
| Title | Author | Date |
|---|---|---|
| California Red-Legged Frog (*Rana draytonii*) Habitat Assessment [for the] John Smith Road Landfill Expansion Project* | AECOM | August 2018 (AECOM 2018a) |
| California Tiger Salamander (*Ambystoma californiense*) Habitat Assessment [for the] John Smith Road Landfill Expansion Project* | AECOM | August 2018 (AECOM 2018b) |
| San Joaquin Kit Fox (*Vulpes macrotis*) Habitat Assessment (Early Evaluation) [for the] John Smith Road Landfill Expansion Project* | AECOM | August 2018 (AECOM 2018c) |
| Results of Special-Status Plant Survey and Wildlife Habitat Assessment for the John Smith Road Landfill Expansion Project in San Benito County, California | AECOM | August 28, 2018 (AECOM 2018d) |
| Preliminary Delineation of Waters of the United States, Including Wetlands [for the] John Smith Road Landfill Project | GEI Consultants | January 2020 (GEI 2020a) |
| Biological Survey Results for Selected Special-Status Species, John Smith Road Landfill Expansion Project, Hollister, California | GEI Consultants | January 8, 2020; Revised April 27, 2020 (GEI 2020b) |
| John Smith Road Landfill Expansion Project: California Tiger Salamander, California Red-legged Frog, and San Joaquin Kit Fox Habitat Assessment | H.T. Harvey & Associates | May 29, 2020 (H.T. Harvey 2020) |

Notes: * = Survey and site assessment focused on an approximately 33-acre parcel located immediately south of the active landfill and immediately north of John Smith Road.

The following description of the site's biological conditions is based on the background reports identified in Table 4.6-1; a desktop review of the site has since been conducted to ensure that the site conditions are consistent with the environmental baseline, as described below.

## 4.6.1 ENVIRONMENTAL SETTING

The biological resources study area (study area) includes the 388.05-acre expansion area (Figure 4.6-1), as well as the surrounding area, including: an approximately 200-foot-wide buffer around the project site that was visually surveyed during January 2020 pedestrian surveys; a 3.1-mile-wide radius around the project site that was

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Source: GEI Consultants, Inc. 2019

**Topographic Map of Proposed Expansion Area and Surroundings** **Figure 4.6-1**

examined through GIS analysis to evaluate suitable breeding habitat for special-status amphibians that is within dispersal distance of the project site; and a 5-mile-wide radius around the project site that was examined for documented occurrences of special-status plant and wildlife species. Although the project boundary includes 70 acres of the 101.3-acre County-owned property south of John Smith Road, the use of this property would be as a potential preserve area for habitat mitigation purposes only, and therefore, would not include any physical changes that would affect the property's existing biological conditions. Therefore, this property was not included in the study area. Waste management activities are already approved on the existing 95.16-acre JSRL and the project would not change the biological impacts associated with the approved use; therefore, the existing JSRL was also not included in the study area.

## REGIONAL SETTING

The study area is located in the Inner South Coast Ranges subregion of the California Floristic Province and the Pajaro River watershed (U.S. Geological Survey [USGS] Hydrologic Unit Code 18060002), which encompasses approximately 1,300 square miles of San Benito, Santa Clara, Santa Cruz, and Monterey Counties. It is situated between two east-west unnamed tributaries to Santa Ana Creek, one of three main tributaries to Pacheco Creek above San Felipe Lake. These intermittent drainages are seasonally dry or ephemeral (having surface flow only during and after storm events); during the dry season they often support vegetation more characteristic of upland, nonnative annual grassland habitat.

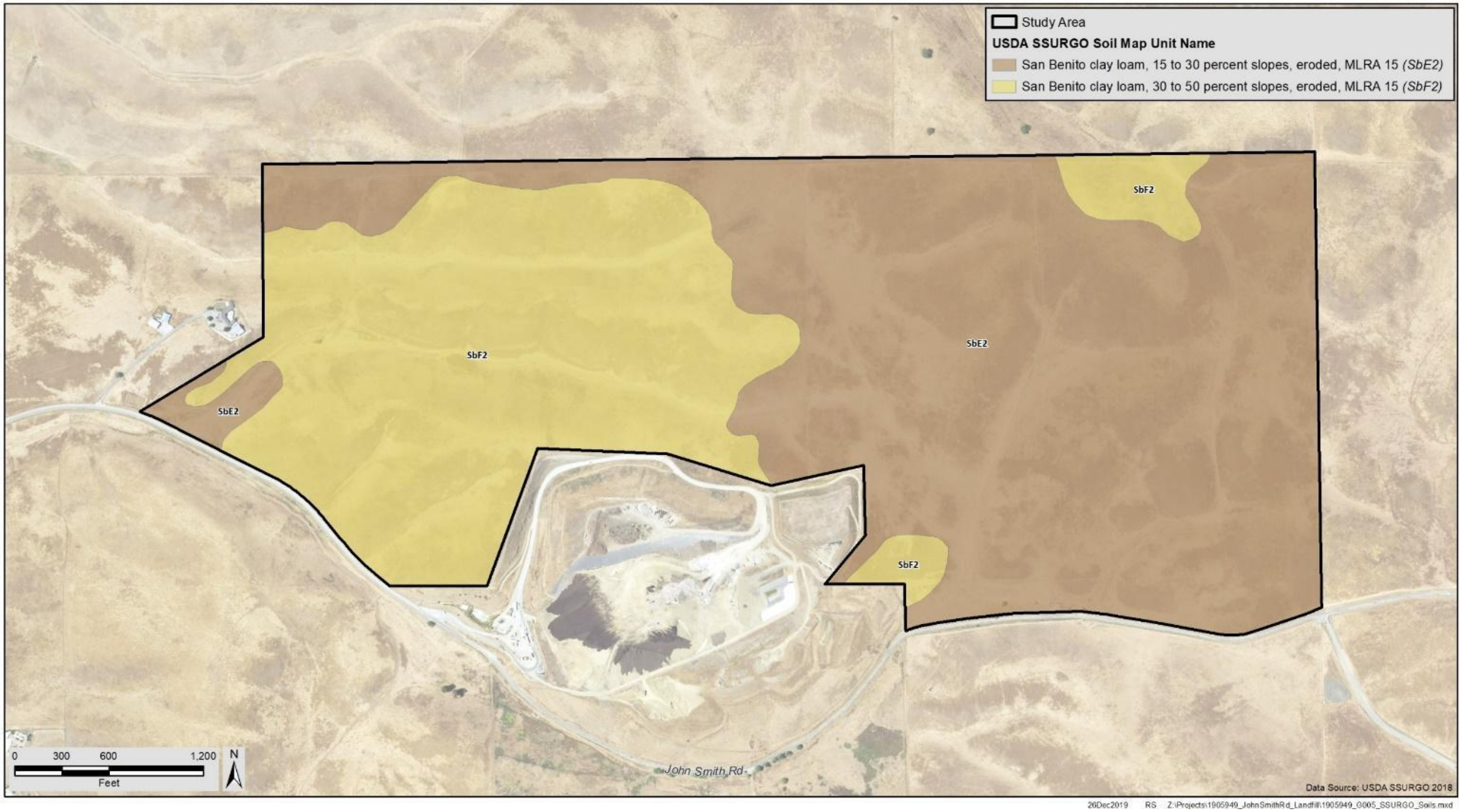
### Climate

In general, the regional setting is characterized by a Mediterranean climate that is typical of the Coast Ranges. Summers are long, mild, and dry, while winters are wet, mild, and cool. The region typically receives approximately 13 inches of precipitation annually (WRCC 2019), falling mainly between October and April. The 2019-2020 rain year was a below-average rainfall year; based on the start of the 2020 water year, which began on October 1, 2019, 5.11 inches of rainfall had accumulated by the time field surveys that were conducted on December 12, 2019 (GEI 2020a, 2020b) and 9.03 inches of rainfall had accumulated by the time of the field survey that was conducted on April 29, 2020 (H.T. Harvey 2020) (NOAA 2022b). The 2016-2017 rain year was an above-average rainfall year; based on the start of the 2017 water year, which began on October 1, 2016, 27.77 inches of rainfall had accumulated by the time field surveys that were conducted on May 6 and 7, 2017 (AECOM 2018d) (NOAA 2022a).

### Geology and Soils

The study area is located within Major Land Resource Area 14 (Central California Coastal Valleys) in Land Resource Region C (California Subtropical Fruit, Truck, and Specialty Crop) (NRCS 2006). Topography within the study area is characterized by hillslopes, with slopes ranging generally 15 to 30 percent, but up to 50 percent. The Natural Resources Conservation Service (NRCS) Soil Survey of San Benito County, California (NRCS 2019) identifies two map units of the same soil series in the study area (Figure 4.6-2). Soil map units that occur within the study area are similar in physical properties and qualities to each other as these are of the same soil series. The San Benito soil series is briefly described below.

The San Benito soil series is taxonomically classified as fine-loamy, mixed, thermic family of Calcic Pachic Haploxerolls. The SbF2 and SbE2 San Benito map units are characterized by upper soil horizons that are clay loam and very dark grayish brown in color. The pH of the soils is generally neutral, with a range of 6.8 to 7.0. Soil structure is subangular blocky, firm, sticky, and plastic. San Benito soils formed in residuum derived from weathered shale and sandstone with strongly sloping elevations. The SbE2 map unit has slopes of 15 to 30 percent, and SbF2 has slopes of 30 to 50 percent. Lands with these soil map units are typically used as rangeland. Surface runoff in the San Benito soil series is medium to very rapid and permeability is moderately slow. The soil series is listed as well drained. Neither map unit is identified as hydric by NRCS.




Source: GEI Consultants, Inc. 2019

**Soils Map of Proposed Expansion Area** **Figure 4.6-2**

### Local Setting

The project site is located within the USGS 7.5-minute Tres Pinos Quadrangle, Township 13 South, Range 6 East, Sections 4, 5, 8, and 9. Adjacent land uses are rural residential and agriculture, including pasture used for cattle grazing. Several rural residences and commercial facilities are located along John Smith Road. Urban residential neighborhoods are located farther to the west, on the outskirts of Hollister.

### Habitat Types on the Project Site

Elevations within the study area range from approximately 700 to 860 feet above mean sea level (Figure 4.6-1). Topography is characterized by rolling hillslopes with slopes ranging generally from 15 to 30 percent, but up to 50 percent. Habitat types present on the project site are briefly described below, and the location and extent of each habitat type are shown in Figure 4.6-3. Not described in detail below are one group of approximately six honey locust trees (*Gleditsia triacanthos)* and a few blue elderberry *(Sambucus nigra* ssp. *caerulea)* located along the southeast border near John Smith Road. These habitats were characterized based on a field survey conducted on December 12, 2019, when daytime temperatures were approximately 66 degrees Fahrenheit and skies were sunny with high clouds (GEI 2020a). This habitat characterization is consistent with other habitat assessments (AECOM 2018d; H.T. Harvey 2020). The Tres Pinos USGS topographic quadrangle identifies two blue-lined features in the project site; however, the wetland delineation found no evidence of an ordinary high-water mark in the area of the two blue-lined features (GEI 2020a).

#### Annual Grassland

Annual grassland occupies nearly the entire study area and totals approximately 387.5 acres (GEI 2020a). According to the *Manual of California Vegetation*, this nonnative annual grassland habitat can be characterized as wild oats and annual brome grasslands (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance) (Sawyer et. al. 2009). As observed during the December 2019 field surveys (GEI 2020a), this herbaceous plant community is characterized by a dense, tall cover of non-native annual grasses such as soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), slender oat (*Avena barbata*), wall barley (*Hordeum murinum*), Italian ryegrass (*Festuca perennis*), Bermudagrass (*Cynodon dactylon*), and rattail sixweeks grass (*Festuca myuros*). Forbs, including black mustard (*Brassica nigra*), Mediterranean linseed (*Bellardia trixago*), turkey mullein (*Croton setiger*), wild radish (*Raphanus sativus*), and prickly lettuce (*Lactuca serriola*), are common in the grassland habitat.

#### Pond

One approximately 0.63-acre pond is present in the northcentral portion of the study area (Figure 4.6-3). This pond is relatively shallow, with a maximum depth of 1 to 2 feet (AECOM 2018d; H.T. Harvey 2020). The pond had soil saturation within 4 inches of the ground surface at the time of the field survey conducted for the wetland delineation in January 2020 (GEI 2020a), but the area was not inundated, despite the area having received significant rainfall events in the days preceding the field survey. Based on an in-field conversation with the rancher, this area does not hold water on an annual basis and only rarely holds water into the late spring months. This is supported by examination of Google Earth aerial imagery dating back to 2003, which shows the pond inundated only in five of the twenty-three historical images: December 31, 2004 (average rainfall); June 11, 2005 (above-average rainfall); April 27, 2006 (above-average rainfall); March 20, 2013 (average rainfall); and March 13, 2017 (above-average rainfall) (Google Earth 2020). It was dry in photos taken in early June 2003 (a year of above-average rainfall), the end of June of 2004 (a year of average rainfall), mid-May of 2008 (a year of average rainfall), and mid-April of 2010 (a year of above-average rainfall) (CIMIS 2020; Google Earth 2020). The pond's condition in these images indicates that the hydroperiod of this pond (i.e., how long it holds water) is highly dependent on rainfall, and it typically dries out by early spring in years of average or below-average rainfall.

The Tres Pinos USGS topographic quadrangle identifies two blue-lined features on the project site. Sampling points were placed in these areas and no evidence of an ordinary high-water mark was documented in these areas, no evidence of ephemeral outflow/channel downcutting was observed and the topography downgradient of the pond undulates, and no change in vegetative character or evidence of surface flow was visible, even though the region had received approximately 7.5 inches of rain in the 14 days prior to the wetland delineation field survey. Therefore, it is likely that these blue lines were mapped as intermittent streams in that location as a result of topography and hillslope convergence, and not based on field verification.

The pond lacks perennial wetland or woody riparian vegetation, and upland vegetation grows right up to the edge of the high-water mark, and as the pond water recedes in the spring, a mostly barren muddy shoreline is exposed (AECOM 2018d). The pond had very little vegetative cover at the time of the December 2019 field survey (GEI 2020a). Evidence of the prior years' annual grasses, including wall barley, was prevalent; other vegetation was limited to rabbitsfoot grass (*Polypogon monspeliensis*) and alkali weed (*Malvella leprosa*).

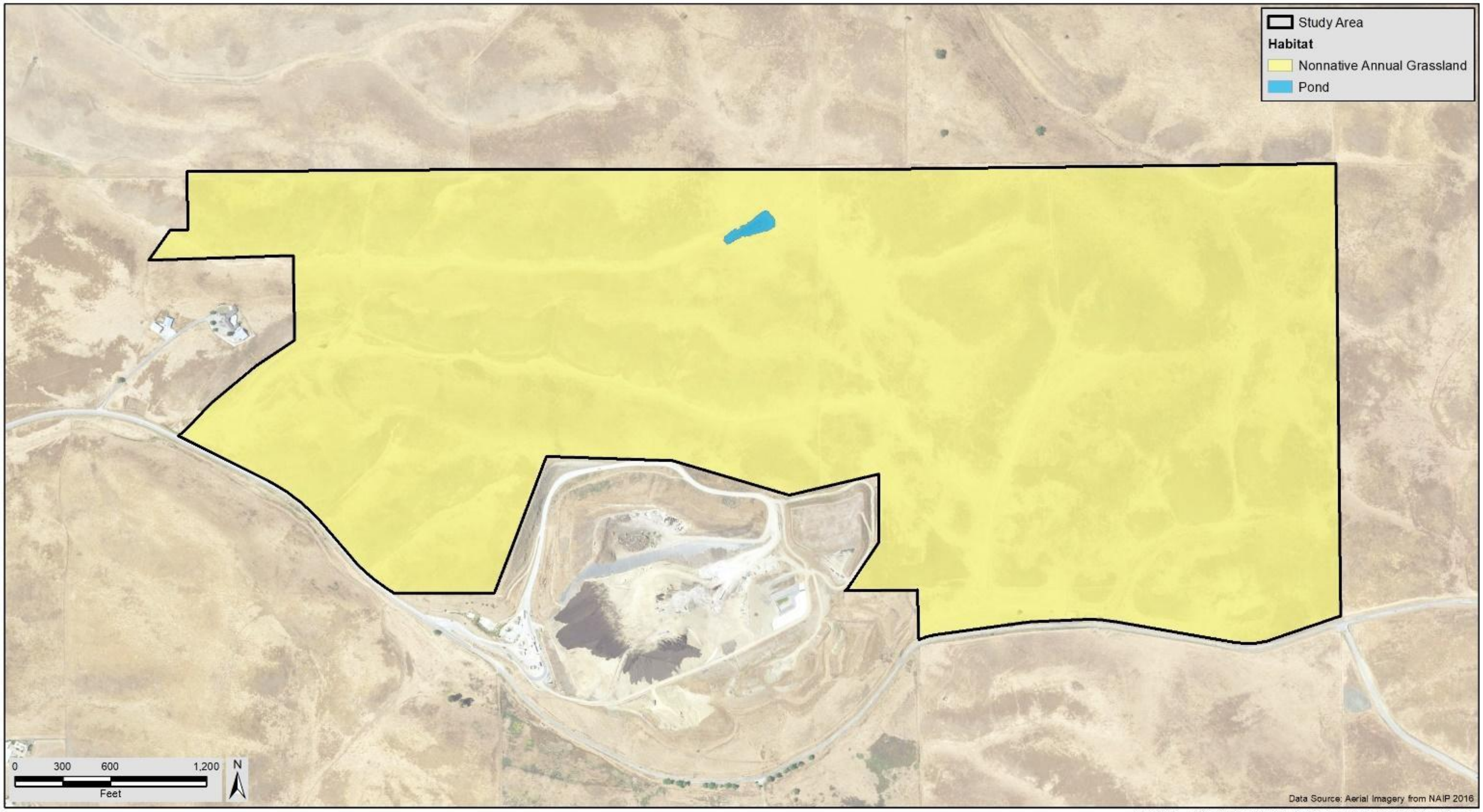
The pond lacked development of hydric soils; an in-situ examination of soils confirmed that soils are clay in texture and that structure is blocky, allowing water to move into the subsurface, with no evidence of a restrictive layer (e.g., bedrock, hardpan, dense clay layer) to impede water movement into the soil profile. The pond is situated at the toe of convergent slopes, in an area where surface runoff waters naturally collect. It is a topographic low without an outlet and no downstream connection to other waters of the United States (U.S.). Therefore, any water collected must infiltrate into the soil profile, evaporate, or be transpired by plants (GEI 2020a).

### HABITAT TYPES ALONG RNG PIPELINE ALIGNMENT

On June 9, 2022, a GEI biologist conducted a pedestrian survey of the renewable natural gas (RNG) pipeline alignment that if installed, would be installed within a trench that would extend from the project site to an interconnect with a regional PG&E natural gas pipeline approximately 1.5 miles west of the project site. The pedestrian survey included walking along both shoulders of John Smith Road and Best Road where it was safe to do so to identify the biological resources located along the two pipeline alignments being considered.

Vegetation along John Smith Road is predominately annual grassland. Patches of milkweed were observed along the road between the landfill and residential properties. The western portion of the alignment included residential land uses with ornamental vegetation and scattered eucalyptus trees. Along the southern boundary of the survey area a single drainage ditch follows John Smith Road and terminates west of the intersection at Best Road. The drainage feature lacked wetland or riparian vegetation, is composed entirely of upland vegetation with some barren substrate, appeared dry on aerial imagery throughout the year, and likely only conveys water during and immediately after heavy rainfall.

No special-status wildlife species were observed along the alignments during the reconnaissance survey. However, the study area provides suitable grassland habitat for special-status species including San Joaquin coachwhip, burrowing owl, northern harrier, and American badger. Trees within the residential portion of the study area also provide suitable raptor nesting habitat. The drainage ditch in the southern portion of the study area does not provide suitable breeding habitat for aquatic species.

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Source: GEI Consultants, Inc. 2019

**Land Cover Map of Proposed Expansion Area** **Figure 4.6-3**

### WILDLIFE USE OF THE PROJECT SITE

Wildlife occurring within the study area are typical of annual grasslands in this region. Wildlife species observed or detected in the annual grassland during the various site surveys included side-blotched lizard (*Uta stansburiana*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), California ground squirrel (*Otospermophilus beecheyi*), California vole (*Microtus californicus*) and pocket gopher (*Thomomys bottae*). Avian species observed or detected include turkey vulture (*Cathartes aura*), great horned owl (*Bubo virginianus*), American crow (*Corvus brachyrhynchos*), and house finch (*Haemorhous mexicanus*).

### SPECIAL-STATUS SPECIES

Special-status species are defined as plants and animals that are legally protected or that are otherwise considered sensitive by Federal, State, or local resource conservation agencies and organizations. For the purposes of this EIR, special-status species are those that fall into one or more of the following categories:

- species listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA);
- species considered as candidates for listing as threatened or endangered under ESA or CESA;
- species identified by California Department of Fish and Wildlife (CDFW) as Species of Special Concern;
- animals fully protected in California under the California Fish and Game Code;
- plants classified by the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) List 1B (plants considered by CNPS to be rare, threatened, or endangered in California and elsewhere) or CRPR List 2 (plants considered rare, threatened, or endangered in California but more common elsewhere).

Plant inventories prepared by CNPS provide one source of substantial evidence that is used by lead agencies to determine what plants meet the definition of endangered, rare, or threatened species, as described in Section 15380 of the State CEQA Guidelines. CNPS designations are used by both United States Fish and Wildlife Service (USFWS) and CDFW when considering formal species protection under ESA and CESA. CDFW considers all plants listed in the CNPS Inventory (CNPS 2020) to be “special plants,” which is a broad term used to refer to all of the plant taxa inventoried by the California Natural Diversity Database (CNDDB), regardless of their legal or protection status. Notation as a List 1B or 2 plant species does not automatically qualify the species as endangered, rare, or threatened within the definition of State CEQA Guidelines Section 15380. Rather, CNPS designations are considered along with other available information about the status, threats, and population condition of plant species to determine whether a species warrants evaluation as an endangered, rare, or threatened species under CEQA. Other sources include consultation with biologists from Federal and State agencies with jurisdiction over natural resources of the project site and study area; published and unpublished research; field survey records; local and regional plans adopted for the conservation of species (such as habitat conservation plans [HCPs] or natural community conservation plans [NCCPs]), other CEQA or National Environmental Policy Act documents; or other relevant information. Plants on Lists 1A, 1B, and 2 of the CNPS Inventory may qualify for listing, and CDFW recommends—and local governments may require—that these species be addressed in CEQA projects. However, a plant species need not be in the CNPS Inventory to be considered a rare, threatened, or endangered species under CEQA.

The term “California Species of Special Concern” is applied by CDFW to animals that are not listed under ESA or CESA but are nonetheless declining at a rate that could result in listing, or that historically occurred in low numbers and currently face known threats to their persistence.

The CNDDB, CNPS Inventory, and USFWS Information for Planning and Conservation website were used to determine special-status species that are known from or have potential to occur in the vicinity of the study area. The following USGS 7.5-minute quadrangles were included in CNDDB and CNPS Inventory reviews: Tres Pinos, Hollister, Cherry Peak, Paicines, Harlan, Quien Sabe Valley, San Felipe, Mariposa Peak, and Three Sisters. Although the CNDDB is the most current and reliable tool for tracking occurrences of special-status species, it contains only those records that have been reported to CDFW.

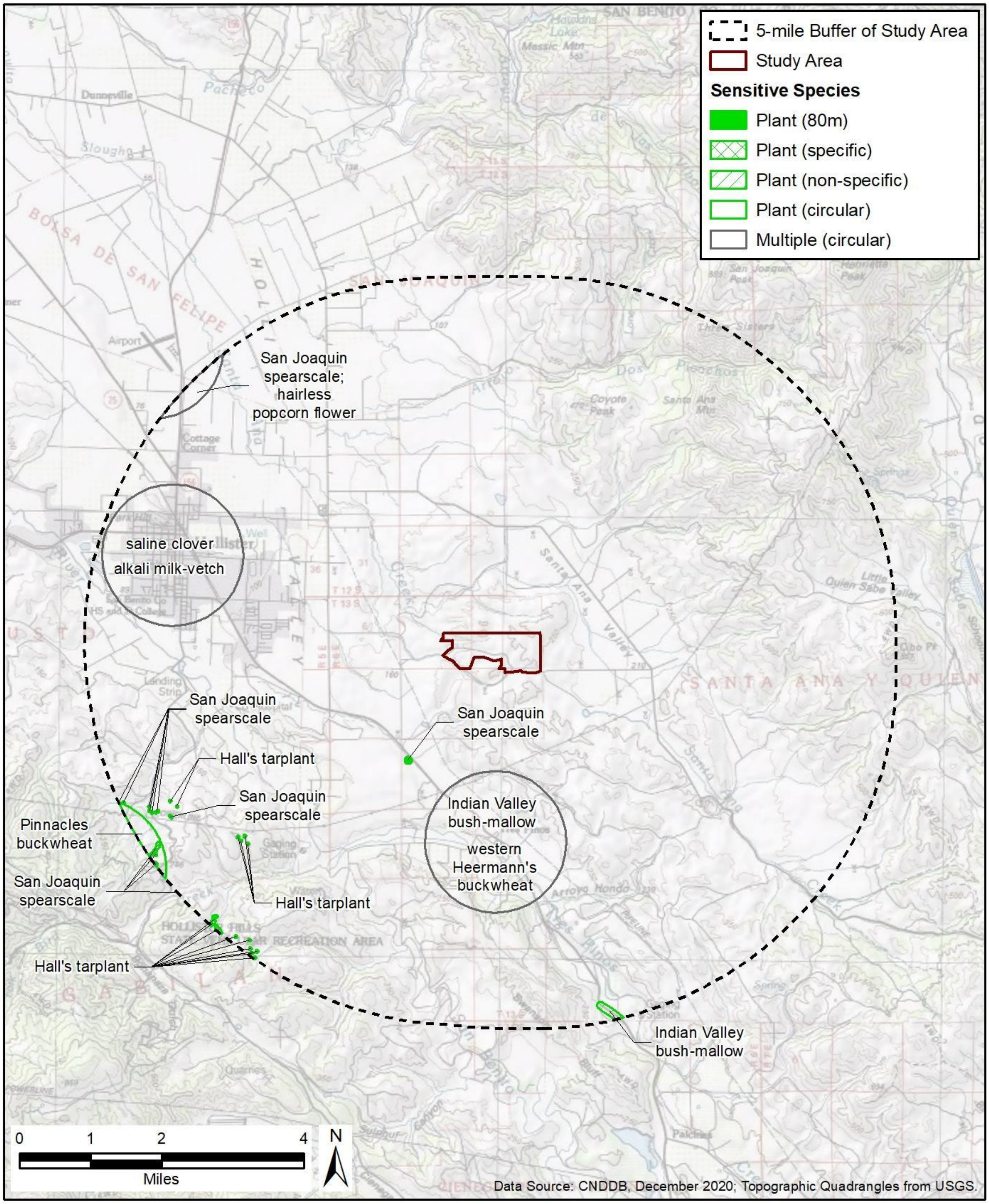
Ten special-status wildlife species have the potential to occur within the project study area, based on suitable habitat. However, no special status plants have the potential to occur on the site and no special-status plant or wildlife species have been documented within the project study area.

### Special-Status Plants

Review of the CNPS Inventory (CNPS 2020) and CNDDB (CDFW 2020) identified 14 special-status plant species as occurring in the vicinity of the project site (Figure 4.6-4). Table 4.6-2 identifies the regulatory status, habitats, and blooming period of these special-status plant species and also provides information on the likelihood of these species to occur on the project site. Habitat and elevation range information for these species was obtained from the CNPS Inventory (2020).

A focused special-status plant survey of the 388.05-acre expansion area was conducted in May 2017 (AECOM 2018d). As stated previously, the 2016-2017 rain year was an above-average rainfall year (NOAA 2022a). The plant-focused surveys followed recommendations in the CNPS Botanical Survey Guidelines (CNPS 2001) and was consistent with the *CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018). The methodology, observations, and conclusions from this survey are summarized as follows:

> "Over [two] days, surveys were conducted on foot across the entire [project site]. Given the homogeneous composition and lack of structural diversity within the annual grassland habitat that covers the entire site, foot transects targeted representative valleys, ridges, and slopes with different aspects…and the entire shoreline of the seasonal stock pond. These grassland areas were traversed at multiple locations over two days to ensure we documented all plant taxa and thoroughly covered the area. The annual grassland plant community was characterized and evaluated for its potential to support the target special-status plant species identified during the pre-field investigation. Every plant encountered in the [project site] was identified to the taxonomic level necessary to determine if it was a special-status species."
>
> "No special-status plant species were found within the [project site] during the plant surveys. The plant surveys were conducted in May, captured the blooming period of 11 of the 15 species, and three of the remaining four species—Gabilan Mountains manzanita (*Arctostaphylos gabilanensis*), Pajaro manzanita (*Arctostaphylos pajaroensis*), and Western Heermann's buckwheat (*Eriogonum heermannii* var. *occidentale*)—are perennial shrub species that would be clearly visible if present. The fourth species, Hoover's button celery (*Eryngium aristulatum* var. *hooveriII*), is a biennial or perennial species that would also be clearly visible, and it only occurs in vernal pools, which are not present within the [project site]. The 12 species that would have been in bloom during the surveys were not found, primarily due to a lack of suitable habitat such as chaparral, coastal and chenopod scrub, cismontane woodland, marshes/swamps, vernal pools, saltmarsh, and alkaline/saline, serpentinite, and/or adobe soils. These habitats do not occur within the project site and the few species that are associated with grassland habitat require special soil conditions that are absent."

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Source: GEI Consultants, Inc. 2019

**Documented Occurrences of Special-Status Plant Species** **Figure 4.6-4**

All 14 special-status plant species were determined to have no potential to occur on the project site due to narrow substrate requirements, lack of suitable habitat (including corresponding elevation range), or geographical distributions.

**Table 4.6-2**
**Special-Status Plant Species Evaluated for Potential to Occur on the Project Site**

| Special-Status Species | Regulatory Status Fed/State/CRPR[1] | Habitat Requirements | Potential for Occurrence on Project Site |
|---|---|---|---|
| Gabilan Mountains manzanita<br>*Arctostaphylos gabilanensis* | --/--/1B.2 | Chaparral and cismontane woodland (granitic)<br>Blooms: January<br>Elevation range: 980–2,295 feet | **No potential to occur:** No chaparral or woodland habitat present within project site. One CNDDB record within the 9-quadrangle search area, but not within 5 miles of the project site. Species not detected during plant surveys. |
| Pajaro manzanita<br>*Arctostaphylos pajaroensis* | --/--/1B.1 | Chaparral (sandy)<br>Blooms: December–March<br>Elevation range: 95–2,495 feet | **No potential to occur:** No chaparral habitat present within project site. Two CNDDB records within the 9-quadrangle search area, but not within 5 miles of the project site. Species not detected during plant surveys. |
| Marsh sandwort<br>*Arenaria paludicola* | FE/SE/1B.1 | Marshes or swamps (freshwater or brackish); in sandy openings.<br>Blooms: May–August<br>Elevation range: 10–558 feet | **No potential to occur:** No marsh habitat present within project site. No CNDDB occurrence within the 9-quadrangle search area a. Species not detected during plant surveys. |
| Alkali milk-vetch<br>*Astragalus tener* var. *tener* | --/--/1B.2 | Alkaline areas within playas, valley and foothill grassland (adobe clay), and vernal pools.<br>Blooms: March–June.<br>Elevation range 0–95 feet | **No potential to occur:** No alkaline playa or adobe clay soil present within project site. Project site elevation is 570–900 feet and outside species elevation range. One CNDDB record within the 9-quadrangle search area; record is from 1897 in area now developed. Species not detected during plant surveys. |
| Chaparral harebell<br>*Campanula exigua* | --/--/1B.2 | Chaparral (rocky, usually serpentinite).<br>Blooms: May–June<br>Elevation range: 900–4,100 feet | **No potential to occur:** No chaparral habitat is present within the project site. Project site elevation is 570–900 feet and outside species elevation range. One CNDDB record within the 9-quadrangle search area, but not within 5 miles of the project site. Species was not detected during plant surveys. |
| Hall's tarplant<br>*Deinandra halliana* | --/--/1B.2 | Chenopod scrub, Cismontane woodland, Valley & foothill grassland (clay, alkaline)<br>Blooms: (March)April–May<br>Elevation range: 984–3,280 feet | **No potential to occur:** No chenopod scrub, cismontane woodland present within the project site. Project site elevation is 570–900 feet and outside species elevation range. Five CNDDB occurrence within the 9-quadrangle search area, including four just within 5 miles of the project site. |
| Western Heermann's buckwheat<br>*Eriogonum heermannii* var. *occidentale* | --/--/1B.2 | Cismontane woodland (openings), often serpentinite; usually roadsides or alluvium floodplains. Rarely clay or shale slopes.<br>Blooms: July–October<br>Elevation range: 340–2,610 feet | **No potential to occur:** No woodland habitat or serpentinite soils present within project site. One CNDDB record from 1946, located about 3 miles south of the project site, although the exact location is not known. Species (and no *Eriogonum* spp.) not detected during plant surveys. |
| Pinnacles buckwheat<br>*Eriogonum nortonii* | --/--/1B.3 | Chaparral, valley and foothill grassland<br>Blooms: May – August<br>Elevation range: 136–3,495 feet | **No potential to occur:** No chaparral habitat present within the project site. Nine CNDDB records within the 9-quadrangle search area, including one just within 5 miles of project site. Species (and no *Eriogonum* spp.) not detected during plant surveys. |
| Hoover's button celery<br>*Eryngium aristulatum* var. *hooveri* | --/--/1B.1 | Vernal pools.<br>Blooms: (June) July (August)<br>Elevation range: 5–150 feet | **No potential to occur:** No vernal pools present within the project site. Project site elevation is 570–900 feet and outside species elevation range. Two CNDDB records within the 9-quadrangle search area, but not within 5 miles of the project site . Species was not detected during plant surveys. |

**Table 4.6-2**
**Special-Status Plant Species Evaluated for Potential to Occur on the Project Site**

| Special-Status Species | Regulatory Status Fed/State/CRPR[1] | Habitat Requirements | Potential for Occurrence on Project Site |
|---|---|---|---|
| San Joaquin spearscale<br>*Extriplex joaquinana* | --/--/1B.2 | Chenopod scrub, meadows and seeps, playas, valley and foothill grassland (alkaline)<br>Blooms: April–Oct<br>Elevation range: 0–2,740 feet | **No potential to occur:** No scrub, meadow and seeps, playas, or alkaline soils present within the project site. Seven CNDDB records within the 9-quadrangle search area, with one CNDDB record 1.5 miles southwest of the project site in alkali vernal pool, second 5 miles north, from 1938, now site of Hollister Airport. Species was not detected during plant surveys. |
| Indian Valley bush-mallow<br>*Malacothamnus aboriginum* | --/--/1B.2 | Chaparral, cismontane woodland (rocky, granitic); often in burned areas.<br>Blooms: April–October<br>Elevation range: 490–5,575 feet | **No potential to occur:** No chaparral or woodland habitat and no rock or granitic substrate present within project site. Six CNDDB records within the 9-quadrangle search area, including a CNDDB record from 1917 and 1918 collection sites that were never located. Species not detected during plant surveys. |
| Marsh microseris<br>*Microseris paludosa* | --/--/1B.2 | Closed–cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland (vernally moist to saturated soils).<br>Blooms: April–June (July)<br>Elevation range: 15–1,165 feet | **No potential to occur:** Species occurs in coastal prairie and scrub communities along coastline, in moist soils, whereas climate and soils in project site are dry. No CNDDB occurrence within the 9-quadrangle search area. Species not detected during plant surveys. |
| Shining navarretia<br>*Navarretia nigelliformis* ssp. *radians* | --/--/1B.2 | Vernal pool/wetland habitat in cismontane woodland, valley and foothill grassland communities; (sometimes on clay depressions)<br>Blooms: (March) April–July<br>Elevation range: 210–3,280 feet | **No potential to occur:** No vernal pool habitat within project site. Two CNDDB records within the 9-quadrangle search area, but not within 5 miles of the project site. Species not detected during plant surveys. |
| Prostrate vernal pool navarretia<br>*Navarretia prostrata* | --/--/1B.1 | Vernal pools and alkaline floodplains in coastal scrub, meadows and seeps, valley and foothill grassland communities<br>Blooms: April–July<br>Elevation range: 5–3,970 feet | **No potential to occur:** No vernal pool/wetland or alkali habitat within project site. One CNDDB record within the 9-quadrangle search area, but not within 5 miles of the project site. Species not detected during plant surveys. |
| Hairless popcornflower<br>*Plagiobothrys glaber* | --/--/1A | Marsh and swamp, salt marsh, wetland<br>Blooms: March–May<br>Elevation range: 7–371 feet | **No potential to occur.** No suitable habitat within project site. One CNDDB record within the 9-quadrangle search area, including just within 5 miles of the project site; however, this species is presumed extinct. |
| Saline clover<br>*Trifolium hydrophilum* | --/--/1B.2 | Marshes and swamps, valley and foothill grassland (mesic, alkaline), and vernal pools.<br>Blooms: April–June<br>Elevation range: 0–985 feet | **No potential to occur:** No saltmarsh/alkaline or vernal pool habitat within the project site, Three CNDDB record within the 9-quadrangle search area, with one CNDDB record within 5 miles of project site that is from 1897 nonspecific collection record. Species not detected during plant surveys. |

Notes: CNDDB = California Natural Diversity Database
**1 – Legal Status Definitions:**
FE,SE Species listed as Endangered under either the Federal (FE) or California (SE) Endangered Species Acts.
– No listing under either the Federal or California Endangered Species Act.
<u>CRPR / California Rare Plant Rank</u>
1A Presumed extinct.
1B Plant species considered Rare, Threatened, or Endangered in California and elsewhere.
.1 Seriously threatened in California (greater than 80 percent of occurrences are threatened and/or have a high degree and immediacy of threat).
.2 Moderately threatened in California (20 to 80 percent of occurrences are threatened and/or have a moderate degree and immediacy of threat).
.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).
Source: AECOM 2018d; CNPS 2020; CDFW 2020; USFWS 2020a; Compiled by GEI Consultants, Inc. in 2020

## Special-Status Wildlife

A review of the CNDDB (CDFW 2020), USFWS Information for Planning and Conservation website (USFWS 2020a) identified 25 special-status wildlife species as occurring in the study area (Figure 4.6-5). Table 4.6-3 identifies the regulatory status and habitat of these 25 special-status wildlife species and also provides information on the likelihood of these species to occur on the project site.

Fifteen special-status species that are known to occur in the region require specific habitats for foraging and reproduction that are not present within the project site and are, therefore, not likely to occur. A total of ten special-status wildlife species are known to occur or have the potential to occur on the project site. These are: California tiger salamander (*Ambystoma californiense*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), California red-legged frog (*Rana draytonii*), western spadefoot (*Spea hammondii*), Coast Range newt (*Taricha torosa),* tricolored blackbird (*Agelaius tricolor*), western burrowing owl (*Athene cunicularia*), vernal pool fairy shrimp (*Branchinecta lynchi),* American badger (*Taxidea taxus*), and San Joaquin kit fox (*Vulpes macrotis mutica*). Additional raptors and other migratory birds that are not identified in Table 4.6-3 may occur on the project site, such as northern harrier (*Circus hudsonius).*

**Table 4.6-3**
**Special-Status Wildlife Species Evaluated for Potential to Occur on the Project Site**

| Special-Status Species | Regulatory Status Fed/State[1] | Habitat Requirements | Potential for Occurrence on Project Site[2] |
|---|---|---|---|
| **AMPHIBIANS AND REPTILES** | | | |
| California tiger salamander, Central California DPS *Ambystoma californiense* | FT/ST | Lives in vacant or mammal–occupied burrows (e.g., California ground squirrel, valley pocket gopher) in grassland, savanna, or open woodland habitats; predominantly from sea level to 2,000 feet in elevation in Central California, reaching 3,500 feet in coastal areas of the San Francisco Bay Area. Breeding occurs in shallow ephemeral or semi–permanent pools and ponds that fill during heavy winter rains or in permanent ponds. | **Could occur**. The seasonal pond in the northern portion of the project site may provide suitable aquatic breeding habitat if inundated continuously for 3 to 4 months. Upland aestivation habitat exists in scattered burrows throughout the grasslands. Fifty-one CNDDB occurrences are recorded within the 9–quadrangle search area. The nearest recorded occurrences are approximately 1 mile northwest and west–southwest of the project site. No designated critical habitat in the project site. |
| Northern California legless lizard *Anniella pulchra* | --/SSC | Inhabits moist, sandy or loose loamy soils in coastal dunes, chaparral, and coastal scrub. | **No potential to occur:** No suitable habitat is present in the project site. Five CNDDB occurrences within the 9–quadrangle search area, but none within 5 miles of the project site. |
| Western pond turtle *Emys marmorata* | --/SSC | Associated with permanent and near-permanent water sources with suitable basking sites and adjacent nesting habitat. | **No potential to occur:** No suitable aquatic habitat in the project site or within more than 1 mile. Thirteen CNDDB occurrences within the 9–quadrangle search area. |
| Blunt-nosed leopard lizard *Gambelia silus* | FE/FP | Inhabits open, sparsely vegetated areas on the San Joaquin Valley floor and surrounding foothills, including alkali sink scrub, saltbush scrub, and native and nonnative grasslands. | **No potential to occur:** Study area is outside the known range for this species. No CNDDB occurrence within the 9-quadrangle search area. |
| San Joaquin coachwhip *Masticophis (=Coluber) flagellum ruddocki* | --/SSC | Open, dry, treeless areas, including grassland and saltbush scrub. | **Could occur:** Annual grassland in the study area provides potential habitat. Eight CNDDB occurrences within the 9–quadrangle search area, but none within 5 miles of the project site. |
| Foothill yellow-legged frog *Rana boylii* | --/SE, SSC | In and around permanent water. Inhabits partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Highly aquatic amphibian that remains in and near streams; rarely far from stream banks. | **No potential to occur:** No suitable habitat present in the project site or within several miles. Four CNDDB occurrences within the 9–quadrangle search area, but none within 5 miles of the project site. |

| Table 4.6-3<br>Special-Status Wildlife Species Evaluated for Potential to Occur on the Project Site | | | |
|---|---|---|---|
| **Special-Status Species** | **Regulatory Status Fed/State[1]** | **Habitat Requirements** | **Potential for Occurrence on Project Site[2]** |
| California red-legged frog<br>*Rana draytonii* | FT/SSC | Occupy a range of aquatic habitats including small streams, ponds and marshy areas. Breeds in deep (0.7 meter), still or slow–moving water; requires 11–20 weeks of permanent water for larval development. Often found in dense, shrubby, or emergent vegetation. | **Could occur:** The project site does not provide aquatic breeding habitat because the onsite seasonal pond does not appear to pond water for an adequate depth and duration needed to support breeding for this species. Potential upland and dispersal habitat exists over most of the study area in grassland habitat. Forty-seven CNDDB occurrences recorded within the 9–quadrangle search area, but none within 1 mile from the project site. Nine occurrences recorded within five miles of the project site. No designated critical habitat present in the project site. |
| Western spadefoot<br>*Spea hammondii* | --/SSC | Seasonal wetlands and vernal pools | **Could occur:** The seasonal pond present on the project site may provide suitable aquatic breeding habitat. Potential upland and dispersal habitat in adjacent annual grasslands throughout the study area. Fourteen CNDDB occurrences within the 9-quadrangle search area. |
| Coast Range newt<br>*Taricha torosa* | --/SSC | Found in wet forests, oak forests, chaparral, and rolling grasslands in or near streams; also found in intermittent streams and semi–permanent ponds. | **Could occur:** The seasonal pond present on the project site may provide suitable aquatic breeding habitat. Potential upland aestivation habitat in adjacent annual grasslands throughout the study area. One CNDDB occurrence within the 9-quadrangle search area, but none within 5 miles of the project site. |
| **FISH** | | | |
| Steelhead – South-central California Coast DPS<br>*Oncorhynchus mykiss* | FT/--/-- | Aquatic, Sacramento-San Joaquin rivers, South coast flowing waters | **No potential to occur:** Although one CNDDB occurrence is within 5 miles of the project site, no suitable habitat is present within the project site. |
| Monterey hitch<br>*Lavinia exilcauda harengus* | --/--/SSC | Aquatic | **No potential to occur:** Although one CNDDB occurrence is within 5 miles of the project site, no suitable habitat is present within the project site. |
| **BIRDS** | | | |
| Tricolored blackbird<br>*Agelaius tricolor* | --/ST, SSC | Nests in colonies in freshwater marshes with substrate that includes cattails, bulrushes, blackberries, or willows, in upland spiny vegetation, such as blackberry and thistle, and in grain crops. Grasslands, feed lots, dairy farms, and seasonal pools are used for foraging. | **Could occur:** No suitable breeding habitat present in the project site, but suitable foraging habitat is present in annual grassland and seasonal pond. Eleven CNDDB occurrences within the 9-quadrangle search area. The nearest CNDDB occurrence is approximately 0.3 mile south of the project site, from 2010, where a large nesting colony was first observed in a stand of milk thistle and blackberry; nonbreeding (i.e., foraging) individuals last observed there as recently as 2020 (GEI 2020c). |
| Western burrowing owl<br>*Athene cunicularia* | --/SSC | Inhabits open, dry annual or perennial grasslands, deserts, and scrublands characterized by low–growing vegetation; associated with excavations of burrowing mammals. | **Could occur:** Annual grassland in the study area provides potentially suitable habitat for this species; however, terrain in north and west portions of project site is relatively steep and hilly with few, scattered burrows observed during project surveys. Eastern portion of project site is more suitable with gentler slopes and more ground squirrel activity. Ten CNDDB occurrences within the 9-quadrangle search area including two within five miles of the project site. |

| Table 4.6-3<br>Special-Status Wildlife Species Evaluated for Potential to Occur on the Project Site | | | |
|---|---|---|---|
| **Special-Status Species** | **Regulatory Status Fed/State[1]** | **Habitat Requirements** | **Potential for Occurrence on Project Site[2]** |
| Swainson's hawk<br>*Buteo swainsoni* | --/ST | Nests in large, mature trees in open woodlands, woodland margins, in riparian strips along drainage canals, or in isolated trees; forages in adjacent grasslands and agricultural fields. | **No potential to occur:** Study area is outside the species current distribution, which does not include and is entirely east of San Benito County. No contemporary (since 1900) CNDDB occurrences within the 9-quadrangle search area. |
| Western yellow-billed cuckoo<br>*Coccyzus americanus occidentalis* | FT/SE | Large blocks of contiguous riparian forest, primarily willows and cottonwoods. | **No potential to occur:** No suitable riparian habitat present in or near the project site. No contemporary (since 1900) CNDDB occurrences within the 9-quadrangle search area. |
| Southwestern willow flycatcher<br>*Empidonax traillii extimus* | FE/SE | Inhabits riparian, most often willow, vegetation alongside rivers, streams, or other wetlands. | **No potential to occur:** Study area is outside the range for this species. No suitable willow, or similarly dense, riparian habitat present within the project site. No CNDDB occurrences within the 9-quadrangle search area. No designated critical habitat in the project site. |
| California condor<br>*Gymnogyps californianus* | FE/SE, FP | Open grassland with cliffs, large trees, or caves. | **Unlikely to occur:** No suitable nesting or roosting sites within several miles from the project site. Annual grassland in the study area and vicinity, some of which support cattle grazing, may provide suitable foraging habitat for this species. No CNDDB occurrences within the 9-quadrangle search area. No designated critical habitat in the project site. |
| Yellow breasted chat<br>*Icteria virens* | --/SSC | Inhabits riparian thickets of willow and other brushy tangles near watercourses. | **No potential to occur:** No suitable riparian habitat present within the project site. One CNDDB occurrence within the 9-quadrangle search area, but none within 5 miles of the project site. |
| Bank swallow<br>*Riparia* | --/ST | Low areas along rivers, streams, ocean coasts, or reservoirs. Nest in colonies on vertical cliffs, natural bluffs or eroding streamside banks, also human-made sites such as sand and gravel quarries or road cuts. | **No potential to occur:** No suitable habitat present within the project site. One CNDDB occurrence within the 9-quadrangle search area, approximately 5 miles west from the project site, recorded in 1922. |
| Least Bell's vireo<br>*Vireo bellii pusillus* | FE/SE | Dense, low, shrubby vegetation, generally early successional stages in riparian areas, brushy fields, young second–growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions. | **No potential to occur:** No suitable habitat present within the project site. No CNDDB occurrence within the 9-quadrangle search area. No designated critical habitat in the project site. |
| **INVERTEBRATES** | | | |
| Vernal pool fairy shrimp<br>*Branchinecta lynchi* | FT/-- | Vernal pools or static rain filled pools. | **Could occur.** The seasonal pond on the project site could provide suitable habitat. One CNDDB occurrence of this species is recorded in the 9–quadrangle search area, recorded in 2012 in a seasonal wetland just east of Hollister and approximately 1.5 miles west of the project site. No designated critical habitat in the project site. |
| **MAMMALS** | | | |
| Townsend's big-eared bat<br>*Corynorhinus townsendii* | --/SSC | Roosts in caves and cave–like habitat, mines, buildings and tunnels; may also roost in tree hollows. | **No potential to occur**. No suitable roosting habitat in or near the project site. One CNDDB occurrence within the 9-quadrangle search area, but none within 5 miles of the project site. |

**Table 4.6-3**
**Special-Status Wildlife Species Evaluated for Potential to Occur on the Project Site**

| Special-Status Species | Regulatory Status Fed/State[1] | Habitat Requirements | Potential for Occurrence on Project Site[2] |
|---|---|---|---|
| Big-eared kangaroo rat *Dipodom Venustus elephantinus* | --/SSC | Chaparral | **No potential to occur**. No suitable roosting habitat in or near the project site. One CNDDB occurrence from 1955 within the 9-quadrangle search area, but not within 5 miles of the project site. |
| Western mastiff bat *Eumops perotis californicus* | --/SSC | Roosts in crevices in cliffs, high buildings, trees and tunnels. | **Unlikely to occur:** Unlikely to roost within the project site; no cliffs, high buildings, or tunnels present and trees available for roosting are limited to only a few along the southern boundary. One CNDDB occurrence within the 9-quadrangle search area, but none within 5 miles of the project site. |
| Western red bat *Lasiurus blossevillii* | --/SSC | Roosts primarily in trees, often in edge habitats adjacent to streams, fields, or urban areas. | **Unlikely to occur:** Unlikely to roost within the project site; trees available for roosting are limited to only a few along the southern boundary. One CNDDB occurrence within the 9-quadrangle search area, but none within 5 miles of the project site. |
| American badger *Taxidea taxus* | --/SSC | Open grassland with ground squirrel burrows | **Could occur:** Annual grassland in the study area provides potentially suitable denning and foraging habitat for this species. Nine CNDDB occurrences within the 9-quadrangle search area, and three within 3 miles of the project site. |
| San Joaquin kit fox *Vulpes macrotis mutica* | FE/ST | Occurs primarily in San Joaquin Valley, with satellite populations in the southern Salinas Valley and possibly the eastern Pajaro River Valley. Inhabits valley and foothill grasslands, sparsely vegetated shrubby habitats, and some agricultural and urban areas. | **Could occur:** Annual grassland in the study area provides potentially suitable denning and foraging habitat for this species. There are ten CNDDB occurrences within the 9-quadrangle search area; however, none recorded after 1992. The nearest CNDDB occurrence, recorded between 1972 and 1975, overlaps the project site and continues further south. |

Notes: CNDDB = California Natural Diversity Database

**1 – Legal Status Definitions:**

FE,SE Species listed as Endangered under either the Federal (FE) or California (SE) Endangered Species Acts.
FT,ST Species listed as Threatened under either the Federal (FT) or California (ST) Endangered Species Acts.
FP Wildlife species listed as Fully Protected by the California Department of Fish and Wildlife.
SSC Wildlife species listed as Species of Special Concern by the California Department of Fish and Wildlife.
– No listing under either the Federal or California Endangered Species Act.

**2 –Potential for Occurrence Evaluation:**

*No potential to occur:* Potentially suitable habitat is not present.
*Unlikely to occur:* Potentially suitable habitat present but species unlikely to be present because of very restricted distribution.
*Could occur:* Suitable habitat is available; however, there are few or no other indicators that the species may be present.
*Likely to occur:* Habitat conditions, behavior of the species, known occurrences in the vicinity, or other factors indicate a relatively high likelihood that the species would occur.

Source: AECOM 2018a, 2018b, 2018c; CNPS 2020; CDFW 2020; GEI 2020b; H.T. Harvey 2020; USFWS 2020a; Compiled by GEI Consultants, Inc. in 2020.

### *California Tiger Salamander*

The Central California distinct population segment (DPS) of the California tiger salamander is Federally listed as threatened. California tiger salamander is State listed as threatened throughout its entire range. The western boundary of the project site is approximately 0.50 mile east of designated California tiger salamander critical habitat: East Bay Region - Central Population, Ana Creek Unit 15A, San Benito County (USFWS 2018).

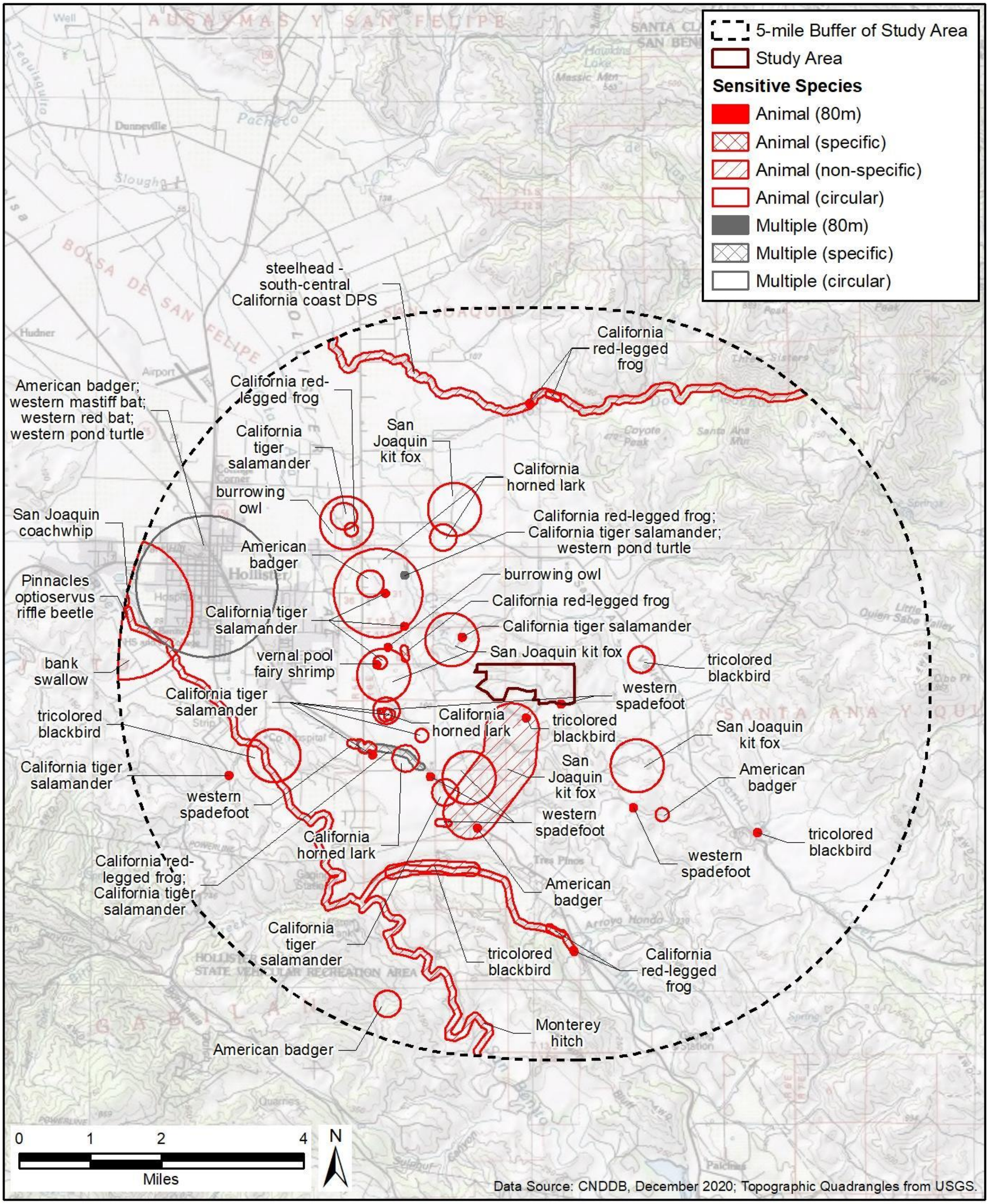
California tiger salamanders are distributed throughout the Central Valley and Central Coast ranges from Colusa County south to San Luis Obispo and Kern counties, from sea level to 1,054 meters (3,460 feet) in elevation. California tiger salamanders inhabit lowland grasslands, oak savannah, and mixed woodland habitats, and require vernal pools, seasonal ponds, or semi-permanent calm waters that pond water for a minimum of 3 to 4 months for breeding and larval maturation, and adjacent upland habitat with small mammal burrows for aestivation (Storer 1925; Barry and Shaffer 1994; Stebbins 2003). The salamanders begin migrating to breeding sites following the onset of autumn rains, typically in November, and have been documented traveling distances up to 1.3 miles from breeding sites (Trenham and Shaffer 2005). Young migrate in mass when temporary pools begin to dry in late spring or early summer (Feaver 1971; Jennings and Hayes 1994; Stebbins 2003), and juveniles and adults aestivate through the summer and fall, typically in small mammal burrows (i.e., California ground squirrel and pocket gopher burrows) (CDFG 2010; Barry and Shaffer 1994; Jennings and Hayes 1994; Stebbins 2003). California tiger salamanders are at risk due to loss of habitat from development of agriculture and grazing lands, habitat fragmentation, and introduction of predatory exotic species such as mosquitofish (*Gambusia affinis*), bullfrogs (*Rana catesbiena*), and Louisiana red swamp crayfish (*Procambarus clarkii*) (Zeiner et al. 1988; CDFG 2010; Jennings and Hayes 1994).

California ground squirrel burrow complexes, which can provide upland refugia for this species, are scattered in small clusters throughout the project site (H.T. Harvey 2020). The seasonal pond in the north-central portion of the project site (Figure 4.6-3) is relatively shallow, but in years of above average rainfall, it may hold water for a duration long enough for successful breeding. Even if the pond does not hold water for a long duration in all years, if there is sufficient hydroperiod during years of at least average rainfall (i.e., if the pond holds water through April, and especially through May), then it could provide suitable breeding habitat for this species. Suitable upland habitat (annual grassland on rolling hills with limited rural residential and other development scattered within this habitat), as well as potential breeding habitat (approximately 28 ponds and seasonal wetlands are scattered within a 1.3-mile radius around the project site) surround the project site in all directions, except to the south where the active landfill acts as a barrier. Two ponds within dispersal distance of the project site have documented occurrences of California tiger salamander (one is 0.5 miles northwest of the project site and one is 1.2 mile southwest of the project site) (CDFW 2020) (see Figure 4.6-5). This species could occur within the project site because of the known occurrences and associated breeding habitat within dispersal distance of the project site, the suitable upland dispersal habitat between these ponds and the project site, suitable upland dispersal and refugial habitat on the project site, and potential breeding habitat (the seasonal pond) on the project site.

### *California Red-Legged Frog*

California red-legged frog is a CDFW Species of Special Concern and is Federally listed as threatened. The project site is not within designated critical habitat for this species, but the closest designated critical habitat is Unit SNB-1, located approximately 2.3 miles south of the project site. This frog uses a variety of aquatic and upland habitats throughout its life cycle including ponds, slow-flowing portions of perennial streams, and intermittent streams that maintain water in the summer months.

Breeding sites are generally found in deep, still or slow-moving water (greater than 2.5 feet) (Hayes and Jennings 1988). Although seasonal pools and ponds may support successful breeding, these need to provide water long enough (typically through July or later) to allow for larvae to successfully metamorphose and disperse from the pond. Also, where breeding occurs only in seasonal waterbodies, some perennial waterbody should be present nearby to provide suitable nonbreeding aquatic habitat. Individuals are able to disperse or migrate from breeding sites to forage in upland habitats and are known to move up to 2 miles from aquatic sites, regardless of topography or vegetation, during the wet season. Additionally, during the summer months when aquatic sites tend to dry out, California red-legged frog is known to disperse overland to suitable aestivation (dormancy) habitat that can include small mammal burrows, moist leaf litter, riparian corridors, or stream channels with shallow pools. There are five occurrence records of this species within 3.1 miles of the project site (CDFW 2020), including two non-extant occurrences. All of these occurrences are northwest to south of the project site. There are no known observations of this species to the northeast and east of the project site, but this is likely due to the lack of surveys for this species in those areas (H.T. Harvey 2020). There is no permanent aquatic habitat in the form of a perennial pond or drainage with deep pools on the project site. The onsite seasonal pond appears to hold water

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Source: GEI Consultants, Inc. 2019

**Documented Occurrences of Special-Status Wildlife Species** **Figure 4.6-5**

only during the spring (i.e., not into summer) during years of below-average or average rainfall; however, it can hold water into the summer, and occasionally into the fall during years of above-average rainfall. Based on the species' ecology, this type of pond would not be adequate to support a viable California red-legged frog population because in most years this hydroperiod would be insufficient to allow for successful metamorphosis of larvae (H.T. Harvey 2020). While this seasonal pond could provide dispersal and/or foraging habitat for this species if more permanent aquatic habitat is present relatively nearby, the probability of California red-legged frog occurrence at the on-site pond during any season is limited considerably by the short hydroperiod in the pond and the pond's distance from more suitable habitat, as described below.

The nearest perennial aquatic habitat is most likely pools within Santa Ana Creek, approximately 0.5 miles northwest of the project site; however, because of the relative distance between the creek and the project site, and the relatively short hydroperiod of the onsite seasonal pond in most years, California red-legged frog is not expected to disperse to the project site, except possibly occasionally during wet years (H.T. Harvey 2020). In summary, even though the upland grassland habitat on and immediately surrounding the project site provides suitable upland dispersal habitat for this species, these on-site habitats are not located between two or more areas of permanent or semi-permanent aquatic habitat that would support California red-legged frog. Therefore, this species is likely absent from the project site; if the species occurs at all, it likely does so in very low numbers and very infrequently, when individuals may disperse onto the site during the wet season.

#### *San Joaquin Coachwhip*

San Joaquin coachwhip is a CDFW Species of Special Concern. This species inhabits open, dry, treeless areas, including grassland and saltbrush scrub. There are no documented occurrences of this species within 5 miles of the project site; however, annual grassland on the project site and along the RNG pipeline alignment provides potentially suitable habitat.

#### *Western Spadefoot*

Western spadefoot is a CDFW Species of Special Concern. This species inhabits seasonal wetlands and vernal pools, and breeds in features that pond water for more than 3 weeks and are absent of predators such as fish, bullfrogs, and crayfish. The seasonal pond in the north central portion of the project site may provide suitable aquatic breeding habitat, as it holds water through winter and spring even during years of below-average or average rainfall (as determined based on the presence of water during a drought period); offsite ponds and seasonal wetlands may also support suitable breeding habitat. The species is known to disperse up to 1,200 feet from breeding ponds into upland habitats. The annual grassland on the project site provides potential upland and dispersal habitat for this species. There are several documented occurrences of this species within 5 miles of the project site.

#### *Coast Range Newt*

Coast Range newt is a CDFW Species of Special Concern within the study area. This species inhabits wet forests, oak forests, chaparral, and rolling grasslands, as well as intermittent streams and semi-permanent ponds. There are no documented occurrences of this species within 5 miles of the project site; however, annual grassland on the project site provides potentially suitable habitat.

#### *Tricolored Blackbird*

Tricolored blackbird is State listed as threatened as well as a CDFW Species of Special Concern. This species is also protected under Section 3503.5 of the California Fish and Game Code, which prohibits the destruction of raptors and their nests. This colonial-nesting species traditionally nested in cattails and bulrush in freshwater marshes with substrate, but an increasing number of colonies are in blackberry and thistle patches in upland areas and in grain crops. Tricolored blackbird forages in grasslands, feed lots, dairy farms, and seasonal pools. There is no suitable breeding habitat present in the project site, but suitable foraging habitat is present in annual grassland

and the seasonal pond. In 2010, a large nest colony was documented in a stand of milk thistle and blackberry approximately 0.3 mile south of the project site; nonbreeding (i.e., foraging) individuals were observed there as recently as 2020 (GEI 2020c). During a 2021 survey of a parcel south of this project site, it was observed that the location of the prior observation of tricolored blackbirds had been mechanically disced at the time and the area was devoid of nesting vegetation (GEI 2021). However, since this vegetation was present at the time the Notice of Preparation was published (February 22, 2021), it is considered part of the environmental baseline for this project. Therefore, individuals from nearby nest colonies could forage on the project site.

### *Western Burrowing Owl*

Western burrowing owl is a CDFW Species of Special Concern. This species is also protected under Section 3503.5 of the California Fish and Game Code, which prohibits the destruction of raptors and their nests. Burrowing owls prefer dry grasslands and other dry, open habitats. They typically nest and roost in burrow systems created by medium-sized mammals, such as ground squirrels, artificial sites such as drainpipes or culverts, or self-excavated burrows when soil conditions are appropriate. Two documented occurrences burrowing owl (from 1992 and 2000) are recorded one and two miles northwest of the project site, both in areas with relatively level topography and at the entrance of animal burrows (CDFW 2020). Although this species has not been observed on the project site during any recent surveys, due to the proximity of documented records in the vicinity of the project site and because suitable habitat and suitable small mammal burrows exist on-site, western burrowing owl has the potential to occur on the project site.

### *Vernal Pool Fairy Shrimp*

Vernal pool fairy shrimp is Federally listed as threatened. No designated critical habitat occurs in the project site. This species requires vernal pools or static rain-filled pools, typically located in grassland. The seasonal pond may be potentially suitable habitat for this species. There is one documented occurrences of this species within 1 mile of the project site; it was recorded in 2012 in a seasonal wetland just east of Hollister.

### *American Badger*

American badger is a CDFW Species of Special Concern. This species uses underground burrows in open habitats with friable soils. Badgers frequently reuse old burrows, but also often dig new dens, especially during summer. Four CNDDB occurrences are documented within 5 miles of the study area, the most recent being a 2014 observation of a roadkill individual (CDFW 2020). Although this species has not been observed on the project site in any recent surveys, due to the proximity of documented records in the vicinity of the project site and because suitable habitat occurs onsite, American badger has the potential to occur on the project site.

### *San Joaquin Kit Fox*

San Joaquin kit fox is Federally listed as endangered and State listed as threatened. Critical habitat has not been designated for this species. This species typically occurs in annual grassland or mixed shrub/grassland habitats throughout low, rolling hills and in valleys. San Joaquin kit fox require underground dens for temperature regulation, shelter, reproduction, and predator avoidance. The kit fox range currently includes much of the San Joaquin Valley and adjacent foothills, and interior valleys in San Luis Obispo, Monterey, and San Benito Counties, as well as the hills east of the Livermore Valley. This species occurs in three core population areas, and fewer than a dozen satellite populations exist in California (Cypher et al. 2014, USFWS 1998). The nearest core population is located in western Fresno and eastern San Benito Counties at the Ciervo-Panoche Natural Area, approximately 25 miles southeast of the project site.

Eight historical (i.e., prior to 1975) kit fox occurrences were reported from within 10 miles of the project site in San Benito and Merced Counties (CNDDB 2020); however, San Joaquin kit fox have not been detected in the region of the study area for several decades (the most recent observation was in 1992). Numerous surveys in the Hollister area in the 1980s and 1990s produced negative results, and recent (2003) detection dog surveys conducted north of Hollister also failed to detect the species (ESRP 2003). The project site provides suitable denning habitat and prey resources, and the open habitat characteristics and low to moderately sloping topography throughout the project site are consistent with habitat that the species is known to occupy. However, the species has not been reported in the area since the 1990s and it is unlikely that San Joaquin kit fox remain in the Hollister area in any numbers (H.T. Harvey 2020). Thus, the potential for San Joaquin kit fox to occupy the project site is considered to be unlikely; if kit foxes occur on the project site at all, they would likely occur as occasional dispersing individuals (H.T. Harvey 2020).

### SENSITIVE HABITATS AND SENSITIVE NATURAL COMMUNITIES

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the Clean Water Act (CWA), or the Porter-Cologne Water Quality Control Act. Sensitive habitats may be of special concern to these agencies and to conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species.

Sensitive habitats may include waters and wetlands, riparian habitats, as well as areas designated as critical habitat and protected under the Federal ESA. The project site does not support riparian habitat or designated critical habitat. The pond present on the project site does not qualify as jurisdictional waters of the U.S. (GEI 2020a), but it would likely be considered a water of the State under jurisdiction of the Regional Water Quality Control Board (RWQCB).

CDFW maintains a list of terrestrial natural communities that are native to California, the *List of Vegetation Alliances and Associations* (CDFW 2021). Within that list, CDFW identifies and ranks natural communities of special concern (NCSC) considered to be highly imperiled. CDFW's natural-community rarity rankings follow NatureServe's 2009 *NatureServe Conservation Status Assessments: Methodology for Assigning Ranks* (Faber-Langendoen et al. 2012), in which all alliances are listed with a global (G) and state (S) rank, where G1/S1 is Critically Imperiled, G1/S2 is Imperiled, G3/S3 is Vulnerable, G4/S4 is Apparently Secure, and G5/S5 is Secure. Occurrences of NCSC are included in the CNDDB; however, no new occurrences have been added to the CNDDB since the mid-1990s. No vegetation types that rank as NCSC are documented within the study area.

### WILDLIFE MOVEMENT CORRIDORS

A wildlife corridor is generally a topographical/landscape feature or movement area that connects two areas of natural habitat. Wildlife corridors link areas of suitable wildlife habitat that are separated by changes in vegetation, rugged terrain, or human disturbance. Wildlife species likely use grasslands in and around the study area as movement and migration corridors.

## 4.6.2 REGULATORY SETTING

Biological resources in California are protected by a variety of federal, State and local laws and regulations. Important regulations pertaining to biological resources in the project area are discussed below.

### FEDERAL REGULATORY ISSUES

#### Federal Endangered Species Act

Pursuant to ESA, USFWS and National Marine Fisheries Service (NMFS) have authority over projects that may affect the continued existence of a Federally listed (threatened or endangered) species. Section 9 of ESA and Federal regulations prohibit the take of Federally-listed fish or wildlife species (16 United States Code [USC] Section 1538[a][1][B]). "Take" is defined under ESA, in part, as killing, harming, or harassing (16 USC Section 1539[19]). Under Federal regulations, take is defined further to include habitat modification or degradation where it actually results or is reasonably expected to result in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

The take prohibition of ESA Section 9 applies only to listed species of fish and wildlife. Section 9(a)(2)(B) describes Federal protection for endangered plants. In general, ESA does not protect listed plants located on nonfederal land (i.e., areas not under Federal jurisdiction), unless such species are already protected by State law.

Section 7 of ESA outlines procedures for Federal interagency cooperation to conserve Federally listed species and designated critical habitat. Section 7(a)(2) requires Federal agencies to consult with USFWS and NMFS to ensure that the Federal agencies are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat identifies specific areas that have the physical and biological features that are essential to the conservation of a listed species, and that may require special management considerations or protection.

For projects where Federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under Section 10(a) of ESA. Section 10 allows USFWS to permit the incidental take of listed species if such take is accompanied by an HCP that includes components to minimize and mitigate impacts associated with the take.

### Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC, §703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

### Clean Water Act

Section 404 of the CWA requires a permit before engaging in any activity that involves any discharge of dredged or fill material into "waters of the U.S.," including wetlands. Fill includes material placed in waters of the U.S. where the material has the effect of replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water of the U.S. Examples of fill material include, but are not limited to: rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and material used to create any structure or infrastructure in waters of the U.S. In light of the U.S. District Court for the District of Arizona's August 30, 2021 order vacating and remanding the Navigable Waters Protection Rule in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*, the federal agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting "waters of the U.S." consistent with the pre-2015 regulatory regime. On June 9, 2021, EPA and Department of the Army announced their intent to initiate a new rulemaking process that restores the protections in place prior to the 2015 waters of the U.S. implementation and develops a new rule to establish a durable definition of "waters of the U.S." This rulemaking process follows a review conducted by the agencies as directed by January 20, 2021, Executive Order 13990 on "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis." The agencies have now announced initial public meeting dates and requested written pre-proposal recommendations regarding defining "waters of the U.S."

Under Section 404 of the CWA, the U.S. Army Corps of Engineers regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the U.S. Fill of less than 0.5 acre of nontidal waters of the U.S. for residential, commercial, or institutional development projects can generally be authorized under the U.S. Army Corps of Engineers nationwide permit program, provided that the project satisfies the terms and conditions of the particular permit. Fills that do not qualify for a nationwide permit or regional general permit require an individual permit. In implementing CWA Section 404, U.S. Army Corps of Engineers complies with Executive Order 11990, signed May 24, 1977, which directs all federal agencies to refrain from assisting in, or giving financial support to, projects that encroach on publicly or privately owned wetlands. This Executive Order requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands.

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate State agency stating that the intended dredging or filling activity is consistent with the State's water quality standards and criteria. In California, the State Water Resources Control Board delegates the authority to grant water quality certification to the nine RWQCBs; the Central Coast RWQCB has jurisdiction over the project site.

## STATE REGULATORY ISSUES

### California Endangered Species Act

Pursuant to CESA, a permit from CDFW is required for projects that would "take" a species that is State listed as threatened or endangered (California Fish and Game Code Section 2050 et seq.). Under CESA, take is defined as an activity that would directly or indirectly kill an individual of a species. The definition does not include "harm" or "harass" as in the Federal act. The take of State-listed species incidental to otherwise lawful activities requires a permit, pursuant to Section 2081(b) of CESA. The State has the authority to issue an incidental take permit under California Fish and Game Code Section 2081, or to coordinate with USFWS during the Section 10(a) process to make the Federal permit consistent with CESA.

As under Federal law, listed plants have considerably less protection than fish and wildlife under California law. The California Native Plant Protection Act (California Fish and Game Code Section 19000 et seq.) allows landowners to take listed plant species from, among other places, a canal, lateral ditch, building site, road, or other right-of-way, provided that the owner first notifies CDFW and gives the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. The project site is a "building site" within the meaning of the applicable statute (Fish and Game Code Section 1913).

### Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by the CDFW, pursuant to Sections 1600–1603 of the California Fish and Game Code. The Code states that it is unlawful for any person or agency to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or to use any material from the streambeds, without first notifying CDFW of such activity. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFW's jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. A CDFW Streambed Alteration Agreement must be obtained for any project that would adversely affect a river, stream, or lake.

### Fully Protected Species under the California Fish and Game Code

Four sections of the California Fish and Game Code (Fish and Game Code Sections 3511, 4700, 5050, and 5515) list 37 fully protected species. These statutes prohibit take or possession at any time of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. CDFW has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

### California Fish and Game Code Sections 3503–3503.5 - Protection of Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

### Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the State fall under jurisdiction of the RWQCB. Under the act, the RWQCBs must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and ground water, as well as actions to control non-point and point sources of pollution to achieve and maintain these standards. Waters of the state include any surface water or groundwater, including saline waters, within the State's boundaries. The RWQCB has the discretion to take jurisdiction over areas not Federally regulated under Section 401 of the CWA, provided they meet the definition of waters of the State. Projects that affect waters of the State must meet waste discharge requirements of the relevant RWQCB.

## LOCAL REGULATORY ISSUES

### County of San Benito General Plan

Specific goals and policies included in the Natural and Cultural Resources (NCR) Element of the San Benito County 2035 General Plan (San Benito County 2015) that apply to the preservation of open space and natural resources include the following:

**Goal NCR-1**. To preserve and enhance valuable open space lands that provide wildlife habitat and conserve natural, historical, archaeological, paleontological, tribal, and visual resources of San Benito County.

- **NCR-1.1: Maintenance of Open Space**. The County shall support and encourage maintenance of open space lands that support natural resources, agricultural resources, recreation, tribal resources, wildlife habitat, water management, scenic quality, and other beneficial uses.

- **NCR-1.2: Conservation Easements**. The County shall support and encourage the use of conservation easements to protect open space that contains valuable natural resources.

- **NCR-1.3: Open Space Overlay District**. The County shall continue to protect and preserve the rural landscape and implement open space policies for: public health, safety, and welfare; continued agricultural uses; scenic viewscape preservation, including scenic highway corridors; park and recreation uses; conservation of significant natural resources; the containment and definition of limits to urbanization; and the preservation of the natural habitat for threatened and/or endangered plant and animal species.

**Goal NCR-2**. To protect and enhance wildlife communities through a comprehensive approach that conserves, maintains, and restores important habitat areas.

- **NCR-2.1: Coordination for Habitat Preservation**. The County shall work with property owners and Federal and State agencies to identify feasible and economically-viable methods of protecting and enhancing natural habitats and biological resources in the county.

- **NCR-2.4: Maintain Corridors for Habitat**. The County shall protect and enhance wildlife migration and movement corridors to ensure the health and long-term survival of local animal and plant populations, in particular contiguous habitat areas, in order to increase habitat value and lower land management costs. As part of this effort, the County shall require road and development sites in rural areas to: a. Be designed to maintain habitat connectivity with a system of corridors for wildlife or plant species and avoiding fragmentation of open space areas; and b. Incorporate measures to maintain the long-term health of the plant and animal communities in the area, such as buffers, consolidation of/or rerouting access, transitional landscaping, linking nearby open space areas, and habitat corridors.

- **NCR-2.5: Mitigation for Wetland Disturbance or Removal**. The County shall encourage the protection of the habitat value and biological functions of oak woodlands, native grasslands, riparian and aquatic resources, and vernal pools and wetlands. The County shall require that development avoid encroachment and require buffers around these habitats to the extent practicable. The County shall further require mitigation for any development proposals that have the potential to reduce these habitats. Recreational trails and other features established within natural wetlands and aquatic and riparian buffer areas shall be, as long as such areas are not required to meet the Americans with Disabilities Act, located along the outside of the sensitive habitat whenever possible to minimize intrusions and maintain the integrity of the habitat. Exceptions to this action include irrigation pumps, roads and bridges, levees, docks, public boat ramps, and similar uses. In all cases where intrusions into these buffers are made, only the minimum amount of vegetation necessary to construct the feature shall be removed.

- **NCR-2.8: Pre-Development Biological Resource Assessment**. The County shall require the preparation of biological resource assessments for new development proposals as appropriate. The assessment shall include the following: a biological resource inventory based on a reconnaissance-level site survey, and an analysis of anticipated project impacts to: potentially occurring special-status species (which may require focused special-status plant and/or animal surveys); an analysis of sensitive natural communities; wildlife movement corridors and nursery sites on or adjacent to the project site; potentially jurisdictional wetlands/waterways; and locally protected biological resources such as trees. The assessment shall contain suggested avoidance, minimization, and/or mitigation measures for significant impacts to biological resources.

- **NCR-2.9: Mitigation Funding and Site Protection**. The County shall require that project applicants demonstrate that adequate funding can be provided to implement all required biological mitigation and monitoring activities. Habitat preserved as part of any mitigation and monitoring plan shall be preserved through a conservation easement, deed restriction, or other method to ensure that the habitat remains protected.

### San Benito County Ordinances

**San Benito County Ordinance No. 541 (San Benito County Code, Chapter 19.19)** establishes an HCP study area and has set interim mitigation fees for the preparation and adoption of an HCP. Ordinance No. 541 allows for the collection of "interim mitigation fees" from development projects and rangeland conversion occurring in the unincorporated areas of the County. The purpose of Ordinance No. 541 "is to provide a method for financing development and implementation of a [HCP] and a Section 10(a) permit under the Endangered Species Act of 1973 for the County HCP plan study area." As stated in Ordinance No. 541, mitigation fees are to be held in a trust for future use in payment of HCP development costs and habitat mitigation as identified in an HCP, once developed. As of this writing, the HCP has not yet been prepared or adopted by the County.

Per this ordinance, all lands located in the unincorporated areas of the County are designated as the HCP preliminary study area. The interim mitigation fee is collected in two stages, at the map stage and the building permit stage. The fees that must be paid prior to recordation of a final or parcel map range from $150 - $600 per lot, depending on the acreage. The fees that must be paid at the time of the building permit include $.015 per square foot of structure. Commercial, industrial and other development projects that convert raw land to developed uses also pay $550 per developed acre prior to alteration of the habitat. Payment of the interim mitigation fee will satisfy County conditions of approval placed on development projects with regard to adverse impact mitigation for federally endangered species which have not previously been satisfied, and these interim mitigation fees will be waived for any development project for which the USFWS has approved other mitigating procedures or which is otherwise exempt from the provisions of the ESA of 1973.

**Interim Woodland Management Ordinance (Ordinance 757, 2002)**: The ordinance applies to parcels covered by at least 10% woodland vegetation or that historically supported woodlands. Tree removal requires a permit when 90 – 100% of the allowable amount is slated for tree removal on parcels with 10% woodland removal approaches within 10 years, or slopes are greater than 30 %. All amounts are developed as canopy retention standards or on slopes >30%. Clearcutting and grading to remove woodlands is prohibited. Permit conditions may include a revegetation plan and a performance bond. This ordinance requires standards based on original canopy retention from when all cover. All canopy is 20%, up to 65% must be retained when cover is 80 – 100% 20% or less. When original cover is 80 – 100%, 65% of the canopy must be retained. Retention standards are increased for tree removal on slopes. Although a few honey locust trees are located along the southeast boundary of the project site along John Smith Road, this ordinance would not apply to the project since the site is not covered by 10% of woodland vegetation.

### San Benito County Policies

**Policy for Open Space and Conservation (1995)**[1] stipulates the following:

- Oak Woodlands: The County will promote restoration, restocking, and protection of oak woodland habitat on public and private lands in the County through habitat conservation planning, inter-agency coordination, and development review procedures. Coordination with neighboring counties where oak hardwood communities intermingle is necessary to inventory resources, educate private and public landowners, and develop programs for regeneration and maintenance of these significant plant communities. Development near oak woodlands shall be clustered to avoid, where practical, the loss of trees, and transitional buffers shall be developed to help maintain viable ecosystems. Where removal of trees cannot be avoided, a mitigation plan shall be developed for tree replacement on- or off-site. Oak woodlands should be included in a sensitive resource overlay.

- Tree Removal: Grading, erosion, and native tree removal for all development proposals shall be controlled to minimize erosion. All native trees must be illustrated on site plans along with proposed grading plans and location of utilities. A revegetation plan shall be submitted with the grading plans detailing the type of plants to be re-established, details of the preparatory measures, and methods of planting and maintenance. The plan shall include provisions for remedial action in the event the revegetation plan fails.

- Wildlife Habitat: In rural areas, road and development sites shall be designed to maintain habitat connectivity of open space areas. Measures to maintain the long-term health of the plant and animal communities in the area shall be incorporated into project design. Where mitigation is not feasible off-site mitigation measures shall be developed.

- Open Space: Plan amendments and studies that result in a net increase in general plan buildout shall include methods to conserve open space for natural resources including wildlife habitat such as conservation easements and/or other similar resource protection measures). Proposed development areas shall protect resources on-site and contiguous to the project with clustering, conservation easements, and other similar programs.

[1] Source: https://ucanr.edu/sites/oak_range/files/60618.pdf.

## 4.6.3 IMPACTS AND MITIGATION MEASURES

### METHOD OF ANALYSIS

The analysis included in this section is based on a review of available background reports, previous studies conducted on the project site, biological resource database review, and aerial photography interpretation. Specific biological resource background reports reviewed in preparing this section are identified in Table 4.6-1. None of these biological resource background reports recorded observations of sensitive species on the project site.

The impact analysis for vegetation and wildlife considered the following factors related to the project: project components; potential impact mechanisms; the extent of area that would be temporarily and permanently disturbed; existing habitat conditions in and adjacent to the project site; and known or potential occurrences of evaluated biological resources in and near the study area. In particular, the significance of each impact was evaluated in terms of the magnitude (severity) of the impact on each biological resource addressed. The magnitude depends on the quality of the resource being impacted (e.g., habitat quality, regional or range-wide rarity or importance of the resource, and site occupancy and/or population density); the extent (e.g., area) and duration (e.g., temporary versus permanent, number of seasons or generations affected) over which impacts occur; and the intensity of the impact on the resource (e.g., level of harm, injury/loss, or degradation suffered by the resource). An impact of substantial magnitude is considered a significant impact. Any direct impact on a Federally or State-listed species is considered a substantial (and therefore, significant) impact.

This impact analysis assumes that all habitats within the study area would be directly or indirectly disturbed by project activities.

### THRESHOLDS OF SIGNIFICANCE

Pursuant to Appendix G of the CEQA Guidelines and CEQA Guidelines Section 15065, impacts on biological resources resulting from implementation of the proposed project would be considered significant if the project would:

- have a substantial adverse impact, 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 CDFW or USFWS;
- have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse impact on State or Federally protected wetlands through direct removal, filling, hydrological interruption, or other means;
- 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 nursery sites by native wildlife;
- conflict with any adopted local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State HCP; or
- 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; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

### Issues Not Discussed Further in this EIR

**Special-status Species not Occurring on the Project Site –** This impact analysis focuses on resources with reasonable potential to be affected by implementation of the project. Therefore, plant and wildlife species not expected to occur, or with a low probability to occur, on the project site (because of a lack of suitable habitat, known extant range of the species, and/or lack of occurrence records) are not discussed further. Additionally, some special-status birds, such as California condor, and bats that do not nest or roost in the study area, but could occur very occasionally, are not expected to be affected by implementation of the project and are not addressed.

**Conflict with Provisions of an Adopted HCP or NCCP –** The project site is not within the planning area for any adopted HCP or NCCP. While the study area is within the San Benito County HCP Preliminary Study Area, this HCP is not yet approved. However, impacts to the HCP Preliminary Study Area are addressed under the analysis of impacts to adopted local policies or ordinances.

## IMPACTS AND MITIGATION MEASURES

**IMPACT 4.6-1** **Mortality or Injury of California Tiger Salamander and Disturbance and Loss of Habitat.** *The construction of project components could directly affect California tiger salamander habitat during the initial land clearing/vegetation removal activities. Individual salamanders, if aestivating in burrows in upland areas, could be injured or killed as a result. The project would eliminate all habitat for this species on the project site, and ongoing landfill operations would substantially reduce the quality of habitat on the project site and adjacent areas up until site closure. These potential impacts are considered* ***significant****.*

The construction of project components could directly affect habitat for the California tiger salamander (CTS). While it is unknown whether the seasonal pond on the project site provides breeding habitat for this species, other ponds within dispersal distance of the project site have documented occurrences of this species and, therefore, the project site could provide suitable upland habitat for California tiger salamander. No CTS were detected during a reconnaissance-level survey of the project site conducted in May 2020 (H.T. Harvey & Associates 2020). However, presence of this species on the site cannot be ruled out without conducting protocol-level surveys. In the absence of protocol-level surveys for this species, it is assumed that the project site supports suitable upland habitat for this animal.

Initial land clearing/vegetation removal activities could injure or kill CTS that may be aestivating in burrows in the grasslands on the project site. Project implementation would eliminate upland habitat for California tiger salamander on the project site by converting annual grassland to non-habitat, and filling and removing the seasonal pond. The construction of project components would result in the disturbance and loss of 0.6 acre of potentially suitable aquatic habitat and potentially suitable upland habitat associated with the on-site seasonal pond and other ponds within dispersal distance of the project site. Even where suitable habitat (i.e., annual grassland) would remain intact, potential indirect effects this species may result due to ongoing landfill operations occurring within and adjacent to these areas. This species could be also indirectly affected by project implementation through the attraction of predators, the diminishment of value of adjacent suitable habitats, the restriction of local and regional of movements, and the disruption of behaviors. Because CTS could use grasslands, and possibly the pond, on the project site and could be killed or injured by the initial land clearing/vegetation removal activities associated with the construction of project components and ongoing landfill operations, this impact would be considered **significant**.

**Mitigation Measure 4.6-1: Mortality or Injury of California Tiger Salamander and Disturbance and Loss of Habitat.**

a. The project shall implement the following measures to avoid and minimize injury or mortality of individuals during initial land clearing/vegetation removal activities associated with the construction of project components:

   - A qualified biologist shall ensure that the project proponent implements this measure to avoid and minimize impacts and shall document compliance with this and all biological resource-related mitigation measures herein.

   - Prior to initial land clearing/vegetation removal activities, project construction boundaries and access areas shall be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.

   - Erosion control measures shall be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting shall not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

   - If recommended or required by regulatory agencies or a qualified biologist as provided for in the mitigation measures herein, the applicant shall install and maintain exclusion fencing in the locations and for the duration recommended or required by a regulatory agency or qualified biologist.

b. The project shall develop and implement an environmental awareness training program. This training shall be conducted by a qualified biologist and provided to construction personnel before engaging in initial land clearing/vegetation removal activities associated with the construction of project components. Environmental awareness training shall include descriptions of all special-status wildlife species potentially occurring in the project area, their habitats, and methods of identification, including visual aids as appropriate, and shall also describe activity-specific measures required to minimize and avoid impacts.

c. A qualified biologist shall conduct pre-construction biological surveys no more than four weeks prior to initial land clearing/vegetation removal activities. Potential habitat shall be surveyed by a qualified biologist to confirm no individual species are moving above-ground, or taking refuge in burrow openings or under materials that could provide cover such as boards, scrap metal, woody debris, or other materials. The project shall also retain a qualified biologist to provide biological monitoring during initial land clearing and vegetation removal activities to monitor the removal of the top 12 inches of topsoil at all project locations. If any life stage of a special-status species is found in the land clearing/vegetation removal work area, construction activities shall cease within 100 feet of the animal and USFWS and/or CDFW shall be notified within 48 hours. Construction activities shall not be allowed within 100 feet of the animal. The biologist shall determine if a buffer is necessary to avoid impact to the species and, if determined to be appropriate, an avoidance buffer of the size determined by the biologist shall be maintained for the duration required by the biologist. The biologist shall monitor the animal to make sure it is not harmed and that it leaves the site on its own unless handling is approved in consultation with USFWS and/or CDFW and such handling is done by a USFWS- and CDFW-approved biologist with appropriate handling permits to move the animal out of the work area to a USFWS- and/or CDFW-approved relocation site. If a dead individual is found, the qualified biologist shall be informed within 48 hours and shall conduct an inspection to determine whether any living animals of that species are in the area.

d. The project sponsor shall provide compensatory habitat mitigation to offset the permanent loss of suitable habitat at a minimum of a 1:1 ratio. The County, in consultation with a qualified biologist, shall determine the total acreage of permanent loss of suitable habitat. Compensation may be in the form of either the purchase of habitat credits from a USFWS- and CDFW-approved conservation bank or the permanent protection (through conservation easement) and management (including a long-term management plan reviewed and determined adequate to maintain suitable habitat by a qualified biologist) of suitable on- and/or off-site habitat.

In addition to mitigating impacts to the CTS, Mitigation Measure 4.6-1a-d is applied to mitigate impacts to other species below. When Mitigation Measure 4.6-1 is referenced for additional impacts below, the intent is to apply subsections (a) through (d) even if each subsection is not expressly referenced. Subsection (e) below applies only to the California tiger salamander.

e. If initial land clearing/vegetation removal activities associated with the construction of project components commences during the wet season and active dispersal period for CTS (generally between October 16 and May 14, depending on the precipitation year), a qualified biologist shall conduct pre-construction biological surveys no more than four weeks prior to the construction. Potential CTS habitat will be surveyed by a qualified biologist to confirm no salamanders are moving above-ground, or taking refuge in burrow openings or under materials that could provide cover such as boards, scrap metal, woody debris, or other materials. The project shall also retain a qualified biologist to provide biological monitoring during initial land clearing and vegetation removal activities to monitor the removal of the top 12 inches of topsoil at all project locations. If any life stage of CTS is found in the land clearing/vegetation removal work area, construction activities shall cease within 100 feet of the animal and USFWS and CDFW shall be notified within 48 hours. Construction activities shall not be allowed within 100 feet of the animal. The biologist shall monitor the California tiger salamander to make sure the amphibian is not harmed and that it leaves the site on its own unless handling is approved in consultation with USFWS and CDFW and such handling is done by a USFWS- and CDFW-approved biologist with appropriate handling permits to move the animal out of the work area to a USFWS- and/or CDFW-approved relocation site.

### Level of Significance after Mitigation

With implementation of Mitigation Measure 4.6-1, the potentially significant impact associated with adverse impacts to California tiger salamander would be reduced to a **less-than-significant** level because the project would avoid and minimize disturbance to, and provide compensation for, California tiger salamander and their habitat.

**IMPACT 4.6-2** **Disturbance of California Red-Legged Frog Habitat.** *Although it is unlikely that the California red-legged frog occurs in the study area due to the marginal habitat quality on the project site and distance to suitable habitat and known populations, implementation of the proposed project could adversely affect this species if it disperses into the study area. The project would eliminate all habitat for this species on the project site, and ongoing landfill operations would substantially reduce the quality of habitat on the project site and adjacent areas up until site closure. Therefore, the project's potential impacts on this species would be considered **significant**.*

The proposed project is not expected to adversely affect California red-legged frog (CRLF). The onsite seasonal pond does not hold water of adequate depth and duration to support a viable breeding habitat for this species, because in most years the hydroperiod would be insufficient to allow for successful metamorphosis of larvae, and a persistent population would not persist around this feature (H.T. Harvey 2020). The probability of CRLF occurrence at the on-site pond during any season, even during above-average years of precipitation, is limited considerably by the short hydroperiod in the pond and the pond's distance from more suitable habitat, the nearest of which is approximately 0.5 miles northwest of the project site.

The upland grassland habitat on and immediately surrounding the project site provides potential upland dispersal habitat for this species. Although these on-site habitats are not located between two or more areas of permanent or semi-permanent aquatic habitat that could support CRLF (H.T. Harvey 2020), the species may occur onsite in very low numbers and very infrequently, when individuals may occasionally disperse during the wet season. Project implementation would eliminate upland habitat for CRLF on the project site by converting annual grassland to non-habitat. Initial land clearing/vegetation removal activities could injure or kill CRLF that may be aestivating in burrows in the grasslands or dispersing across the project site. Even where suitable habitat (i.e., annual grassland) would remain intact, potential indirect effects this species may result due to ongoing landfill operations occurring within and adjacent to these areas. This species could be also indirectly affected by project implementation through the attraction of predators, the diminishment of value of adjacent suitable habitats, the restriction of local and regional of movements, and the disruption of behaviors. Because CRLF could use grassland on the project site and could be killed or injured by the initial land clearing/ vegetation removal activities associated with the construction of project components and ongoing landfill operations, this impact without implementation of mitigation would be considered **significant**.

**Mitigation Measure 4.6-2: Disturbance of California Red-Legged Frog Habitat.**

The project shall conduct the avoidance and minimization measures identified in Mitigation Measures 4.6-1a and 4.6-1b above prior to initial land clearing/vegetation removal activities associated with the construction of project components. If CRLF are found during the preconstruction survey or in the biological monitoring during land clearing/vegetation removal, as identified in Mitigation Measure 4.6-1c, the biologist shall monitor the animal(s) to make sure it is not harmed and that it leaves the site on its own. If any life stage of CRLF is found in the land clearing/vegetation removal work area, construction activities shall cease within 100 feet of the animal and USFWS shall be notified within 48 hours. Construction activities will not be allowed within 100 feet of the animal. The biologist shall monitor the animal(s) to make sure it is not harmed and that it leaves the site on its own unless handling is approved in consultation with USFWS and such handling is done by a USFWS-approved biologist with appropriate handling permits to move the animal out of the work area to a USFWS-approved relocation site. If CRLF are found within the land clearing/vegetation removal work area, the project shall provide compensatory habitat mitigation to offset the permanent loss of suitable habitat at a minimum of a 1:1 ratio. The County, in consultation with a qualified biologist, shall determine the total acreage of permanent loss of suitable habitat. Compensation may be in the form of either the purchase of habitat credits from a USFWS-approved conservation bank or the permanent protection (through conservation easement) and management (including a long-term management plan) of suitable on- and/or off-site habitat.

## Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-2, the potentially significant impact associated with adverse impacts to CRLF would be reduced to a **less-than-significant** level because the project would avoid and minimize disturbance to, and provide compensation for, this species.

**IMPACT 4.6-3** **Mortality or Injury of San Joaquin Coachwhip and Coast Range Newt and Disturbance and Loss of Habitat.** *The construction of project components could adversely affect San Joaquin coachwhip and Coast Range newt through the removal of suitable habitat during the initial land clearing/vegetation removal activities. The project's potential impacts on this species would be considered **significant**.*

The construction of project components could adversely affect San Joaquin coachwhip and Coast Range newt. The project site contains suitable habitat and suitable habitat surrounds the study area. Therefore, the initial land clearing/vegetation removal activities associated with the construction of project components could reduce the number or restrict the range of these species. Loss of individuals in the project area could diminish the local populations of these species and lower reproductive potential, contributing to the further decline of these species. Impacts on San Joaquin coachwhip and Coast Range newt are considered potentially **significant**.

**Mitigation Measure 4.6-3: Mortality or Injury of San Joaquin Coachwhip and Coast Range Newt and Disturbance and Loss of Habitat.**

The project shall conduct the avoidance and minimization measures identified in Mitigation Measures 4.6-1a and 4.6-1b above prior to initial land clearing/vegetation removal activities associated with the construction of project components. In addition, if San Joaquin coachwhip and/or Coast Range newt are found in the preconstruction survey or in the biological monitoring during land clearing/vegetation removal, as identified in Mitigation Measure 4.6-1c, the biologist shall monitor the animal(s) to make sure it is not harmed and that it leaves the site on its own unless handling is approved in a letter from CDFW authorizing this activity and such handling is done by a qualified biologist who is CDFW-approved to trap and move the animal(s) to a CDFW-approved relocation area. Construction activities will not be allowed within 100 feet of the animal.

### Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-3, the potentially significant impact associated with adverse impacts to San Joaquin coachwhip and Coast Range newt would be reduced to a **less-than-significant** level because the project would avoid and minimize disturbance to these species.

| | |
|---|---|
| **IMPACT 4.6-4** | **Disturbance or Loss of Western Spadefoot or Their Habitat.** *The construction of project components could adversely affect suitable aquatic, upland, and dispersal habitat for western spadefoot during the initial land clearing/vegetation removal activities and ongoing landfill operations. This species is known to occur in the vicinity of the study area. Therefore, the project's potential impacts on this species would be considered* ***significant****.* |

The construction of project components could adversely affect breeding habitat and suitable upland and dispersal habitat for the western spadefoot. This species is known to the occur in the vicinity of the study area, and the project site supports potential breeding habitat, and suitable upland and dispersal habitat for this animal. The initial land clearing/vegetation removal activities associated with the construction of project components would disturb and remove habitat for this species and could reduce the number or restrict the range of this species or interfere with their movement. Even where suitable habitat (i.e., annual grassland) would remain intact, potential indirect effects this species may result due to ongoing landfill operations occurring within and adjacent to these areas; these indirect effects could include the attraction of predators, the diminishment of value of adjacent suitable habitats, the restriction of local and regional of movements, and the disruption of behaviors. Impacts on western spadefoot are considered **significant**.

#### Mitigation Measure 4.6-4: Disturbance or Loss of Western Spadefoot or Their Habitat.

Prior to initial land clearing/vegetation removal activities associated with the construction of project components, a qualified biologist shall evaluate the work area and vicinity (within 1,200 feet of the work area, as feasible and accessible) for the presence of suitable western spadefoot habitat (i.e., features that pond water for at least 3 weeks and lack predators, and terrestrial habitat within 1,200 feet of potentially suitable western spadefoot breeding habitat). The areas that are identified as suitable habitat for western spadefoot shall be surveyed during the wet season by a qualified biologist no more than four weeks prior to the disturbance. If this species is identified onsite, land clearing/vegetation removal within the suitable habitat will be avoided, if feasible. If land clearing/vegetation removal is required within the suitable habitat, activities will be monitored by a qualified biologist. The qualified biologist shall have the authority to halt construction activities if a western spadefoot is observed within the work area, and the biologist may relocate animals to suitable habitats outside the area in consultation with CDFW.

### Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-4, the potentially significant impact associated with adverse impacts to western spadefoot would be reduced to a **less-than-significant** level because the project will avoid or minimize disturbance to western spadefoot and their habitat.

**IMPACT 4.6-5** **Disturbance or Loss of Tricolored Blackbird Foraging Habitat.** *Implementation of the proposed project would not adversely affect nesting habitat for tricolored blackbird because there is no suitable breeding habitat onsite. Tricolored blackbirds may forage on the project site; however, the lands in the vicinity of the study area support adequate foraging opportunities for this species. Therefore, the project's potential impacts on this species would be considered* ***less than significant****.*

Project development is not likely to adversely affect breeding tricolored blackbird because the project site does not support suitable breeding habitat for this species. However, tricolored blackbirds may forage on the project site. Other properties comprising thousands of acres in the project vicinity also provide foraging habitat for this species; thus, the incremental disturbance of approximately 387.5 acres of annual grassland over a 50-to-100-year period associated with project implementation would not appreciably reduce foraging opportunities for this species in the area. Over time, much of the disturbed grassland would revert to grassland as interim and final cover is applied to the filled modules and revegetation occurs. Implementation of the proposed project would not be expected to reduce the number or restrict the range of this species or interfere substantially with their movement, and the loss of foraging habitat on the project site would not have a substantial adverse effect overall on the population of the species. Impacts on tricolored blackbird are considered **less than significant**.

#### Mitigation Measure 4.6-5 Disturbance or Loss of Tricolored Blackbird Foraging Habitat

No mitigation measures are necessary.

**IMPACT 4.6-6** **Potential Loss of Western Burrowing Owl Individuals, Raptors and Other Migratory Birds.** *The construction of project components could adversely affect suitable habitat for western burrowing owl and raptors and other migratory birds during the initial land clearing/vegetation removal activities and ongoing landfill operations. Burrowing owl is known to occur in the vicinity of the study area, and other raptors and other migratory birds have the potential to occur in the study area. Therefore, the project's potential impacts on these species would be considered* ***potentially significant****.*

Although no burrowing owls have been identified within the study area, grasslands within the project site provide potentially suitable habitat for burrowing owls. Raptors and other migratory birds also may nest in grasslands or the trees in the study area. The construction of project components could affect suitable habitat and could result in loss of occupied burrows and/or nests. This could cause injury or mortality of burrowing owls and raptors or other migratory birds, if they are present within the project site or along the RNG pipeline alignments when initial land clearing/vegetation removal activities occur. If disturbance levels are high enough, these species could be displaced from active burrows or nests, potentially resulting in abandonment of active nests and loss of eggs or young. Even where suitable habitat (i.e., annual grassland) would remain intact, potential indirect effects may result due to ongoing landfill operations occurring within and adjacent to these areas. These species could also be indirectly affected by project implementation through the attraction of predators, the diminishment of value of adjacent suitable habitats, the restriction of local and regional of movements, and the disruption of behaviors. Because of the potential for destruction and/or disturbance of occupied burrows or nests, if present on the project site during initial land clearing/vegetation removal activities and ongoing landfill operations, the proposed project would have a **potentially significant** impact on these species**.**

#### Mitigation Measure 4.6-6: Potential Loss of Western Burrowing Owl Individuals, Raptors and Other Migratory Birds

a. A qualified biologist shall conduct surveys of suitable nesting habitat for common raptors and other migratory birds that would be directly disturbed by initial land clearing/vegetation removal activities as well as suitable nesting habitat, if present, within 500 feet of these activities. Surveys shall be conducted within 14 days before project activities begin near suitable nesting habitat during the nesting season (February 1 – August 31). If any active bird nests are documented in the area that would be directly disturbed by these activities or active nests of common raptors and other migratory birds are documented within 500 feet, protective buffers shall be established and implemented until the nests are no longer active. A qualified biologist shall monitor the nests during these activities to confirm effectiveness of the buffers. The size of the buffer shall be the size necessary to avoid disturbance to the nests and shall be determined by the qualified biologist after considering all relevant factors, including the type and intensity of project disturbance, presence of visual buffers, and other variables that could affect susceptibility of the nest to disturbance.

b. The project shall implement the following measuring conforming to Appendix D of the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012):

- A qualified biologist shall be on-site during all initial land clearing/vegetation removal activities associated with the construction of project components in potential burrowing owl habitat and nesting habitat for raptors and other migratory birds. A qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction surveys of the permanent and temporary impact areas, plus a 150-meter (approximately 492-foot) buffer, to locate active breeding or wintering burrowing owl burrows no less than 14 days prior to construction. If lawful access cannot be achieved to adjacent areas, surveys can be performed with a spotting scope or other methods. The survey methodology will be consistent with the methods outlined in the Staff Report and will consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any potential burrows with fresh burrowing owl sign or presence of burrowing owls. Copies of the survey results shall be submitted to CDFW and the County Planning Department.
- If burrowing owls are detected, no ground-disturbing activities, such as road construction or ancillary facilities, shall be permitted within the distances listed below unless otherwise authorized by CDFW. Burrowing owls shall not be moved or excluded from burrows during the breeding season:

| **Burrowing Owl Burrow Buffers** | | **Level of Disturbance** | | |
|---|---|---|---|---|
| Location | Time of Year | Low | Medium | High |
| Nesting sites | April 1–August 15 | 656 feet | 1,640 feet | 1,640 feet |
| Nesting sites | August 16–October 15 | 656 feet | 656 feet | 1,640 feet |
| Any occupied burrow | October 16–March 31 | 164 feet | 328 feet | 1,640 feet |

- If avoidance of active burrows is infeasible outside of the breeding season, the owls can be passively displaced by a qualified biologist from their burrows according to recommendations made in the 2012 Staff Report on Burrowing Owl Mitigation. Burrowing owls should not be excluded from burrows unless or until:
  - Occupied burrows shall not be disturbed during the nesting season unless a qualified biologist meeting the Biologist Qualifications set forth in the May 2012 CDFW Staff Report, verifies through noninvasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.
  - A Burrowing Owl Exclusion Plan is developed and approved by the applicable local CDFW office and submitted to the County Planning Department. The plan shall include, at a minimum:
    - Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
    - Type of scope and appropriate timing of scoping to avoid impacts;
    - Occupancy factors to look for and what will guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing

owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and cannot escape i.e., look for sign immediately inside the door);

        - How the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);
        - Removal of other potential owl burrow surrogates or refugia on-site;
        - Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;
        - Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take;
        - How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.

- Permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the measures described below.
    - Temporary exclusion is mitigated in accordance with the measures described below.
    - Site monitoring is conducted prior to, during, and after exclusion of burrowing owls from their burrows sufficient to ensure take is avoided. Conduct daily monitoring for one week to confirm young of the year have fledged if the exclusion will occur immediately after the end of the breeding season.
    - Excluded burrowing owls are documented using artificial or natural burrows on an adjoining mitigation site (if able to confirm by band re-sight).
- In accordance with the Burrowing Owl Exclusion Plan, a qualified wildlife biologist shall excavate burrows using hand tools. Sections of flexible plastic pipe or burlap bag shall be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow. One-way doors shall be installed at the entrance to the active burrow and other potentially active burrows within 160 feet of the active burrow. Forty-eight hours after the installation of the one-way doors, the doors can be removed, and ground-disturbing activities can proceed. Alternatively, burrows can be filled to prevent reoccupation.
- During construction activities, monthly and final compliance reports shall be provided to CDFW, the County Planning Department, and other applicable resource agencies documenting the effectiveness of mitigation measures and the level of burrowing owl take associated with the proposed project.

### Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-6, the potentially significant impact associated with the loss of western burrowing owl and raptors or other migratory birds would be reduced to a **less-than-significant** level because the project would avoid or minimize disturbance to these species.

**IMPACT 4.6-7** **Mortality or Injury of Vernal Pool Fairy Shrimp and Disturbance and Loss of Habitat.** *The construction of project components could directly affect vernal pool fairy shrimp habitat through the disturbance and removal of potential habitat during the initial land clearing/vegetation removal activities. Fairy shrimp could be injured or killed as a result. These potential impacts are considered* ***significant****.*

The construction of project components could directly affect potential habitat for the vernal pool fairy shrimp. It is unknown whether the seasonal pond on the project site provides breeding habitat for this species, but other seasonal wetlands in the vicinity of the study area have documented occurrences of this species and, therefore, the seasonal pond on the project site could provide suitable habitat for vernal pool fairy shrimp. In the absence of protocol-level surveys for this species, it is assumed that the project site supports suitable habitat for this animal. Implementation of the project would result in the disturbance and loss of 0.6 acre of potentially suitable habitat during the initial land clearing/vegetation removal activities associated with the construction of project components. Because vernal pool fairy shrimp could use the pond on the project site and could be killed or injured by initial land clearing/vegetation removal activities associated with the construction of project components, this impact would be considered **significant**.

#### Mitigation Measure 4.6-7: Mortality or Injury of Vernal Pool Fairy Shrimp and Disturbance and Loss of Habitat

a. Following the USFWS-approved protocol (USFWS 2017), no more than one year prior to the initial land clearing/vegetation removal activities, the project shall conduct pre-construction surveys for vernal pool fairy shrimp in the onsite seasonal pond during the wet season (generally between October 16 and May 14, depending on the precipitation year) or when the seasonal pond is inundated and in any other natural areas on the project site that are demonstrated to pond water temporarily during a rainy period. If the surveys demonstrate negative findings, and the USFWS concurs with these results, no additional mitigation measures are necessary. If the surveys demonstrate positive findings, the following measure shall be implemented.

b. Consult with USFWS under ESA to identify and implement appropriate measures to minimize and compensate for impacts to vernal pool fairy shrimp, and, if necessary, obtain incidental take authorization. At a minimum, such measures shall include, but are not limited to, providing compensatory habitat mitigation to offset the permanent loss of suitable habitat, as determined by the USFWS, at a minimum of a 2:1 ratio. Compensation may be in the form of either the purchase of habitat credits from a USFWS- and CDFW-approved conservation bank or the permanent protection (through conservation easement) and management (including a long-term management plan with a funded endowment) of suitable on- and/or off-site habitat.

### Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-7, the potentially significant impact associated with adverse impacts to vernal pool fairy shrimp would be reduced to a **less-than-significant** level because the project will minimize and compensate for loss of vernal pool fairy shrimp and their habitat.

**IMPACT 4.6-8** **Disturbance or Loss of American Badger or its Habitat.** *Implementation of the proposed project could adversely affect American badger. This species is known to occur in the vicinity of the study area, and implementation of the proposed project could impact this species if it occurs in the project vicinity. Therefore, the project's potential impacts on this species would be considered* ***potentially significant****.*

Project development could adversely affect American badger. While site surveys have not detected this species or evidence of suitable burrows onsite (AECOM 2018d; GEI 2020b), this species is known to occur in the vicinity of the study area and has the potential to occur on the project site or along the RNG pipeline alignment. Project implementation could impact the American badger if this species is present in dens onsite or in the project vicinity during construction or during ongoing landfill operations. While implementation of the proposed project would not reduce the number or restrict the range of this species or interfere with their movement, it could result in direct impacts to this species through the destruction of a breeding den during earth-moving activities, or could result in indirect effects, such as den abandonment due to noise or ground disturbance in the vicinity of the den. Potential impacts on American badger would be considered **potentially significant**.

#### Mitigation Measure 4.6-8: Disturbance or Loss of American Badger or its Habitat

To determine if active badger dens are present on the project site or along the RNG pipeline alignment, preconstruction surveys for badger dens shall be conducted. If active badger dens are present on or adjacent to the project site, an avoidance buffer shall be maintained between the den and construction activities during pupping season (February 15 through July 1, or as otherwise determined through surveys and monitoring of the den).

### Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-8, the potentially significant impact associated with adverse impacts to American badger would be reduced to a **less-than-significant** level because the project will minimize impacts to American badger.

**IMPACT 4.6-9** **Loss of San Joaquin Kit Fox Habitat.** *Implementation of the proposed project could adversely affect San Joaquin kit fox. Although there are no documented records of this species within 5 miles of the study area since the 1990s, this species could occasionally disperse through the study area. Loss of suitable dispersal habitat for this species would not reduce the number or extant range of the species; however, if this species is dispersing through the study area during project construction or ongoing landfill operations, it could be adversely affected. This would be considered a* ***potentially significant*** *impact.*

Due to the rarity of the San Joaquin kit fox, its State and Federal listing status, and the presence of suitable habitat on the project site, project-related activities could result in adverse effects to kit fox and its habitat if it occurs in the study area. However, this species is currently very rare in the region (and likely does not occur regularly), and there are no documented records of the San Joaquin kit fox in the vicinity of the study area since the 1990s. The non-native annual grassland on the project site provides potential dispersal habitat for San Joaquin kit fox; however, there is little evidence that the project site supports important or regularly used habitat for this species. The removal of potential dispersal habitat would not reduce the number or restrict the extant range of this species or interfere with their movement. Nonetheless, if the species is dispersing through the study area during project construction or ongoing landfill operations, it could be adversely affected. This would be considered a **potentially significant** impact.

#### Mitigation Measure 4.6-9: Loss of San Joaquin Kit Fox Habitat

No less than 14 and no more than 30 days before initial land clearing/vegetation removal activities begin, a qualified biologist will conduct a pre-construction survey to determine the potential for San Joaquin kit fox to occur in the construction area. If potential or known dens for San Joaquin kit fox are found, exclusion zones will be established and maintained as directed by a qualified biologist and meeting the minimum standards in the *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox* (USFWS 2011), or the most current Standardized Recommendations at the time exclusion zones are established. No deliberate feeding of wildlife will be allowed, and no domestic pets associated with project personnel will be permitted on the project site.

### Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-9, the potentially significant impacts to San Joaquin kit fox would be reduced to a **less-than-significant** level because the project would avoid or minimize impacts to this species.

**IMPACT 4.6-10** **Loss of Wetland Habitat.** *The construction of project components would adversely affect a sensitive natural community through the direct fill of a wetland during the initial land clearing/vegetation removal activities. This would be considered a* ***potentially significant*** *impact.*

The construction of project components would result in fill of the 0.6-acre seasonal pond. This feature is not a jurisdictional wetland regulated by the U.S. Army Corps of Engineers under CWA Section 404, because there was no evidence of an ordinary high-water mark, no change in vegetative character or evidence of surface flow was visible, the pond lacks an outlet and a downstream outlet to other waters of the U.S., and lacks development of hydric soils (GEI 2020a). However, the pond would likely be considered a water of the State under jurisdiction of the RWQCB. Loss of a wetland as a result of direct fill associated with initial land clearing/ vegetation removal activities would be considered an adverse effect on a sensitive natural community. This would be considered a **potentially significant** impact.

#### Mitigation Measure 4.6-10: Loss of Wetland Habitat

If wetlands are filled or disturbed as part of a project, the project proponent shall compensate for the loss to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with the RWQCB but shall be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled). Compensation may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits.

If permittee-responsible mitigation is proposed, a restoration and monitoring plan shall be prepared describing how wetlands will be created and monitored. The plan shall identify the target species to be restored; planting design; irrigation needs; weed control; an implementation budget; and a 3-year maintenance and monitoring approach. The plan shall also include performance measures that ensure that 80 percent or greater cover by obligate and/or facultative wetland plant species is sustained after a three-year period and that less than 10 percent of the cover is inhabited by nuisance plant species. Contingency measures shall be included in the plan, such as provisions for remedial planting to meet percentage requirements, if performance standards are not achieved after 3 years. Requirements for ongoing monitoring shall be identified if performance standards are not met after 5 years (National Academies of Sciences, Engineering, and Medicine 2001).

### Level of Significance after Mitigation

With implementation of Mitigation Measures 4.6-1 and 4.6-10, the significant impacts to wetland habitat would be reduced to a **less-than-significant** level because the project would compensate for the loss of wetland habitat through onsite restoration/creation, offsite restoration, and/or the purchase of mitigation credits.

**IMPACT 4.6-11** **Potential Interference with Terrestrial Movement and Migration Corridors.** *Implementation of the proposed project would result in an additional barrier to terrestrial movement and migration. However, relative to the amount of available habitat in the vicinity of the study area, this impact would be considered* ***less than significant****.*

Implementation of the project would result in disturbance of natural habitat that is likely used for wildlife movement and could disrupt such movement patterns. No nursery sites are known to occur in the study area. The existing landfill is considered a barrier to dispersal but implementing the proposed project would not substantially expand that barrier since habitat remains all around the project site. Thousands of acres of grasslands surround the site; thus, the incremental disturbance of approximately 387.5 acres of annual grassland at the project site and limited grassland located along the roadway shoulders of the RNG pipeline alignments over a 50-to-100-year period associated with project implementation would not appreciably reduce the potential for wildlife movement/migration through the area. Also, over time, much of the disturbed grassland would revert to grassland as interim and final cover is applied to the filled modules and revegetation occurs. The amount of open grassland habitat that would be lost as a result of project implementation is minimal compared to the amount of open grassland and agricultural lands in the vicinity of the project site, and the loss of this habitat is not expected to substantially impact movement and migration opportunities for wildlife in the area. This would be considered a **less-than-significant** impact.

#### Mitigation Measure 4.6-11 Potential Interference with Terrestrial Movement and Migration Corridors

No mitigation measures are necessary.

| | |
|---|---|
| **IMPACT 4.6-12** | **Conflict with Adopted Local Policies and Ordinances.** *Implementation of the proposed project would not conflict with adopted local policies and ordinances. The project proponent would be required to obtain appropriate permits and pay fees to the County to convert raw land to industrial use unless the fees are waived because USFWS has approved other mitigating procedures. There would be **no impact**.* |

San Benito County Ordinance No. 541 (San Benito County Code, Chapter 19.19) establishes an HCP study area and has set interim mitigation fees for the preparation and adoption of an HCP. Currently, the interim mitigation fee is $550 per acre for conversion of raw land to industrial use and $0.15 per square foot of any structures, paid at the building permit stage (County Code Section 19.19.004(A)(2). The project proponent is required to obtain permits and pay interim fees to the County unless the fees are waived because USFWS has approved other mitigating procedures. Therefore, there would be no conflict with adopted local policies and ordinances. There would be **no impact**.

#### Mitigation Measure 4.6-12 Conflict with Adopted Local Policies and Ordinances

No mitigation measures are necessary.

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# 4.7 CULTURAL AND TRIBAL CULTURAL RESOURCES

This section discusses cultural resources, which are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance. The California Environmental Quality Act (CEQA) defines a "historical resource" as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). Tribal Cultural Resources (TCRs) are also a type of cultural resource recognized under CEQA.

## 4.7.1 EXISTING CONDITIONS

### ANALYSIS METHODOLOGY

Analysis of cultural resources is based on the records search, a field survey, and Native American consultation, as described below.

#### Archival Research

On April 28, 2020, GEI Consultants (GEI) archaeologist Matthew Chouest submitted a records search request to the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University in Rohnert Park, California. Research staff completed a records search of the project site and 0.25-mile radius surrounding the project site on May 18, 2020 (File No. 19-1890). The NWIC is a repository of all cultural resources site records, previously conducted cultural resource investigations, and historic information concerning cultural resources for eighteen counties, including San Benito County. The purpose of this records search was to compile information pertaining to the cultural resources' sensitivity within a 0.25-mile radius of the project site, including the locations of previously recorded cultural resource sites and investigations. The following sources were consulted during the records search:

- NWIC base maps: U.S. Geological Survey (USGS) 7.5-minute series topographic quadrangle of Tres Pinos (1971);
- Historical maps of the project area;
- Survey reports from previous cultural resource investigations and cultural resource site records to identify recorded archaeological sites and historic era-built environment resources (i.e., buildings, structures, and objects) located within or immediately adjacent to the project area; and
- California Office of Historic Preservation (OHP) sources, including the Gold Districts of California – Bulletin 193 (2012), Handbook of North American Indians, Vol. 8 (Levy 1978), Built Environment Resource Directory (2019), the California Inventory of Historic Resources (1976), and the National Register of Historic Places (NRHP) – Listed properties and Determined Eligible Properties (2012) for San Benito County.

The results of the records search indicate:

- No prehistoric archaeological resources were identified within the project area or within a 0.25-mile radius around the project area.
- No historic resources were identified within the project area or within a 0.25-mile radius around the project area.
- One (1) previous archaeological investigation has occurred within a small portion of the project area, a 1973 archaeological impact evaluation by Thomas F. King and Patricia P. Hickman (Report #005222).

- One (1) previous archaeological investigation has occurred within portions of the 0.25-mile search radius, a 2010 cultural resource inventory report for San Benito Resource Recovery Park by Jennifer Burns (Report #037247). No resources were identified as a result of these investigations.

### Historic Map Review

According to the General Land Office (GLO) Database on the U.S. Department of Interior, Bureau of Land Management website, the 1860 and 1873 GLO rectangular survey maps of Township 13 South, Range 6 East only show a couple dry arroyo canyons plotted, but no other features indicated within the vicinity of the project area.

### Field Survey

GEI reviewed the results of the records search completed at the NWIC prior to initiating the archaeological pedestrian survey. On June 17 and 18, 2020, GEI archaeologists Tim Slowik, and Amy Wolpert, M.A., RPA conducted a pedestrian survey of the project area, covering approximately 388.05 acres. The survey strategy started with transects spaced 30-40 meters apart arranged in a North-South direction. After some transects were completed, the strategy was modified to survey along the ridges and hill slopes instead of up and down them. Most hill slopes exceeded a 30-degree incline. The terrain consisted of dry grasses, with some places exceeding waist height, on rolling hills. The ground visibility for the majority of the survey area was 0%, some exceptions included rodent burrows where exposed dirt was on the surface, along some fence lines, and areas that seemed to already have had some type of grading or construction recently. All of the various separate parcels were fenced with barbed wire (some old and rusty, some brand new), making it difficult to get in and out of the different sections of the survey area. One of the parcels contained grazing cattle and steers.

A Trimble 7 series Global Positioning System (GPS) unit capable of sub-meter accuracy was carried to record the location of resources, in the event that any sites or isolated finds were identified during the survey. Hard copy maps were used to ensure adequate coverage of the project area.

No previously undocumented cultural resources were identified in the project area. An examination of the USGS Tres Pinos quadrangle map indicates no structures are located within the project area. Specifically, no sites or isolated finds were detected during the archaeological pedestrian survey completed by GEI. In addition, no previously evaluated resources are in the project area. For the portion of the project site located south of John Smith Road that would be placed under a habitat conservation easement with project implementation, a pedestrian survey was conducted on April 16, 2010 by Pacific Legacy (Report #037247) for the Resource Recovery Park Project Final EIR (ESP 2011). The survey revealed that the undeveloped site included some modern structures including a metal water tank, wooden corral, and an open sheet-metal roofed hay structure. Structures depicted on the USGS Tres Pinos quadrangle map (1955, photo revised 1971) had been removed. No historic era or ancestral Native American cultural resources were identified during the Pacific Legacy cultural resources investigation (ESP 2011).

The USGS Tres Pinos quadrangle map was also examined as part of the investigation. No structures or other features of potential archaeological importance were depicted on the maps. The USGS quadrangle depicts Santa Ana Creek, but no other attractive features, such as lakes or other environmental niches for people to exploit. Habitation sites in the region tend to be along major rivers and where smaller drainages feed into rivers while smaller, more specialized sites tend to be in or adjacent to the specific micro-environments that are being exploited; the project area is near Santa Ana Creek, which is an intermittent/perennial stream.

On June 9, 2022, GEI archaeologist Kyle Brudvik conducted a pedestrian survey of the renewable natural gas (RNG) pipeline alignment that if installed, would be installed within a trench that would extend from the project site to an interconnect with a regional PG&E natural gas pipeline approximately 1.5 miles west of the project site. The pedestrian survey included walking along both shoulders of John Smith Road and Best Road where it was safe to do so to determine if evidence of significant cultural resources was visible along the two pipeline alignments being considered. No evidence of significant cultural resources was detected during the survey.

## Geoarchaeological Analysis

The National Resources Conservation Service (NRCS 2021) soil mapping database was examined to determine the surface geology and soils of the project area. At the project site, the San Benito series of soils comprise the entirety of the project area. However, an on-site examination of the soils is more important than the soil type in determining potential buried archaeological sensitivity.

## Native American Consultation

GEI's cultural resource specialists consulted with the Native American Heritage Commission (NAHC) concerning potential areas of Native American concern regarding the project area. GEI requested NAHC to conduct a search of the Sacred Lands File (SLF) to determine if any previously identified Native American cultural resources had been identified. The NAHC response was received on April 10, 2020, which stated that the SLF search had been negative and included a list of Native American groups and individuals.

In addition, San Benito County sent tribal consultation letters to representatives of five bands identified by the NAHC and two of those bands (Kanyon Sayers-Roods, representative of Indian Canyon Mutsun Band of Costanoan and Valentin Lopez, Chairperson of the Amah Mutsun Tribal Band) requested consultation under Assembly Bill (AB) 52 (described in the Regulatory Setting section below). That consultation, documented in the letters summarized in Table 4.7-1, did not identify any potential Tribal Cultural Resources at the site and was concluded with final letters sent to Native American tribal contacts on February 17, 2022 providing for mutually-agreed closing of consultations under AB 52.

**Table 4.7-1**
**San Benito County Assembly Bill 52 Tribal Consultation Efforts**

| Date | Action |
|---|---|
| February 26, 2021 | Tribal Consultation invitation letters sent to five tribes on the NAHC list |
| March 23, 2021 | Response from Kanyon Sayers-Roods, representative of Indian Canyon Mutsun Band of Costanoan expressing interest in working with the County |
| April 19, 2021 | County staff conducted a preliminary meeting with Kanyon Sayers-Roods and provided a copy of the Cultural Resources Report |
| August 20, 2021 | County staff conducted a tour of the landfill for Kanyon Sayers-Roods |
| December 2021 | Contact made with Valentin Lopez, Chairperson of the Amah Mutsun Tribal Band who expressed an interest in consultation |
| January 13, 2022 | County staff conducted a tour of the landfill for Valentin Lopez and provided a copy of the Cultural Resources Report |
| February 17, 2022 | Letters of Conclusion of Tribal Consultation sent to Valentin Lopez and Kanyon Sayers-Roods |

Source: San Benito County 2022

## 4.7.2 REGULATORY SETTING

### STATE REGULATIONS

#### California Environmental Quality Act

CEQA includes provisions that specifically address the consideration of cultural resources. CEQA states that if a project would have significant impacts on important cultural resources, then alternative plans or mitigation measures must be considered. However, only significant cultural resources (termed "historical resources") need to be addressed, specifically resources listed in, or determined to be eligible for listing in, the California Register of Historical Resources (PRC Section 21084.1).

#### California Register of Historical Resources

The California Register of Historic Resources (CRHR) includes resources listed in or formally determined eligible for listing in the National Register of Historic Properties, as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA, unless a preponderance of evidence indicates otherwise (PRC Section 5024.1, 14 CCR Section 4850). Eligibility criteria for the CRHR focus on importance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in California's past;
- 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
- has yielded, or likely to yield, information important in California prehistory or history.

State CEQA Guidelines also require consideration of unique archaeological resources (CCR Section 15064.5). As used in California PRC Section 21083.2, the term "unique archaeological resource" refers to 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 meets any of the following criteria:

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

In addition, State CEQA Guidelines require consideration of Tribal Cultural Resources, which are either (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either on or eligible for inclusion in the CRHR or a local historic register; or (2) resources the lead agency (in this case, San Benito County), at its discretion and supported by substantial evidence, chooses to treat as a TCR. Additionally, a cultural landscape may also qualify as a TCR if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape.

Other historical resources, unique archaeological resources, and non-unique archaeological resources addressed in this section could also be TCRs if they conform to the criteria to be eligible for inclusion in the CRHR.

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. These regulations apply to the eligibility determination of cultural resources in the project area.

#### Assembly Bill 52

Assembly Bill (AB) 52, effective on July 1, 2015, amended CEQA and added sections relating to Native American consultation and TCRs. California PRC Section 21084.2 provides that a project with an effect that may cause a substantial adverse change in the significance of a TCR may have a significant effect on the environment. California PRC Section 21080.3.1 (b) requires the lead agency to begin consultation with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project if the tribe requests the lead agency, in writing, to be informed by the lead agency through formal notification of projects that are proposed in that geographic area and the tribe subsequently requests consultation. California PRC Section 21084.3 states that "public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource."

AB 52 explicitly recognizes "that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because the California Environmental Quality Act calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources." AB 52 and California PRC Section 21080.3.1 and Section 21080.3.2, therefore, include requirements for meaningful consultation with culturally and geographically affiliated Tribes to identify TCRs and to develop avoidance or mitigation as appropriate.

### LOCAL REGULATIONS

#### San Benito County 2035 General Plan

The San Benito County 2035 General Plan includes the following goal and policies from the Natural and Cultural Resources Element that are applicable to the proposed project:

- **Goal NCR-7:** To protect, preserve, and enhance the unique cultural and historic resources in the county.
  - **Policy NCR-7.9:** The County shall consult with Native American tribes regarding proposed development projects and land use policy changes consistent with the State's Local and Tribal Intergovernmental Consultation requirements.
  - **Policy NCR-7.12:** The County shall require an archaeological report prior to the issuance of any project permit or approval in areas determined to contain significant historic or prehistoric archaeological artifacts and when the development of the project may result in the disturbance of the site. The report shall be written by a qualified cultural resource specialist and shall include information as set forth in the county's archaeological report guidelines available at the County Planning Department.

## 4.7.3 IMPACTS AND MITIGATION MEASURES

### THRESHOLDS OF SIGNIFICANCE

An impact to a cultural resource is considered significant, as defined by the State CEQA Guidelines (Appendix G), if the proposed project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CCR Section 15064.5;

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5; or

- Disturbance of any human remains, including those interred outside of formal cemeteries.

CEQA Guidelines Section 15064.5 defines a "substantial adverse change in the significance of an historical resource" to mean "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be *materially impaired*" (CEQA Guidelines, Section 15064.5, subd. (b)(1) [emphasis added]).

CEQA Guidelines, Section 15064.5, subdivision (b)(2), defines "materially impaired" for purposes of the definition of "substantial adverse change…" as follows:

- The significance of an historical resource is materially impaired when a project:

  (A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

  (B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

  (C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

An impact to a tribal cultural resource is considered significant, as defined by the State CEQA Guidelines (Appendix G), if the proposed project would:

- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

  - 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); or

- 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 § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

## IMPACTS AND MITIGATION MEASURES

| | |
|---|---|
| **IMPACT 4.7-1** | **Potential Impacts to Undocumented Cultural or Tribal Cultural Resources.** *There is the possibility that previously undiscovered and undocumented resources including TCRs could be adversely affected or otherwise altered by ground disturbing activities during construction of the project. Disturbance of undocumented resources would be a* ***potentially significant*** *impact.* |

No cultural or tribal cultural resources were identified during the records search or pedestrian surveys. Additionally, the relative remoteness of the project site from water sources or other resources that would have been a draw for prehistoric people likely indicate that the project area has a low cultural resource sensitivity and a very low potential to contain any buried archaeological deposits or TCRs. Nevertheless, the possibility remains that previously unidentified, buried historical or archaeological resources or TCRs may exist on the project site or within offsite utility corridors. If such resources are present in areas subject to project-related ground disturbance, they could be destroyed or otherwise substantially altered by project implementation. This would be a **potentially significant** impact.

#### Mitigation Measure 4.7-1: Potential Impacts to Undocumented Cultural or Tribal Cultural Resources

A written inadvertent discovery plan prepared by a qualified archeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists shall be developed before construction begins and shall be implemented in the event of a discovery during project construction. Before construction commences, the contractor shall ensure that all construction personnel understand the need for proper and timely reporting of such finds and the consequences of any failure to report them.

If an inadvertent discovery of buried or otherwise previously unidentified historical resources, including archaeological resources (e.g., unusual amounts of shell, animal bone, any human remains, bottle glass, ceramics, building remains) and tribal cultural resources, is made by site or contractor personnel at any time during project-related construction activities or project planning, operations shall stop in the immediate vicinity of the find and a qualified archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists shall be consulted to determine whether the resource requires further study. If such resources are discovered during project construction, all work within a 100-foot-radius of the find shall cease. A qualified archaeologist meeting the Secretary of the Interior's Professional Standards for Archaeologists shall be retained at the applicant's cost to assess the discovery and recommend what, if any, further treatment or investigation is necessary for the find. The qualified archeologist, with input from other interested parties, shall develop a written plan that implements appropriate protection and feasible avoidance measures. Culturally affiliated Native American Tribes shall also be notified in writing concerning resources of Native American origin. Avoidance is the preferred CEQA mitigation measure for tribal cultural resources. If avoidance is not feasible, any necessary treatment/investigation shall be developed and completed in coordination with interested Native American Tribes providing recommendations to the qualified archeologist before project activities continue in the vicinity of the find.

### Level of Significance After Mitigation

Implementation of the identified mitigation measure would reduce potentially significant impacts associated with the discovery of previously unknown cultural resources, including TCRs, to a less-than-significant level, because the mitigation measure includes specific protocols to be implemented to minimize impacts in the event previously unidentified cultural resources are encountered during ground-disturbing activities.

**IMPACT 4.7-2** **Potential to Uncover Human Remains.** *Subsurface disturbances associated with construction activities could potentially uncover unmarked historic-era and prehistoric Native American burials, resulting in their alteration or damage. This would be a **potentially significant** impact.*

No human remains were identified during the pedestrian surveys of the project site and offsite utility corridors and none were reported in the records search conducted for the project. However, it is possible, though unlikely, that undiscovered, buried human remains may exist on the project site or within offsite utility corridors. If human remains are present in areas subject to project-related ground disturbance, they could be encountered during project implementation. This would be a **potentially significant** impact.

#### Mitigation Measure 4.7-2 Potential to Uncover Human Remains

If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, San Benito County will implement the procedures listed below. If human remains are identified on the project site, the following performance standards shall be met prior to implementing or continuing actions, such as construction, that may result in damage to or destruction of human remains:

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, excavation in the area of the burial and excavation or disturbance in any nearby area reasonably suspected to overlie adjacent remains shall immediately halt and the San Benito County Coroner shall be immediately notified in writing. Services of a professional and qualified archaeologist shall be retained to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5(b)). If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050.5(c)). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains.

### Level of Significance After Mitigation

Implementation of the identified mitigation measure would reduce the potentially significant impact associated with human remains, because any inadvertent discovery of human remains would be addressed as prescribed by State law and through consultation with the MLD.

**IMPACT 4.7-3** **Tribal Cultural Resource Impacts.** *The project would not cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code Section 21074. Therefore, **no impact** to tribal cultural resources would occur.*

The County conducted tribal consultation with representatives of the Indian Canyon Mutsun Band of Costanoan and the Amah Mutsun Tribal Band, consistent with the requirements of AB 52. No potential Tribal Cultural Resources were identified during the tribal consultation process at the project site. Through this consultation process, which concluded on February 17, 2022, the County determined that the project would not cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. Therefore, **no impact** to tribal cultural resources would occur.

#### Mitigation Measure 4.7-3 Tribal Cultural Resource Impacts

No mitigation measures are required.

## 4.7.4 REFERENCES

Environmental Stewardship and Planning (ESP). 2011 (September). *San Benito County Resource Recovery Park Project Final Environmental Impact Report*. Prepared for San Benito County.

Levy, R. 1978. Costanoan. In California. Handbook of North American Indians, vol. 8. Robert F. Heizer, ed. Pp. 485-495. Washington DC: Smithsonian Institution Press.

USDA. 2021. Natural Resource Conservation Service. Web Soil Survey. Located at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

# 4.8 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrologic conditions at the project site, presents a summary of the regulatory setting, and provides an analysis of the hydrology and water quality impacts of the proposed project. The information presented in this section is based primarily on the most recent version of the Joint Technical Document (JTD) for the landfill (Lawrence & Associates 2020), the 2020 First Semi-Annual Monitoring Report (Golder Associates 2020b), the report entitled "Installation of Eleven Groundwater Monitoring Wells in North Expansion Area at John Smith Road Landfill" (Golder Associates 2020a), the Design Basis Report for the proposed expansion (Lawrence & Associates 2021), the North San Benito Groundwater Sustainability Plan (Todd Groundwater 2021), and documents referenced therein.

## 4.8.1 EXISTING SETTING

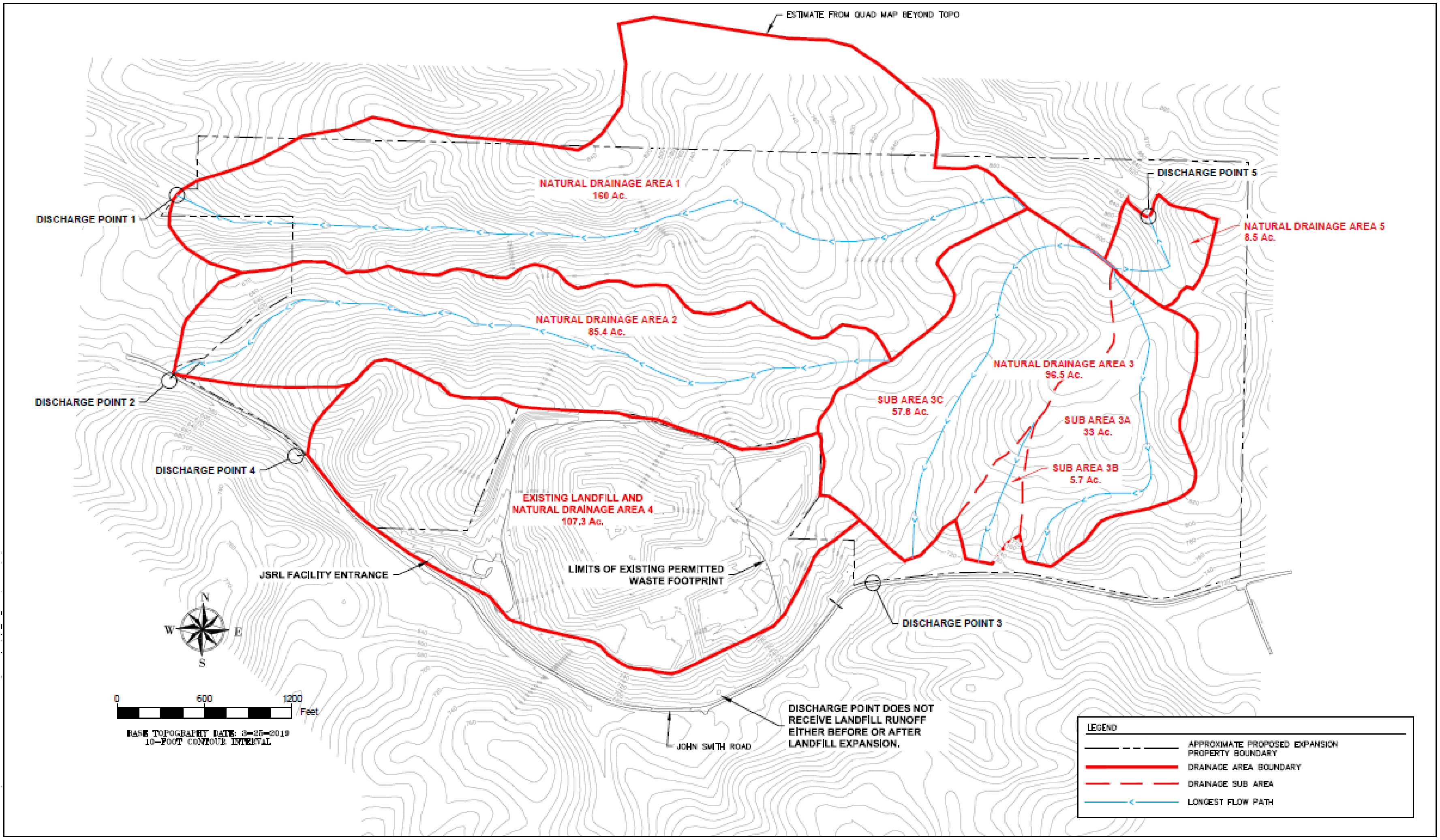
### SURFACE WATER HYDROLOGY

The project site is located east of the City of Hollister within the unincorporated areas of San Benito County and within the Pajaro River watershed. The Pajaro River watershed covers approximately 1,300 square miles and spans four counties: San Benito, Santa Clara, Santa Cruz, and Monterey. The watershed is bounded by the Santa Cruz mountains to the north and the Gabilan Range to the South. Its main tributaries include the Corralitos, Uvas, Llagas, San Benito, Pacheco, and Santa Ana creeks. These tributaries and many others converge and provide water to the Pajaro River, which drains into Monterey Bay.[1]

The project site is located within an area of rolling hills that generally slope from east to west. The proposed 388.05-acre expansion area is located within two east-west trending valleys north and west of the existing John Smith Road Landfill (JSRL) and two smaller north-south trending valleys east of the JSRL (Figure 4.8-1). The terrain in the project vicinity consists of rolling hills ranging from roughly 840 feet above mean sea level (msl) on the hilltops near the site to over 1,000 feet msl to the northeast and south of the project site, to 630 feet msl in the valley bottoms. Current elevations at the project site range between approximately 900 feet msl in the east end of the site to 580 feet msl in the west end of the site. The currently permitted elevation including the closure cap is 920 feet msl to the top of the highest point on the landfill. As of November 2020, the top of the existing landfill is within 10 feet of the permitted elevation. Seasonal drainages generally drain to the west and northwest. The project site is located between seasonal drainages that are tributary to Santa Ana Creek (Figure 4.8-2). There is an unnamed tributary to Santa Ana Creek bordering the southern landfill property boundary. The tributary runs west along the southern landfill boundary, and then northwest away from the landfill, and eventually north toward Santa Ana Creek. Flows are ephemeral and infiltrate to groundwater in low-lying areas prior to reaching Santa Ana Creek (RWQCB 2013). Santa Ana Creek drains into the Pajaro River via Tequisquita Slough. The Pajaro River drains to the San Benito Valley.

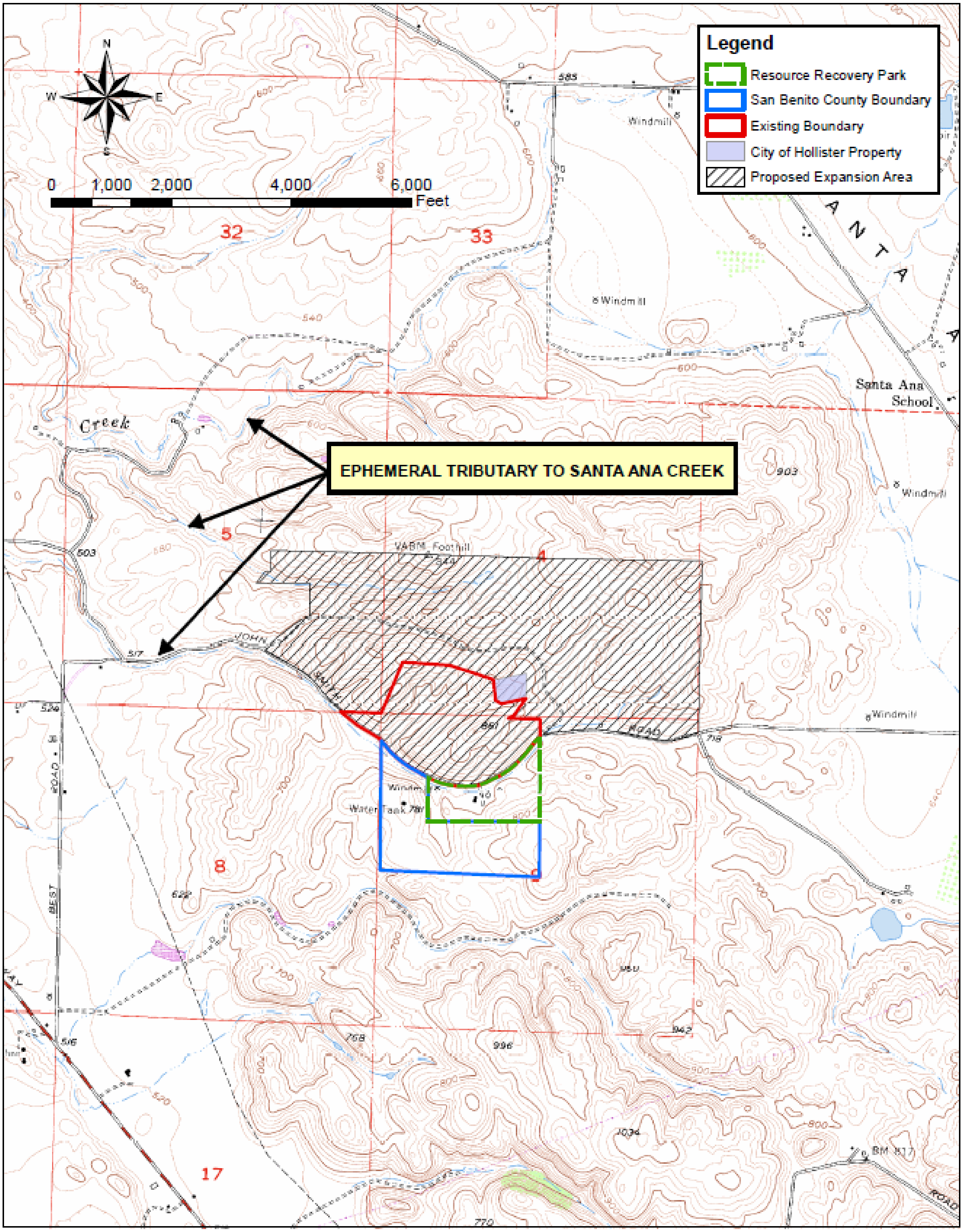
The Biological Resources section of this Draft EIR (Section 4.6) references the Tres Pinos USGS topographic quadrangle as showing two blue-line features and a seasonal pond in the study area. Although referred to as a pond, this area was not inundated with water during field surveys and is understood to not hold water on an annual basis (H.T. Harvey and Associates 2020). With the exception of this potential water body, there are no surface water bodies or jurisdictional wetlands within the boundaries of the existing 95.16-acre JSRL or the 388.05-acre expansion area except those designed and installed to collect stormwater runoff. As referenced in Section 4.6, the two blue-line features identified on the Tres Pinos USGS topographic quadrangle are not considered jurisdictional wetlands. No known springs are located within the project site boundary. Two springs within ½ mile have been identified northwest of the landfill entrance, along John Smith Road. At the time the springs were identified, one was active and one was inactive.

[1] Pajaro River watershed information from The Pajaro Watershed Information Center at www.pajarowatershed.org.




Source: Lawrence & Associates 2021

**Existing Drainage Areas** **Figure 4.8-1**




Source: Lawrence & Associates 2021

**Ephemeral Drainages in Project Vicinity** **Figure 4.8-2**

### WATER QUALITY AND TOTAL MAXIMUM DAILY LOADS

The Pajaro River watershed is subject to Total Maximum Daily Loads (TMDL) established by the Central Coast Regional Water Quality Control Board. A TMDL is the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. The TMDLs that have been established for the Pajaro River watershed are chlorpyrifos and diazinon, fecal coliform, nutrients, and sediment. Of these TMDLs, sediment is the only one that would apply to the project site because the solid waste operations would not be expected to generate the identified constituents regulated by these TMDLs.

The TMDL program for the Central Coast incorporates prohibitions against the controllable discharge of soil, silt, or earthen materials from a variety of activities into the Pajaro River watershed. The prohibitions, however, do not apply to discharges regulated by National Pollutant Discharge Elimination System (NPDES) permits or Waste Discharge Requirements (WDR). Because the landfill operates under both an NPDES permit (for the industrial stormwater discharges) and WDRs, it is not subject to the TMDL prohibitions. However, NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL.

### FLOODING

The 100-Year floodplain denotes an area that has a one percent chance of being inundated during any 12-month period. Floodplain zones (Special Flood Hazard Areas [SFHA]) are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs). These tools assist communities in mitigating flood hazards through land use planning. FEMA also outlines specific regulations, intended to be adopted by the local jurisdictions, for any construction, whether residential, commercial, or industrial within 100-year floodplains. The project site is not located within a designated 100-year flood hazard area (FEMA 2009).

### EXISTING SURFACE CONDITIONS AND SITE DRAINAGE

Surface conditions at the existing landfill include a combination of impervious surfaces (roughly 2 percent of the total area including paved driveways, buildings, and entry features), covered and stabilized portions of the filled landfill, interim active-filling portions of the operational portion of the landfill, and stabilized stockpile areas.

Surface-water runoff is currently directed via sheet flow across graded and stabilized surface areas into drainage swales and culverts that eventually flow to one of four stormwater and sediment detention basins as shown on the stormwater pollution prevention plan (SWPPP) map for the facility (Figure 4.8-3). The detention basins function as a treatment control best management practice (BMP) for sediment and other debris to settle out, prior to discharging to a drainage ditch offsite and along John Smith Road. In 2020, a stormwater basin was installed near the southeastern portion of the existing landfill, immediately north of John Smith Road. This stormwater basin, labeled Upper Southeast Sedimentation Basin on Figure 4.8-3, receives runoff from the soil stockpile east of the Class I Area.[2] The basin provides both a treatment control BMP and detention storage for the related soil stockpile area.

The topography for the existing landfill and proposed expansion area and respective contributing drainage areas is identified on Figure 4.8-1. The five drainage areas identified on this figure, all of which are ephemeral, are characterized as follows:

- Drainage Area 1: This is the far northern portion of the expansion area, draining from east to west to Discharge Point 1.

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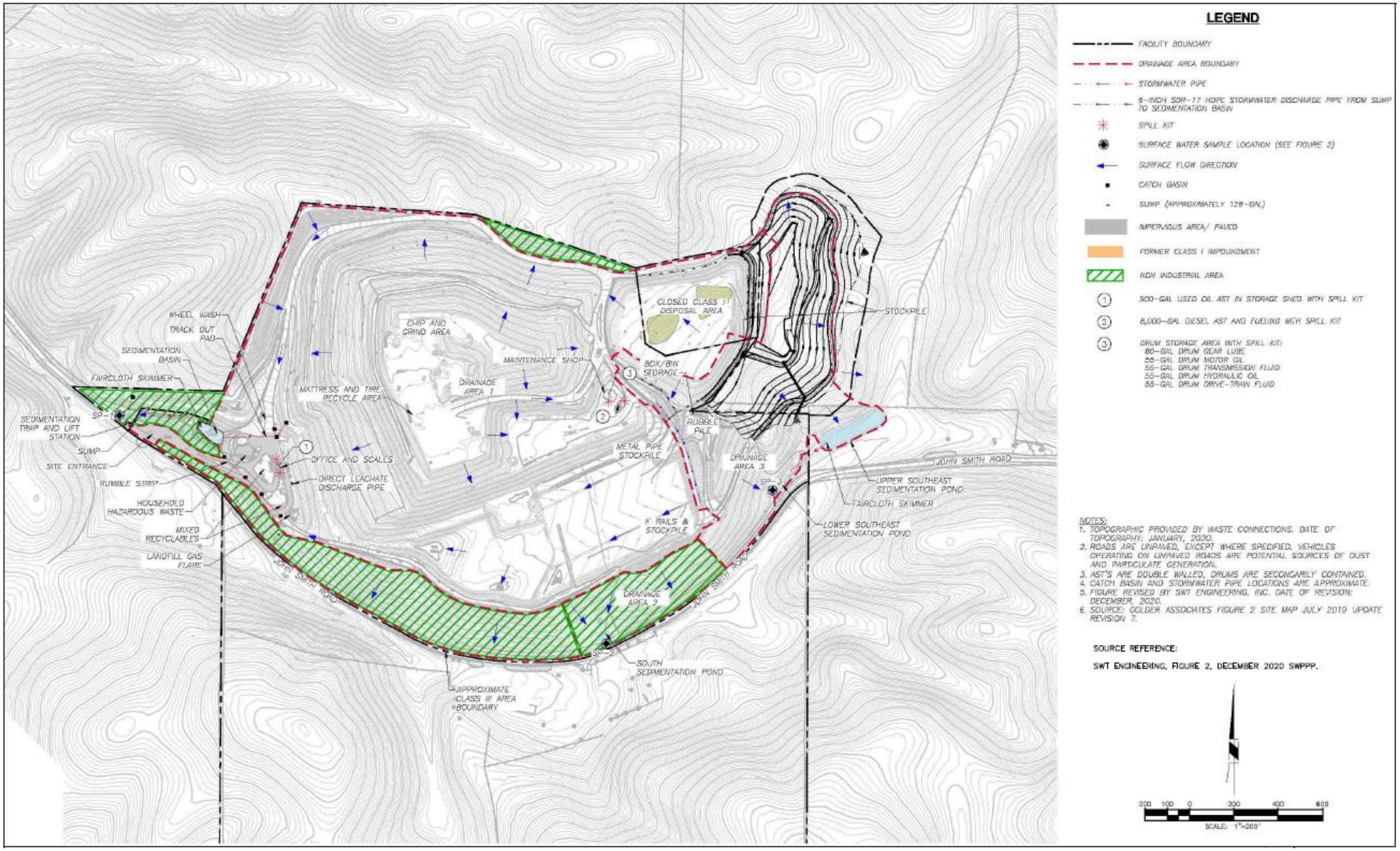
2 The detention basin was permitted and approved by San Benito County as part of a grading permit, including hydrology calculations (March 2020 by Lawrence & Associates) to attenuate peak flows up to the 100-year 24-hour event.




Source: Lawrence & Associates 2021

**Existing Landfill Groundwater Wells and Contours** **Figure 4.8-3**

- Drainage Area 2: This is the central portion of the overall expansion area and includes areas immediately north of the existing landfill and drains from east to west to a culvert at John Smith Road, at Discharge Point 2.
- Drainage Area 3: This is the eastern portion of the expansion area and is subdivided into 3 sub-basins based on the topography and rolling hills in this area. The sub-basins combine to an overland flow location at John Smith Road, near Discharge Point 3.
- Drainage Area 4: This area includes the majority of the existing landfill and also includes a minor sloped area west of the landfill. The area drains generally from east to west (from the landfill) and from north to south (on the westerly non-landfill area) to a ditch along John Smith Road. The ditch ultimately flows to a culvert crossing at John Smith Road labeled as Discharge Point 4.
- Drainage Area 5: This is a minor drainage area near the northeastern portion of the expansion area that drains to the north from a topographic saddle to an existing swale at Discharge Point 5.

Runoff from the 101.3-acre County-owned property south of John Smith Road generally flows to the north to a drainage ditch along the south side of John Smith Road that drains to the west.

### STORMWATER

Stormwater discharge from the site occurs at the outlet of the detention basin near the site entrance (Figure 4.8-3), which is also the stormwater monitoring location for the existing facility, under the facility General Industrial Stormwater Permit. The existing landfill discharges stormwater in compliance with the NPDES Permit for industrial activities, which includes a SWPPP. The SWPPP includes a monitoring and maintenance element with periodic scheduled monitoring of BMP performance and conditions. The performance of BMPs, including any corrective actions taken as a result of periodic monitoring, are described in annual regulatory reports submitted to the RWQCB as required under the SWPPP. Where water quality monitoring has determined that pollutants have exceeded water quality objectives or Numeric Action Limits[3], as defined in the NPDES Permit, an Exceedance Response Action Report must be prepared by a Qualified Industrial Stormwater Practitioner and submitted to the SWRCB. Each submitted Exceedance Response Action Report details the pollutant that has exceeded a water quality threshold, the location where the exceedance occurred, and the corrective actions being implemented to correct the water quality issue. Additionally, the report outlines a schedule for implementation of additional BMPs or other corrective actions as well as rationale regarding the effectiveness of the corrective action to address the documented exceedance for a specific pollutant. Also, as part of a Numeric Action Limits exceedance, the SWPPP is revised to incorporate the additional BMPs implemented.

Table 4.8-1 summarizes the stormwater monitoring data for the period 2016 through 2021 (data was downloaded by Lawrence & Associates from the Stormwater Multiple Application and Report Tracking System online monitoring data portal maintained by the Regional Water Quality Control Board). In the period 2016 through 2021, there was one exceedance of a Numeric Action Limit (in 2019) for total iron. The Numeric Action Limit for total iron is 1 milligram per liter (mg/L); the average of the two values in 2019 was 1.325 mg/L. The source of total iron in stormwater is from naturally occurring sediments entrained in the stormwater.[4] In response to the Numeric Action Limit exceedance, the landfill implemented additional BMPs to reduce the potential for stormwater runoff to contain total iron. The BMPs included repair of the skimmer within the Entrance Detention Basin (to increase the efficacy of the sedimentation basin's ability to settle out the sediments), implementing a more robust manual sweeping policy around containers (where the regenerative sweeper is unable to reach), and increasing the manual scraping/sweeper frequency.

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[3] A Numeric Action Limit is not a regulatory standard; rather, it is a value that if exceeded requires implementation of a control response to lower the value in the future.

[4] Per Level 1 Exceedance Response Action Report for John Smith Road Landfill, December 27, 2019, prepared by SWT Engineering, Inc.

| Table 4.8-1<br>Summary of Stormwater Monitoring Results, 2016 - 2021 | | | | |
|---|---|---|---|---|
| **Date** | **Iron, Total (mg/L)** | **Oil and Grease (mg/L)** | **Total Suspended Solids (mg/L)** | **pH (SU)** |
| 01/13/16 | 0.10 | <0.66 | 11 | 7.41 |
| 03/05/16 | 0.52 | <0.66 | 11 | 7.91 |
| 12/30/16 | 0.60 | <0.66 | 21 | 7.53 |
| 04/21/17 | 0.42 | <0.86 | 14 | 8.22 |
| 02/12/19 | 1.80 | <0.82 | 40 | 8.77 |
| 03/19/19 | 0.85 | n/a | n/a | n/a |
| 12/18/19 | 0.90 | 2.20 | 28 | 7.50 |
| 02/01/21 | 0.19 | <0.74 | 7 | 7.92 |
| 12/22/21 | 0.23 | <0.74 | 4.6 | 7.14 |
| **Numeric Action Limit** | **1** | **15** | **100** | **<6 or >9** |
| Source: Lawrence & Associates 2021.<br>mg/L = milligrams/liter; SU = standard units. | | | | |

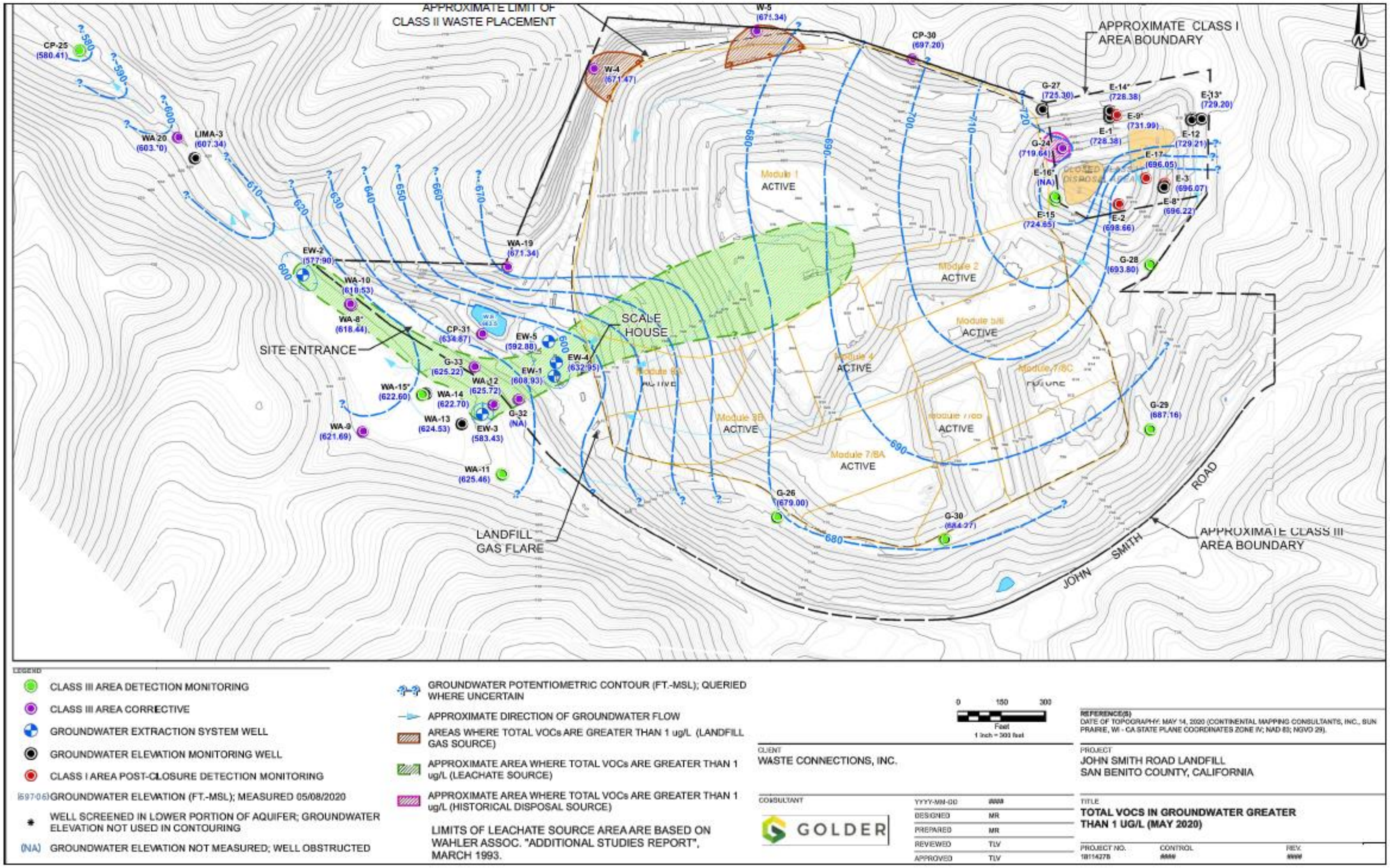
## Groundwater

The groundwater (hydrogeologic) setting is described in detail in Section 4.9, Geology, Soils and Paleontology, of this Draft EIR. To summarize that discussion, the landfill site lies outside of a defined groundwater basin. It is underlain mainly by bedrock (sandstone and shale formations deposited in a marine setting) that is overlain by varying thicknesses of alluvial materials. The direction of the groundwater gradient is generally to the west, although there is a component of southerly to southeastern movement in the eastern part of the site. Groundwater occurs both within the alluvial material and in bedrock fractures. The overall permeability of the underlying formations is relatively low.

Groundwater monitoring has been conducted at the existing landfill since 1985. Groundwater monitoring is currently performed for three programs identified in the WDR and Monitoring and Reporting Program (MRP) R3-2013-0047. The Class I facility has one monitoring program: the Post-Closure Detection Monitoring Program. The Class III facility has two programs: the Detection Monitoring Program and the Corrective Action Monitoring Program.

A groundwater extraction system, consisting of five downgradient groundwater extraction wells was installed between 1992 and 2008 in response to a historical release of traces of volatile organic compounds (VOCs) from the Class I and adjacent unlined Class III Area (east end of Module 1; see Figure 4.8-4, wells labeled EW). The groundwater extraction system contains three on-site wells (EW-1, EW-4, and EW-5) and two off-site wells (EW-2 and EW-3). Extracted water is discharged to a sanitary sewer line along John Smith Road. The system is automated to maintain an inward flow of groundwater toward each well. The goal of the off-site extraction system is to hydraulically contain the VOC plume to stop downgradient migration and to reduce the concentration of the VOCs to below health-based screening levels.

Groundwater from the extraction wells is monitored for compliance with MRP R3-2013-0047, Wastewater Discharge Permit 92-002 (City of Hollister), and the Monterey Bay Air Resources District (MBARD) Permit to Operate 14070 for contaminated water cleanup. MRP R3-2013-0047 requires weekly inspection and maintenance, monthly flow volume measurement, and annual sampling from each well as part of the corrective action monitoring program. The Wastewater Discharge Permit indicates that quarterly monitoring is to be conducted at



Source: Lawrence & Associates 2021

**Existing Groundwater Extraction System** **Figure 4.8-4**

the end of the industrial process sewer line and prior to the mixing of diluting waters. The MBARD permit does not specify a monitoring frequency but states the concentration of vinyl chloride in the extracted water being sent to the wastewater plant must not exceed 59 micrograms per liter (ug/L).

The extraction system has resulted in diminishing downgradient concentrations. It is anticipated that the extraction system would continue to be operated until clean closure of the Class I unit has occurred or until extraction is no longer required by regulatory agencies.

The largest area of groundwater affected by VOCs is downgradient of Module 1, which is the unlined portion of the landfill (Figure 4.8-4). The source was leachate from the older, unlined portion of the landfill. The nature and extent of the pollutants were characterized, and a groundwater extraction system was installed both on-site and off-site to capture groundwater impacted by the VOCs. The overall declining concentrations of VOCs indicate that the on-site groundwater extraction system has been effective at capturing affected groundwater. Improvements in landfill operations have also reduced leachate production, thus reducing the source for the historical impact identified as originating from unlined Module 1.

VOCs also have affected groundwater in a limited area north of Module 1. These impacts are attributed to landfill gas migration from the unlined portion of the landfill. Operation of the landfill-gas extraction system has controlled landfill-gas migration and led to continued reduction in VOC concentrations in this area.

Per- and polyfluoroalkyl substances (PFAS) are a family of more than 5,000 man-made and mostly unregulated chemicals that have been produced since the mid-1900s. They are mobile and persistent in the environment and are bioaccumulative. They are resistant to degradation in the environment and when degradation occurs, it often results in the formation of other PFAS compounds. PFAS are manufactured globally and have been used in the production of a wide range of industrial and household products such as dental floss, non-stick cookware, food packaging materials, non-stick products (e.g., Teflon™), waterproof and water repellent textiles, water repellent furniture, carpet, polishes, waxes, paints, cleaning products, medical garments, and fire-fighting foams.

In 2017, PFAS testing was performed on leachate, gas condensate, and groundwater at four active Municipal Solid Waste (MSW) landfills (i.e., Bowerman, Olinda Alpha, El Sobrante, and California Street landfills) within the Santa Ana Region. The testing conducted confirmed the presence of PFAS in all four landfills. Detected concentrations at the El Sobrante Landfill exceeded the U.S. EPA Health Advisory Levels for groundwater. PFAS detected in leachate had the highest concentrations as compared to the groundwater and gas condensate. Based on these results, it was reasonable for the SWRCB to conclude that PFAS may be present in most MSW landfills. Therefore, the SWRCB required investigation at MSW landfills statewide to determine the presence of PFAS, their respective levels in leachate and groundwater, and to evaluate the impact of current and historic discharges from these facilities on groundwater quality. The JSRL was one of the landfill facilities identified by the SWRCB that required groundwater investigation for PFAS.

The landfill performed a one-time leachate and groundwater assessment in January 2020, as required by the Central Coast Regional Water Quality Control Board (CCRWQCB) pursuant to Water Code Section 13267, Order WQ 2019-0006-DWQ. Groundwater samples were collected from monitoring well G-33, groundwater extraction well EW-4, and from the leachate discharge pipes. Results indicated that PFAS were present in groundwater downgradient of the JSRL landfill (EW-4 and G-33) and in the leachate. Based on these results, the CCRWQCB requested a work plan to further characterize the PFAS detections at the JSRL. In that request letter, the CCRWQCB stated that the levels of PFAS detected at the landfill are similar to other landfills in the region:

> These PFAS monitoring results are similar to other landfills in our region with parts per billion concentrations of PFAS in landfill leachate and low parts per trillion concentrations of PFAS detected in some downgradient groundwater monitoring wells.

The landfill submitted the required PFAS characterization workplan to the CCRWQCB on October 7, 2021 (Golder 2021). The PFAS work plan includes:

- A PFAS sampling strategy that identifies locations, frequencies, and dates for monitoring PFAS constituents in leachate and groundwater in and around the landfill, semiannually for a minimum of two years.
- A leachate management strategy to properly manage leachate, including the use of leachate for dust control to prevent PFAS surface water and groundwater quality impacts.
- PFAS source identification and proposed PFAS control BMPs.
- Identification of nearby supply wells (i.e., domestic, municipal, agricultural supply) downgradient from the landfill and a plan to notify neighboring property owners if data indicates PFAS are or could be impacting their wells and if follow-up actions are necessary.

No releases of contaminants to groundwater from the lined portions of the landfill have been detected. Groundwater mineral quality is naturally poor in the vicinity of the landfill. Electrical conductivity (a measure of the mineral content or saltiness) is greater than 4,000 micromhos per centimeter (µmhos/cm) in background groundwater (Golder 2020a). The water quality objective for electrical conductivity is 900 µmhos/cm. Chloride in background groundwater ranges from approximately 200 to 350 mg/L. The water-quality objective for chloride is 250 mg/L. The high mineral content and saltiness of the groundwater in the project vicinity likely reflects the presence of “connate” water. This is water that was present when the sediments were first deposited and remains in the formation. Because the bedrock formations are of marine origin, the connate water is naturally salty and highly mineralized and is not related to or caused by the landfill operation.

Nitrate as nitrogen is greater than 20 mg/L in background well W-11, and has been as high as 50 mg/L. The water-quality objective for nitrate as nitrogen is 10 mg/L. In all other wells, including downgradient wells, nitrate was not detected. Nutrients, such as nitrate and nitrite, can be naturally present at low concentrations in groundwater. High and moderate concentrations generally occur because of human activities, such as applying fertilizer to crops. Livestock, when in concentrated numbers, and septic systems also produce nitrogenous waste that can leach into groundwater (USGS 2014).

In the vicinity of the landfill, groundwater quality has been evaluated in the south coast interior groundwater basins as part of the California Groundwater Ambient Monitoring and Assessment program (USGS 2014). The assessment in the project vicinity looked solely at groundwater quality in the defined groundwater basins, not in areas underlain by bedrock. The results show that in the Gilroy study area (which includes the Hollister area), total dissolved solids (a measure of the mineral quality of water) are up to twice as high as the Maximum Contaminant Level (MCL) of 500 mg/L and chloride is moderately high, near the MCL of 250 mg/L. Moderately high arsenic levels (close to the MCL of 10 micrograms per liter (µg/L)) are present. High manganese levels, up to 10 times the MCL of 50 µg/L, also occur in this area. Trace and minor elements are naturally present in the minerals in rocks and soils and in the water that contact those materials. In the south coast interior groundwater study unit, trace and minor elements were detected at high concentrations in about 20 percent of the primary aquifer system and at moderate concentrations in about 23 percent. Arsenic, boron, and molybdenum were the trace elements that were most frequently detected at high concentrations (USGS 2014). In the monitoring wells at the landfill, arsenic in groundwater has ranged in concentration from non-detect up to 62 µg/L.[5] The range of arsenic concentrations is variable, which is typical of naturally occurring metals, such as arsenic. In leachate, arsenic has ranged from non-detect to 24 µg/L. California's arsenic maximum contaminant level for drinking water is 10 µg/L. However, leachate from the JSRL is non-hazardous and is therefore collected in the sump, which is pumped directly to the City of Hollister wastewater collection and treatment system.

Along the southern edge (downgradient) of the existing landfill area, the average arsenic concentration in groundwater is 10.8 µg/L (in wells G-26, G-28, G-29, G-30, G-32 and G-33). Along the northern edge of the landfill (cross-gradient), the average arsenic concentration is 8.8 µg/L (in wells G-27, W-4, W-5, and CP-30). In the extraction wells EW-1 through EW-5, the average arsenic concentration between 2015 and 2020 was 10.5

[5] Data taken from SWRCB Geotracker database for the landfill, accessed on August 2, 2021; https://geotracker.waterboards.ca.gov/profile_report?global_id=L10008478954

µg/L and is generally similar between the wells. The extraction wells cover a range of sampling depths from approximately 10 to 100 feet below ground surface.

In wells downgradient of the unlined module and within the contaminant plume, arsenic values range from non-detected to 3.4 µg/L in wells CP-31 and WA-15 (alluvial aquifer). The farthest downgradient well in the bedrock aquifer, well CP-25, has shown arsenic concentrations up to 3.1 µg/L. Background arsenic levels range from 3.9 to 18 µg/L in well WA-11 (alluvial aquifer) and from non-detected to 11 µg/L in well E-15 (bedrock). The latter well is upgradient of the Class III landfill, but downgradient of the Class I unit.

These groundwater monitoring data from onsite and offsite landfill wells show that groundwater concentrations of arsenic are consistent and represent naturally-occurring background ranges. The data does not indicate that leachate from the unlined portion of landfill or the Class I area has caused elevated arsenic concentrations downgradient of the landfill, even in the area of the leachate-contamination plume.

### WATER SUPPLY, WATER DEMAND AND AREA WELLS

A regional groundwater usage and well-location survey for the area within one mile of the landfill was performed in conjunction with the Hydrogeologic Investigation and Site Characterization Study by EMCON in 1986. In 2012, an additional nine wells were identified during reviews of well permit applications and files provided by San Benito County Department of Public Works. A query of the California Department of Water Resources well-completion log database in October 2020 showed no additional wells newer than 2012 in the area (in Township 13 South, Range 06 East, Sections 4, 5, 8, and 9). In some cases, recently identified well locations are approximate because well installation permits only provided a street address or the APN. The three wells listed as Nameless-1, -2, and -3 were identified at specific locations on an APN parcel map provided by San Benito County Public Works, but no other information was available. Figure 4.8-5 shows the vicinity wells.

In 1986, the only actively used water supply sources were two wells (Yates-1 and Lima-4) and two springs. Only the Yates-1 well, located on County-owned property adjacent to the site, was used for livestock watering. The remaining wells and springs were used in 1986 for livestock watering. Yates-1 is currently active and is still only used for livestock water. Most of the recently identified wells appear to be active.

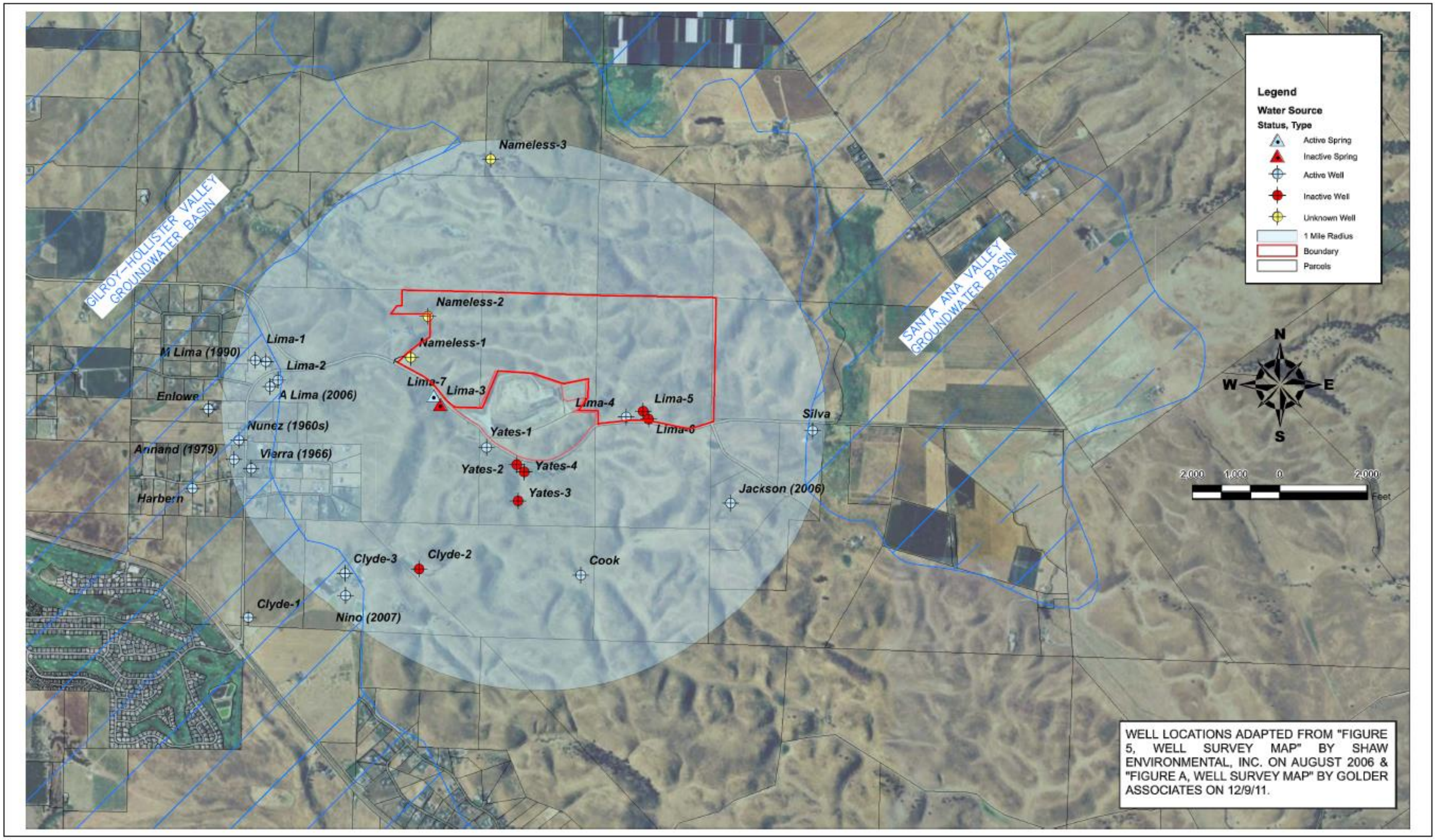
The landfill obtains non-potable water (to flush toilets) from a fire hydrant at the Sunnyslope County Water District in Hollister (3 miles away). The non-potable water is transferred into two above ground 2,500-gallon water tanks that drain by gravity into the landfill office and employee trailer where a booster pump increases the pressure for the sinks and toilets. Potable water is delivered in 5-gallon containers by a water distributor and dispensed through a water cooler.

The landfill uses both surface water collected in on-site ponds (when available) and water trucked in from the Sunnyslope County Water District for dust control and similar uses. A 2,500-gallon water truck is used to spray water as needed on all roads and stockpiles when fugitive dust conditions exist, and on waste unloading areas prone to dust generation (see Sections 3.4 and 4.12 for more detailed discussion of water supply and water demand).

## 4.8.2 REGULATORY SETTING

### FEDERAL REGULATIONS

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. Various elements of the CWA address water quality, as discussed below. Wetland protection elements of the CWA administered by the U.S. Army Corps of Engineers (i.e., Section 404) are discussed in Section 4.6, Biological Resources.




Source: Lawrence & Associates 2021

**Groundwater Wells in Project Vicinity** **Figure 4.8-5**

### Federal Antidegradation Policy

The federal antidegradation policy, established in 1968, is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected;
- where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the State finds that allowing lower water quality is necessary for important local economic or social development; and
- where high-quality waters constitute an outstanding national resource, such as waters of national and State parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

### Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the act, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of State regulations below, the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

### Federal Emergency Management Agency

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. The Federal Emergency Management Agency (FEMA) administers the NFIP to provide subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. FEMA also issues Flood Insurance Rate Maps that identify land areas subject to flooding. These maps provide flood information and identify flood hazard zones in the community. FEMA has established the minimum level of flood protection for new development as the 1-in-100 Annual Exceedance Probability (i.e., 100-year flood event). The project site is not located within a FEMA-designated flood hazard zone (FEMA 2009).

### National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff.

Each NPDES permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

“Nonpoint source” pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: (1) discharges associated with industrial activities including construction activities; and (2) the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the discussion of State regulations below).

### Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the State develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. EPA must either approve a TMDL prepared by the State or disapprove the State's TMDL and issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

The Pajaro River watershed (which includes the Pajaro River, San Benito River, Llagas Creek and Tequisquita Slough) is subject to Total Maximum Daily Loads (TMDL). The TMDL that have been established for the Pajaro River watershed are chlorpyrifos and diazinon, fecal coliform, nutrients, and sediment. Of these TMDL, sediment is the only one that would apply to the landfill because the other TMDL constituents are not expected to be generated by or used at the landfill.

## State Regulations

In California, the SWRCB has broad authority over water quality control issues. The SWRCB is responsible for developing water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (for drinking water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Wildlife, and the Office of Environmental Health and Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine regional water boards. The regional boards are required to formulate and adopt water quality control plans for all areas in the region and establish water quality objectives in the plans. The CCRWQCB is responsible for the water bodies in the project vicinity.

### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is California's statutory authority for the protection of water quality. The act sets forth the obligations of the SWRCB and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires waste dischargers to notify the RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals.

The applicable basin plan for the project site is the Water Quality Control Plan for the Central Coastal Basin, June 2019 Edition. The Basin Plan lists six beneficial uses for the drainages surrounding the landfill site:

- Cold freshwater habitat
- Warm freshwater habitat
- Municipal and domestic supply
- Water contact recreation
- Non-contact water recreation
- Spawning, Reproduction, and/or Early Development

### National Pollutant Discharge Elimination System Permits

The SWRCB and CCRWQCB have required specific NPDES permits for a variety of activities that have potential to discharge pollutants to waters of the State and adversely affect water quality. To receive an NPDES permit, a Notice of Intent to discharge must be submitted to the CCRWQCB and design and operational BMPs must be implemented to reduce the level of contaminated runoff. BMPs can include the development and implementation of regulatory measures (local authority of drainage facility design) and structural measures (filter strips, grass swales, and retention basins). All NPDES permits also have inspection, monitoring, and reporting requirements.

Industrial activities, including landfills, are regulated in accordance with the SWRCB Water Quality Control Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, and Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities Excluding Construction Activities (Industrial General Stormwater Permit; IGSP). The IGSP prohibits the discharge of unauthorized non-stormwater to waters of the United States and requires a Stormwater Pollution Prevention Plan (SWPPP) and BMPs to prevent and reduce pollutants that cause or contribute to exceedances of applicable water quality standards.

Construction activities are regulated in accordance with the SWRCB Water Quality Control Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Stormwater Associated with Construction and Land Disturbance (Construction General Stormwater Permit; CGSP). The CGSP prohibits the discharge of unauthorized non-stormwater to waters of the United States and requires a SWPPP and BMPs to prevent and reduce pollutants that cause or contribute to exceedances of applicable water quality standards.

Under these regulations, operators of industrial facilities, including landfills, must obtain coverage under the statewide IGSP. Because the industrial activity for landfills includes frequent construction of lined modules or cells, "Landfill construction activity that is subject to the Industrial General Permit [IGSP]" is exempt from the requirements of obtaining coverage under the CGSP.[6] The CCRWQCB, however, requires coverage under the CGSP for final closure caps and initial construction for new landfills. Because the proposed project is an expansion of an existing landfill, the operator would be required to update their existing IGSP SWPPP to include the expansion area and maintain an updated SWPPP until closure, at which time the coverage under the IGSP would be terminated and coverage under the CGSP would need to be obtained for closure construction. Coverage under the CGSP would end once the closure cap erosion control stabilizes.

### California Standards for Landfill Siting, Design and Operation

CCR Title 27 provides minimum standards for the siting, design, and operation of landfills. The design standards are enforced regionally by the CCRWQCB via Waste Discharge Requirements and CalRecycle via a Solid Waste Facility Permit (SWFP). The portions of Title 27 that relate to landfill hydrology and water quality include, but are not limited to, the following:

Title 27, CCR, Division 2, Chapter 3, Subchapter 2, Article 4, Section 20310, Table 3.1 - Siting:

- Geologic Setting: Adequate separation from groundwater.

[6] Per general Order 2009-0009-DWQ, Finding C.31.

- Flooding: No restriction as long as the "Unit" is protected from geologic or environmental hazards involved.
- Ground Rupture: Not located on a known Holocene fault.
- Rapid Geologic Change: No restriction as long as the "Unit" is protected from geologic or environmental hazards involved.
- Tidal Waves: No restriction as long as the "Unit" is protected from geologic or environmental hazards involved.

Section 20240(c) requires that all new landfills shall be sited, designed, constructed, and operated to ensure that wastes will be a minimum of five feet above the highest anticipated elevation of the underlying groundwater. The quarterly and annual groundwater level monitoring required under Title 27 gauges the depth of groundwater below the waste units and if that distance is shown to decrease below the required 5-feet separation, the landfill operator would be directed by the CCRWQCB to implement corrective actions.

Section 20260(a) requires that "Class III landfills shall be located where site characteristics provide adequate separation between nonhazardous solid waste and waters of the state. There must be a five-foot separation between the highest anticipated groundwater and waste. Typically, landfill leachate (caused by water seeping through waste) is considered the lowest waste and the top of the low-hydraulic conductivity layer must be five-feet above the highest anticipated groundwater.

Section 20260(b) requires that New Class III landfills shall be sited where soil characteristics, distance from waste to groundwater, and other factors will ensure no impairment of beneficial uses of surface water or of ground water beneath or adjacent to the landfill. Factors that shall be evaluated include:

- Size of the landfill:
- Hydraulic conductivity and transmissivity of underlying soils;
- Depth to groundwater and variations in depth to groundwater;
- Background quality of groundwater;
- Current and anticipated use of the groundwater; and
- Annual precipitation.

The regulations indicate that there is flexibility in siting a Class III landfill as long as the landfill's containment structures are designed, constructed and maintained to preclude failure (including flooding, ground rupture, rapid geologic change per Section 20602 (c through e)).

### Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates hazardous waste facilities under Title 22 CCR. The DTSC regulates the closed Class I surface impoundment facility located on the City of Hollister property via a postclosure permit. A clean closure plan is required to be submitted to and approved by DTSC prior to clean closing hazardous waste facilities.

The Class I Area contains hazardous concentrations of pesticide residues and underlying contaminated soil. Clean closure would include excavating and properly disposing of the contaminated waste and underlying contaminated soil until clean soil is reached. Permitting for clean closure would require submitting a request for "Class 3" postclosure design modification that describes the proposed postclosure process. Once approved by the DTSC, the Lined Class I Areas would be clean closed under regulatory oversight and then verification of clean closure by soil analyses. Final approval of the clean closure would be required by the DTSC. The CCRWQCB would also provide input on the clean closure process.

State Water Code Section 13260(a) of the California Water Code requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, that could affect the quality of the waters of the State, file a report of waste discharge. These must implement the applicable water quality control plan (Basin Plan) for the region affected by the discharge.

The CCRWQCB regulates the landfill through WDR Order No. R3-2013-0047, which includes prohibitions, specifications, and provisions addressing waste disposal design and operations to protect water quality. The WDR describes requirements to protect groundwater quality related to the operation of the landfill. The WDR discusses the site description and history of monitoring; status of the monitoring programs; basin water quality issues; prohibitions; and provisions for groundwater monitoring, on-site use of water, postclosure maintenance plans, reporting, and general provisions. The Monitoring and Reporting Program (MRP) associated with the WDR discusses the self-monitoring program to document compliance with CCRWQCB requirements. The MRP identifies the monitoring and observation schedules; site, leachate, and drainage system inspections; specific monitoring points; sampling methods, analyses, and frequency; and record keeping and reporting requirements. The MRP also summarizes the contingency response necessary if a release is tentatively identified including general conditions for the preparation of an Evaluation Monitoring and Reporting Program, and release discovery responses.

#### Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Such contaminants, including VOCs and nitrate (see “Groundwater,” above), are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs.

EPA has delegated to the Department of Health Services the responsibility for California’s drinking water program. The Department of Health Services is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA.

Title 22 of the California Administrative Code (Article 16, Section 64449) defines secondary drinking water standards, which are established primarily for reasons of consumer acceptance (i.e., taste) rather than for health issues.

### LOCAL REGULATIONS

#### San Benito County 2035 General Plan

The following goals and policies from the Public Facilities and Services Element of the San Benito County 2035 General Plan Public are applicable to the proposed project:

**Goal PFS-6:** To manage stormwater from existing and future development using methods that reduce potential flooding, maintain natural water quality, enhance percolation for groundwater recharge, and provide opportunities for reuse.

- **Policy PFS-6.1:** The County shall require that stormwater drainage facilities are properly designed, sited, constructed, and maintained to efficiently capture and dispose of runoff and minimize impacts to water quality.

- **Policy PFS-6.2:** The County shall require best management practices in the development, upgrading, and maintenance of stormwater facilities and services to reduce pollutants from entering natural water bodies while allowing stormwater reuse and groundwater recharge.

- **Policy PFS-6.3:** The County shall encourage the use of natural stormwater drainage systems (e.g., swales, streams) to preserve and enhance the environment and facilitate groundwater recharge.
- **Policy PFS-6.4:** The County shall require project designs that minimize stormwater drainage concentrations and impervious surfaces, complement groundwater recharge, avoid floodplain areas, and use natural watercourses in ways that maintain natural watershed functions and provide wildlife habitat.
- **Policy PFS-6.5:** Where necessary, the County shall require on-site detention/retention facilities and/or velocity reducers to maintain pre-development runoff flows and velocities in natural drainage systems.
- **Policy PFS-6.6:** The County shall require stormwater detention basins be designed to ensure public safety, be visually unobtrusive, provide temporary or permanent wildlife habitat, and where feasible, provide recreation opportunities.
- **Policy PFS-6.7:** The County shall require all drainage systems in new development and redevelopment to comply with applicable State and Federal non-point source pollutant discharge requirements.
- **Policy PFS-6.8:** The County shall ensure that drainage systems are designed and maintained to minimize soil erosion and sedimentation and maintain natural watershed functions.

### San Benito County Code Chapter 19.17, Grading, Drainage, and Erosion Control

The purpose of Chapter 19.17, Grading, Drainage and Erosion Control, is described as follows:

*"…safeguard public health, property and general welfare by regulating grading, drainage and erosion control on private and public property and requiring grading, erosion and drainage control plans which prevent water pollution and sedimentation of the county's water resources."*

As described in Section 19.17.004(A)(4): *"Solid waste facilities controlled by other regulatory agencies and subject to other permits"* are exempt from the requirement of grading permits. As described above, landfills are regulated by the CCRWQCB under both general and site-specific waste discharge requirements. The exemption also applies to Appendix J of 2019 CBC per Section J103.2.

The project site is not located within a local groundwater management area. The closest groundwater management area is the Hollister Urban Area Water and Wastewater Master Plan (HDR 2008).

## 4.8.3 Impacts and Mitigation Measures

### Method of Analysis

The environmental analysis for hydrology and water quality was conducted using information from the Design Basis Report for the John Smith Road Landfill Expansion (Lawrence & Associates 2021), the First Half 2020 Monitoring Report (Golder Associates 2020b), and the San Benito County 2035 General Plan (San Benito County 2015). The effects of the proposed project were compared to environmental baseline conditions (i.e., existing conditions) to determine impacts.

## THRESHOLDS OF SIGNIFICANCE

An impact is considered significant, as identified by the State CEQA Guidelines (Appendix G), if the proposed project would:

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- 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;
  - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
  - 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;
  - impede or redirect flood flows;
- in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

## ISSUES NOT DISCUSSED FURTHER IN THIS EIR

**Risk Release of Pollutants Due to Flood Hazard, Tsunami, or Seiche Zones –** The project site is not located within flood hazard, tsunami, or seiche zones. Therefore, the proposed project would not risk the release of pollutants due to project inundation from a flood hazard, tsunami, or seiche. Flood hazards are typically limited to those related to 100-year flood zones as established by FEMA or shown on Flood Insurance Rate Map panels. Storm drain design presented in this document includes sufficient capacity to accommodate a 100-year 24-hour storm event. These issues are not discussed further in this Draft EIR.

**Conflict with Water Quality Control Plan or Groundwater Management Plan –** The project site is within the jurisdiction of the Water Quality Control Plan for the Central Coastal Basin prepared by the CCRWQCB. The CCRWQCB regulates the existing landfill through WDR Order No. R3-2013-0047, which includes prohibitions, specifications, and provisions addressing waste disposal design and operations to protect water quality. This includes implementation of a detection monitoring program at the site. The proposed expansion area would similarly be subject to CCRWQCB WDR regulations intended to protect water quality and to ensure that activities are consistent with the Water Quality Control Plan. Therefore, the proposed project would not conflict with the applicable Water Quality Control Plan for the Central Coastal Basin.

The project site is not located within an area covered by a sustainable groundwater management plan. Therefore, the proposed project would not conflict with or obstruct implementation of a sustainable groundwater management plan. These issues are not discussed further in this Draft EIR.

## IMPACTS AND MITIGATION MEASURES

**IMPACT 4.8-1** **Increased Runoff and Potential for Localized or Downstream Flooding**. *Implementation of the proposed project would result in an increase in impervious surfaces on the project site and altered drainage patterns, which would lead to an increase in stormwater runoff compared to existing conditions. The increased surface runoff could increase discharge into offsite drainages, which could exceed the capacity of the downstream drainage system. This impact would be potentially* ***significant****.*

The implementation of the proposed project would alter the drainage patterns on the project site. To evaluate whether the changes in drainage areas would lead to differing amounts of runoff, or rates of runoff, the NRCS United States Department of Agriculture (USDA) Technical Release 55 (TR-55) methodology was used (USDA-NRCS 2009) to model changes in runoff volumes. The technical details of the modeling are described in the Design Basis Report (Lawrence & Associates 2021).

Post-project conditions are summarized as developed, proposed, or post-project for purposes of this section. Figures 4.8-1 and 4.8-6 identify the existing condition map for the model and the proposed condition map, respectively. Discharge Points 1, 2, and 4 are unchanged between existing and post-project conditions. Discharge Point 3 is slightly changed to eliminate the existing conditions sheet flow across John Smith Road and convey runoff to a culvert crossing. Discharge Point 5 includes a minor relocation. Note that the numbered discharge points in the model are not numbered the same as the surface-water monitoring points.

Post-Project drainage areas include changes to overall size as shown in the Table 4.8-2.

**Table 4.8-2**
**Existing and Post-Project Drainage Areas**

| | Drainage Areas | | | | | |
|---|---|---|---|---|---|---|
| **Discharge Point** | **1** | **2** | **3** | **4** | **5** | **Total** |
| **Existing Area (Acres)** | 160 | 85.4 | 96.5 | 107.3 | 8.5 | 457.7 |
| **Post-Project Area (Acres)** | 113 | 149.1 | 72 | 114.8 | 15.5 | 464.4 |
| **Difference (Acres)** | -47 | 63.7 | -24.5 | 7.5 | 7 | *6.7* |

Source: Lawrence & Associates 2021.

- **Drainage Area 1:** This area would decrease in size due to the expansion footprint and project design to convey runoff to surface basins within Drainage Area 2. No basins are proposed in this area.
- **Drainage Area 2:** This area includes the majority of the expansion area and is designed to route runoff to new onsite detention basins prior to eventual discharge to Discharge Point 2. A portion of existing drainage areas 1, 3, and 4 would be added to this area, increasing the area under post-Project conditions.
- **Drainage Area 3:** This area would be slightly reduced and shifted to Drainage Area 2. Detention basin(s) would be added, and a new culvert crossing installed for Discharge Point 3.
- **Drainage Area 4:** This area would be slightly increased. The existing basin near the facility entrance would be removed and a new detention basin installed within this drainage area. Discharge point 4 would

be unchanged. This area would add approximately 2 acres of impervious area for paving, parking, and buildings related to the facility entrance area.

- **Drainage Area 5:** This area would be increased to accommodate side slope drainage near to Area 3A as shown on Figure 4.8-6. A detention basin would be designed and constructed with a relocation of the Discharge Point 5 to match the outfall from the new basin.

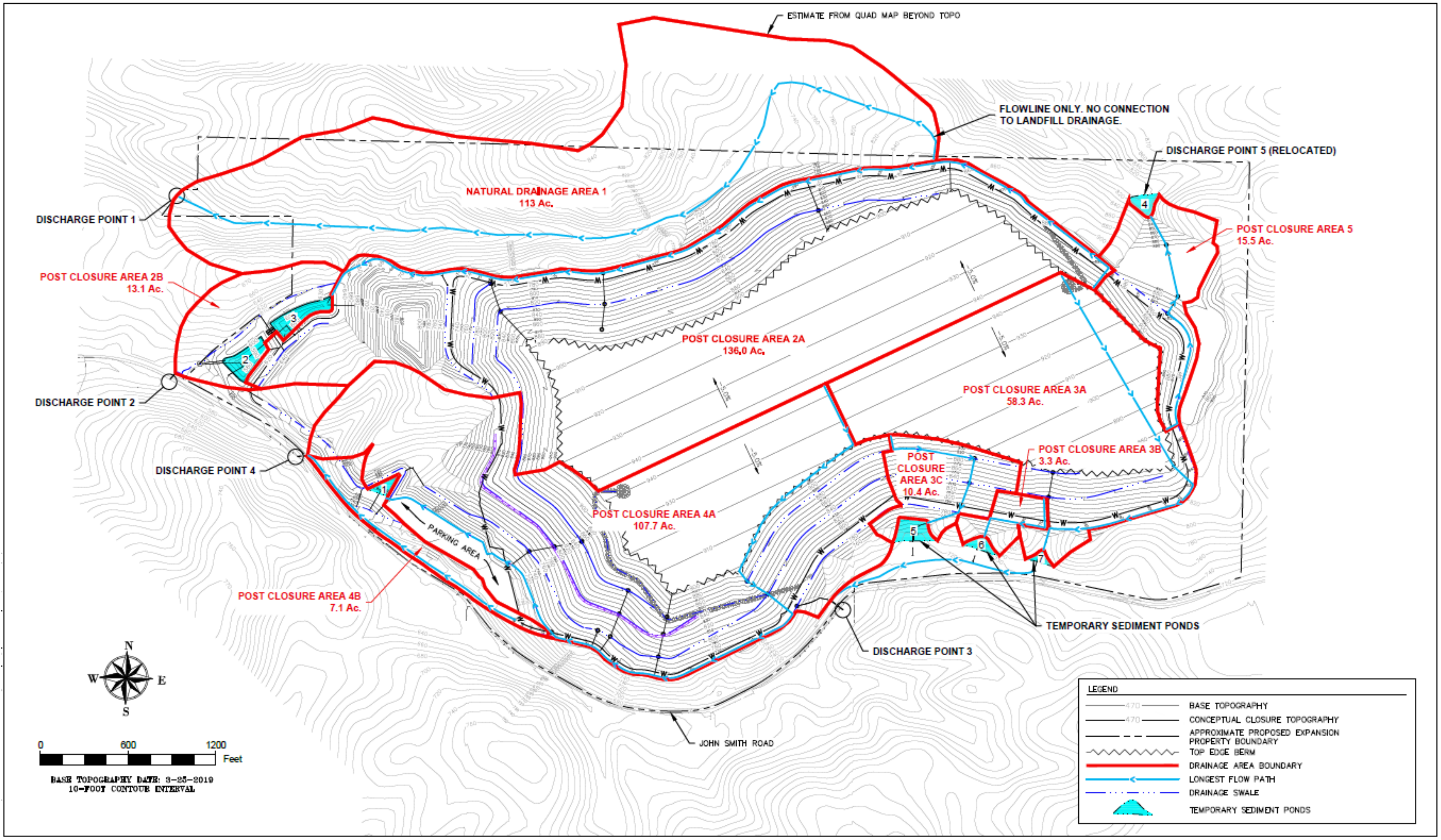
The stormwater basins have been designed to accommodate flows resulting from 100-year, 24-hour storm flows, based on the 100-year 24-hour storm of 5.17 inches (NOAA Atlas 14, Volume 6, Version 2). Additionally, temporary stormwater basins have historically been constructed adjacent to lined modules to collect industrial stormwater[7] at low spots so that it can be pumped into the nearest drainage. The basins are maintained on an as-needed basis, including periodic removal of debris and sediment deposits, and are included as part of the monthly visual monitoring under the facility Industrial General Permit.

The existing stormwater basins, once full, eventually outfall to an unnamed drainage south of John Smith Road or the drainage swale along the north side of John Smith Road. There are currently three locations where surface water is discharged off-site, denoted as (sampling point) SP-1, SP-2, and SP-3 on Figure 4.8-3. As shown on Figure 4.8-7, stormwater monitoring point SP-4 would be added after construction of the sedimentation basins to the west of the landfill. The basins would be installed concurrently with construction of the first Module in Phase 2A, or the entrance area, whichever comes first. Monitoring point SP-5 would be added when the temporary embankment is installed along the northern edge of the expansion area. Monitoring point SP-6 would be installed when the stockpile north of Phase 3B is used. Monitoring point SP-7 would be used in the future for Phase 3 runoff (likely in more than 20 years). Other sampling points would be added, if needed, based on disturbed areas and site use.

The model evaluates several storm periods (24-hour storm data for 2, 5, 10, 25, 50, and 100-year precipitation depths) to cover a range of runoff scenarios. It also considers the type of land use for each given runoff area, such as vegetated land, paved roads, and graveled areas, because land use affects the volume and rate of stormwater runoff.

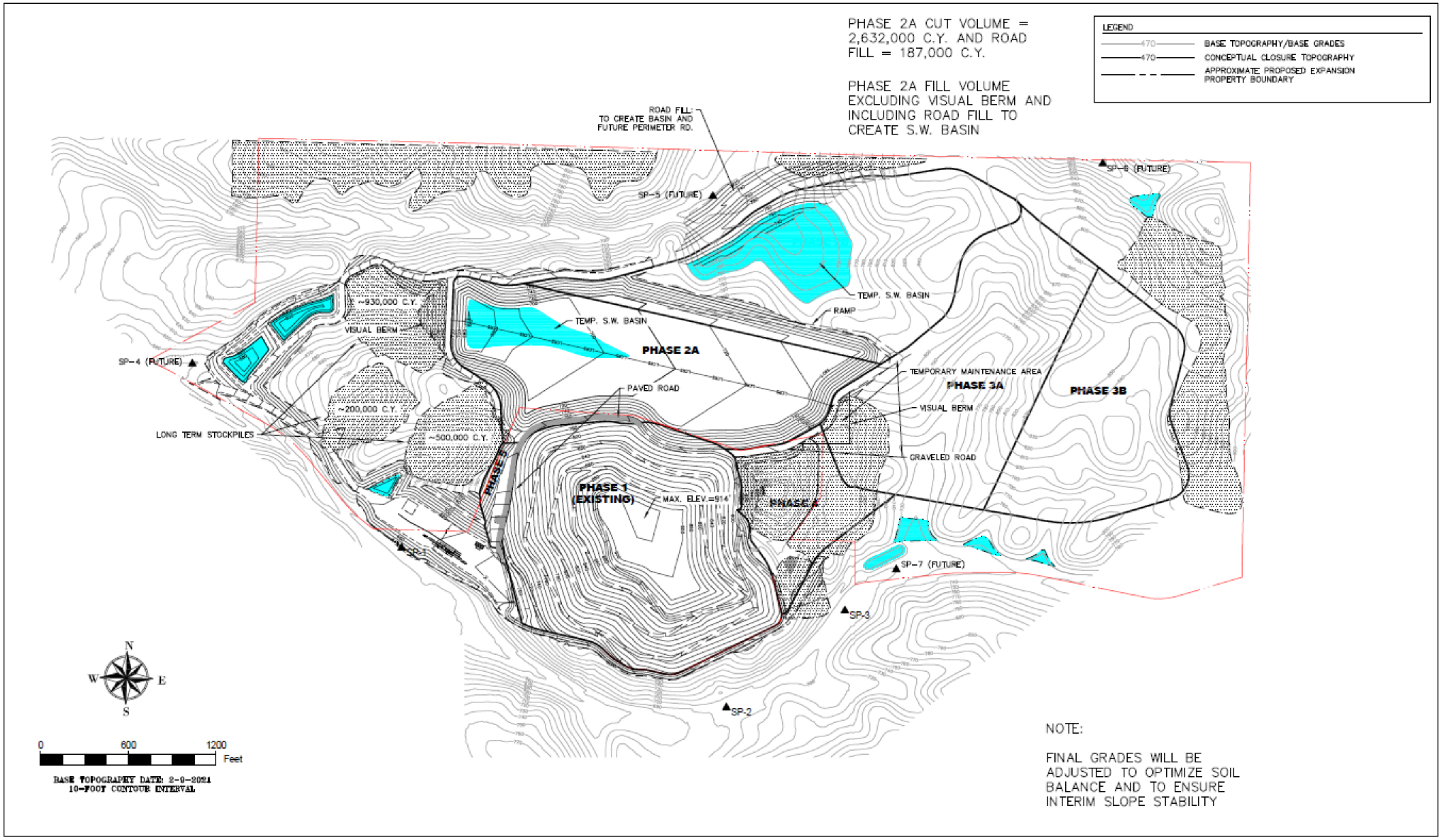
As shown in Table 4.8-3, the model indicates that there would be a zero increase in the 2-year storm event peak flow discharge at discharge points 1, 2, 3, and 4, and also a zero increase during a 100-year event peak flow discharge at discharge points 1, 3, and 4. Increases in peak-flow discharge are predicted to occur within the project site and prior to construction of project stormwater detention basins upstream of discharge point 5 during a 2-year storm event, and at discharge points 2 and 5 during a 100-year storm event. Although the overall discharge from the site during a 100-year event would be reduced when compared to existing conditions, the increase in discharge from points 2 and 5 would represent localized increases that could increase flows in drainages downstream of these two discharge points. These contributions could contribute to an exceedance of the capacity of the downstream drainage system. According to Page 5-30 of the Design Basis Report, the conceptual proposed stormwater detention basins at Discharge Points 2 and 5 would have sufficient capacity to reduce the peak discharge to below the pre-project peak flow (Lawrence & Associates 2021). Accordingly, feasible final engineering solutions can ensure that drainages downstream of these two discharge points are not increased. However, because these detention basin designs are conceptual, it is possible that offsite flows could still increase with project implementation if the final design does not maintain or decrease discharge from points 2 and 5 such that increased flows in drainages downstream of these two discharge points do not occur. Therefore, this impact would be **potentially significant**.

[7] Industrial stormwater is runoff that has not contacted waste. Runoff that has contacted waste is called contact water, and is routed to the leachate-collection system, not to drainages that flow offsite.




Source: Lawrence & Associates 2021

**Proposed Drainage Areas Associated with Landfill Expansion** **Figure 4.8-6**




Source: Lawrence & Associates 2021

**Stormwater Monitoring Locations Following Phase 2A Excavation** **Figure 4.8-7**

| Table 4.8-3<br>Summary of Runoff Modeling | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Discharge Point** | **Drainage Area** | **Two-Year Storm Event Flows (cfs)** | | | **100-Year Storm Event Flows (cfs)** | | |
| | | **Pre-Project** | **Post-Project** | **Difference** | **Pre-Project** | **Post-Project** | **Difference** |
| 1 | 1 | 30.26 | 21.00 | -9.26 | 236.26 | 164.31 | -71.95 |
| | 2A | | 11.25 | | | 161.61 | |
| | 2B | | 2.71 | | | 26.85 | |
| 2 | | 16.88 | 12.55 | -4.33 | 131.29 | 175.56 | 44.27 |
| | 3A | 9.07 | 7.34 | | 67.98 | 96.69 | |
| | 3B | 1.72 | 0.87 | | 13.19 | 7.37 | |
| | 3C | 13.29 | 2.07 | | 99.64 | 21.45 | |
| | 3D | 4.52 | | | 37.64 | | |
| 3 | | 28.15 | 9.92 | -18.23 | 213.98 | 121.41 | -92.57 |
| | 4A | | 11.65 | | | 111.30 | |
| | 4B | | 3.06 | | | 33.92 | |
| 4 | | 28.79 | 12.61 | -16.18 | 200.13 | 132.19 | -67.94 |
| 5 | | 2.56 | 3.01 | 0.45 | 19.66 | 29.35 | 9.69 |
| Source: Lawrence & Associates, 2021<br>cfs = cubic feet per second | | | | | | | |

#### Mitigation Measure 4.8-1 Increased Runoff and Potential for Localized or Downstream Flooding

The following mitigation measures shall be implemented to reduce the 100-year storm event post-development peak flow of stormwater runoff to below the existing peak flow conditions beyond the project site through one of the following:

- The project applicant shall provide a final design of the expansion area's stormwater detention basins that control flow from Discharge Points 2 and 5 to ensure discharge from the project site does not exceed existing conditions at these discharge points. This shall include expanding the basin size and/or depth, if necessary, to capture the peak flow, or

- Drainage-areas on the landfill cap shall be modified and the drainage design updated, such that existing peak flow conditions are not exceeded at the perimeter discharge points.

### Level of Significance After Mitigation

The project's stormwater discharge impacts would be reduced to **less than significant** with either (1) the final design and construction of a stormwater collection and detention system that ensures offsite discharges do not exceed existing drainage conditions, or alternatively (2) the final design of the surface topography of the landfill cap in the expansion area is modified such that peak flow conditions are not exceeded at the perimeter discharge points.

**IMPACT 4.8-2** **Potential for Short-Term Construction-Related Water Quality Degradation**. *Implementation of the proposed project could cause short-term water quality degradation associated with construction activities. With implementation of the proposed project consistent with applicable water quality regulations, erosion from site soils would be minimized and pollutants would be largely captured on the site. Also, the implementation of identified spill prevention and cleanup plans would limit the potential for hazardous material spills to adversely affect stormwater quality. Therefore, the project's construction-related water quality impacts are considered **less-than-significant**.*

Grading, earthmoving, excavation, and infrastructure development would disturb the existing vegetation cover, soil, and drainage systems on the project site and along the RNG pipeline alignment. During these activities, the project site would be exposed to wind and water erosion, which could adversely affect surface water quality.

Construction activities could result in substantial stormwater discharges of suspended solids and other pollutants into local drainage channels from the project construction activities. Construction-related chemicals (fuels, paints, adhesives, etc.) could be washed into surface waters by stormwater runoff. The deposition of pollutants (gas, oil, etc.) onto the ground surface by construction vehicles could similarly result in the transport of pollutants to surface waters by stormwater runoff or in seepage of such pollutants into groundwater. Increased turbidity could result in adverse impacts on fish and wildlife species within local water courses. Long-term effects could include increased flooding hazards caused by reduced drainage facility and channel capacity.

Non-stormwater discharges could result from activities such as discharge or accidental spills of hazardous substances such as fuels, oils, concrete, paints, solvents, cleaners, or other construction materials.

Both the current and expanded landfill operations are subject to regulations applicable to the discharge of sediments and pollutants during construction activities from the project site including the following:

a. The existing landfill is subject to the Industrial General Stormwater Permit (IGSP) for landfill construction and operation, including grading, filling, and ancillary construction. Prior to grading activity within the expansion area, the site operator would be required to revise the landfill's Notice of Intent (NOI) under the IGSP to include the expansion area and to revise the SWPPP associated with the IGSP to document site drainage, identify nearby water bodies, describe potential pollution sources, provide details regarding stormwater pollution controls, physical and operational BMPs, stormwater monitoring locations and methods, and structural control measures to be implemented at the expanded landfill site to ensure compliance with NPDES requirements.

b. Prior to any construction activity not related to landfill module construction, stockpiling, or maintenance (*e.g.*, construction of new entrance facilities or the RNG pipeline installation), the project applicant would be required to obtain from the CCRWQCB the appropriate regulatory approvals for project construction including a Section 401 water quality certification (if applicable), and an updated NPDES permit for general construction activity.

c. As required under the NPDES stormwater permit for general construction activity, the project applicant would be required to prepare and submit the appropriate Notice of Intent and prepare the SWPPP and the erosion control plan for pollution prevention and control prior to initiating site construction activities not related to landfill module construction stockpiling or maintenance. The SWPPP is required to identify and specify the use of erosion sediment control BMPs, means of waste disposal, non-stormwater management controls, and inspection and maintenance responsibilities. The SWPPP is also required to specify the pollutants that are likely to be used during construction and that could be present in stormwater drainage and non-stormwater discharges. A sampling and monitoring program would be required to be included in the SWPPP that meets the requirements of SWRCB Order 99-08-DWQ to ensure the BMPs are effective.

d. Construction techniques would be required to be identified that would reduce the potential runoff and the SWPPP would be required to identify the erosion and sedimentation control measures to be implemented. The SWPPP would also be required to specify spill prevention and contingency measures, identify the types of materials used for equipment operation, and identify measures to prevent or clean up spills of hazardous materials used for equipment operation and hazardous waste. Emergency procedures for responding to spills would be required to be identified. BMPs identified in the SWPPP would be required to be used in subsequent site construction activities. The SWPPP would be required to identify personnel training requirements and procedures that would be used to ensure that workers are aware of permit requirements and proper installation and performance inspection methods for BMPs specified in the SWPPP. The SWPPP would also be required to identify the appropriate personnel responsible for supervisory duties related to implementation of the SWPPP. All construction contractors would be required to retain a copy of the approved SWPPP on the construction site.

Implementation of the proposed project consistent with the regulatory requirements described above would minimize the potential for the offsite discharge of site soils and pollutants. Also, implementation of the required spill prevention and cleanup plans would limit the potential for hazardous material spills to adversely affect stormwater quality. Therefore, the project's construction-related water quality impacts are considered **less than significant**.

#### Mitigation Measure 4.8-2 Potential for Short-Term Construction-Related Water Quality Degradation

No mitigation measures would be necessary.

**IMPACT 4.8-3** **Potential Long-Term Degradation of Water Quality**. *The development of the expansion area and clean closure of the Class I unit could increase the transport of sediments into local waterways or cause infiltration of pollutants from landfill runoff or leachate. The introduction of sediments into local drainages could degrade water quality and contribute to adverse effects on aquatic organisms in receiving waters. With implementation of the proposed project consistent with applicable water quality regulations, long-term erosion from site soils would be minimized, leakage from the bottom of the landfill would be negligible, and pollutants would be largely captured on the site. Therefore, the project's long-term water quality impacts are considered* ***less than significant****.*

The development of the landfill expansion area with solid waste uses would alter the quantities and timing of discharges in stormwater runoff relative to existing conditions and would add additional lined area that potentially could contribute to groundwater degradation. Landfill operations involve daily soil disturbance, including excavation of soil for daily cover, waste covering, and other landfill activities. The expansion of these activities would increase the area that would be exposed to erosive forces, which could increase the transport of sediments into local waterways. This additional stormwater runoff has the potential to degrade water quality in off-site drainage channels and downstream waterbodies. Also, the deposition of pollutants (gas, oil, etc.) onto the ground surface by vehicles associated with site operations could similarly result in the transport of pollutants to surface waters by stormwater runoff or in seepage of such pollutants into groundwater.

Both the current and expanded landfill operations are subject to regulations applicable to the discharge of sediments and pollutants from the project site including the following:

a. The existing landfill is subject to the Industrial General Stormwater Permit (IGSP) for landfill construction and operation, including grading, filling, and ancillary construction. Prior to grading activity within the expansion area, the site operator would be required to revise the landfill's Notice of Intent (NOI) under the IGSP to include the expansion area and to revise the SWPPP associated with the IGSP.

b. The landfill operator would be required to comply with the existing (and future) Waste Discharge Requirements and related State regulations regarding landfill operations, including construction of appropriate lining and leachate-control systems and water-quality monitoring systems. The owner or operator would be required to submit to the Regional Water Quality Control Board required plans and specifications for construction of new landfill modules. Such submittals would be required to include construction quality assurance (CQA) plans describing the oversight of construction and procedures for remedying defects in construction before waste placement begins.

Implementation of the proposed project consistent with the regulatory requirements described above would minimize or avoid the potential for the offsite discharge of site soils and pollutants associated with site operations. Therefore, the project's operation-related water quality impacts are considered **less than significant**.

The clean closure of the Class I Area could expose contaminated waste to erosive forces during the closure activities. Clean closure would be performed after the overlying stockpile is consumed and would include removing the capping materials, excavating, manifesting, and disposing of the remaining hazardous residuals in a permitted Class I disposal site. The clean closure would also include screening and using less-contaminated native soil (or existing fill) beneficially as a soil operations layer on the expansion area side slopes of the Class III area. If the clean closure activities occurred during a storm or high wind event, exposed soils could be transported by wind (see Section 4.3, Air Quality) or water from the Class I Area. However, material excavation and removal from the site would require less than two weeks to complete and would occur during the typical construction season when storm events are unlikely to occur (i.e., April 15 through October 15). The excavation and removal of these hazardous materials from the site would reduce the potential for long-term degradation of the project site's water quality. This impact would be considered **less than significant**.

The existing, unlined portion of the landfill has affected groundwater quality locally through migration of leachate and landfill gas to groundwater. The effects of this leakage are being controlled through groundwater extraction, which would continue during the expansion phase (see "Groundwater," above, for details regarding monitoring and enforcement). Although the unlined landfill has affected groundwater quality, the effects are mainly from organic compounds. There is no evidence that the landfill has imparted arsenic to the groundwater in significant amounts. Migration of leachate and landfill gas from the expanded landfill would be prevented through construction of Title 27-compliant liners and controls (see Impact 4.8-5 for discussion of landfill liner and controls). Therefore, because the existing groundwater contamination source is being controlled through groundwater extraction and future landfill modules would include Title 27-compliant liners, the proposed project would not be expected to contribute to groundwater contamination and this impact would be considered **less than significant**.

#### Mitigation Measure 4.8-3 Potential Long-Term Degradation of Water Quality

No mitigation measures would be necessary.

| | |
|---|---|
| **IMPACT 4.8-4** | **Potential for Decreased Groundwater Recharge**. *The installation of a liner system and eventually a closure cap would reduce the potential for groundwater recharge over the area of the landfill footprint. However, large areas are available surrounding the site that would continue to accommodate groundwater recharge. The proposed project would not be expected to decrease groundwater supplies or otherwise adversely affect groundwater recharge in the project vicinity and this impact would be considered* ***less than significant****.* |

The proposed project does not include the use of groundwater for any aspect of project construction or operations. However, the installation of a liner system and the eventual installation of a closure cap would reduce the potential for groundwater recharge over the area of the landfill footprint containing the liner system and closure cap. Stormwater that flows over the landfill cap would be directed to the site's detention basins and would ultimately discharge from the site.

Because the drainage system (ditches, basins) would be designed to maintain post-project off-site flows at the same volumes as pre-project, the receiving waters would experience no change in flows. Therefore, downstream recharge that occurs from percolation in drainages would not change.

On-site percolation may be reduced in the long-term at landfill buildout but may be enhanced in the short-term through the construction of temporary stormwater basins in the expansion area modules. As the modules are excavated, temporary stormwater basins would be constructed in areas where there were no previous basins. This would facilitate greater percolation of stormwater.

At buildout, the impermeable area of the landfill (the lined portion) would be 195 acres more than the current landfill footprint (253 acres of future footprint less 58 acres currently). These 195 acres represent approximately 7.5 percent of the area of USGS Topographic Map T&R Sections 4, 5, 8, and 9 where the landfill is located. Although the proposed expansion would reduce the area available for recharge within the immediate project vicinity, due to the site's remote location, large areas are available surrounding the site that would continue to accommodate groundwater recharge. Because these surrounding lands are predominantly designated for agricultural uses, they are not expected to be developed in the future and would continue to provide areas for groundwater recharge. For this reason, the projected reduction (7.5 percent) in available recharge area that could occur as a result of the proposed project would not substantially decrease groundwater supplies or otherwise adversely affect groundwater recharge in the project vicinity and this impact would be considered **less than significant**.

#### Mitigation Measure 4.8-4 Potential for Decreased Groundwater Recharge

No mitigation measures would be necessary.

| | |
|---|---|
| **IMPACT 4.8-5** | **Potential for Leachate to Degrade Groundwater Quality.** *Leachate generated within the expanded landfill modules would be captured by a Leachate Collection and Removal System. As described in the Design Basis Report, the leakage of leachate through the liner system would be less than 0.1 gallons per acre per day, which is considered negligible. This level of leakage would not be expected to degrade groundwater quality. In addition, the landfill expansion would include the installation of a groundwater monitoring system that would detect and capture contaminated groundwater before migrating offsite. Therefore, this impact would be considered **less than significant**.* |

While landfills are designed to shed rainwater from the landfill and into surrounding drainages, some of the water infiltrates into the waste. Some of the water is consumed by microbes in the decaying waste, but some makes its way to the bottom of the landfill. Water that passes through waste and absorbs some of the waste constituents is called "leachate." Historically, leachate has been considered non-hazardous because under the requirements of Title 22, CCR it does not bear the characteristics of toxicity, corrosivity, reactivity, or flammability. However, leachate does contain constituents such as inorganic salts (such as sodium chloride) and volatile organic compounds that can degrade groundwater quality if left uncollected.

As described in the Design Basis Report for the project, the expanded landfill would include an expanded leachate collection and recovery system (LCRS) that would include the following alternative engineered design[8] that has been previously approved for use at the site:

- Leachate drainage layer on the entire bottom of the landfill to prevent buildup of over 12 inches of head (leachate depth) on top of the liner system.

[8] Both Federal RCRA (Subtitle D) and California solid waste regulations (CalRecycle/CCRWQCB) allow an alternative engineered design to address a particular site condition if it can be demonstrated to provide equivalent protection from leachate leakage to groundwater as the standard prescriptive design.

- A system of pipes to drain the leachate into sumps designed for no less than double the peak leachate flow.
- Leachate sumps with a pumping system designed for twice the peak flow and underlain by a leak-detection sump.[9]

On the bottom of the landfill, the LCRS system would be underlain by a composite liner system including the following from top to bottom:

- 12-inch soil "operations" layer (to protect the LCRS and liner system from damage during waste placement).
- Geotextile separator fabric (to prevent soil from entering the LCRS).
- 60-mil high-density polyethylene geomembrane.
- Geosynthetic clay liner.
- 12 inches of clay with a permeability no faster than 1 x $10^{-6}$ centimeters/second (one foot per year at one foot of head or 1/10 of a foot per year with 1/10 of a foot of head).
- Minimum of 5-foot separation from the top of the geomembrane to highest anticipated groundwater.

On the sideslopes the following system would be used. Note that an LCRS is not used on the sideslopes because they shed water without a gravel LCRS.

- 24-inch soil operations layer (to protect the liner from damage during waste placement).
- 60-mil high-density polyethylene geomembrane.
- Geosynthetic clay liner.
- Prepared (smooth) soil subgrade.

Any new landfill modules would be required, per Title 27 CCR, to maintain a five-foot separation between the highest anticipated groundwater level and the bottom of the waste. Throughout most of the current landfill and proposed expansion area, the first encountered groundwater is located 20 feet or more below the current and proposed base grades. However, in wells that intersect groundwater under confined conditions,[10] groundwater was observed to rise from the depth that it is first encountered to a higher level because it is under confining pressures. In those cases, the highest anticipated water levels could be less than 5 feet from the base grades in certain locations under the expansion area. Previous groundwater monitoring has revealed that this could occur in two small, localized areas on the east sides of proposed Phases 2A and 2B. During the design and construction of Phases 2A and 2B, an additional well would be installed to verify the confined condition and track groundwater elevations. If the proposed base grades are determined to be less than 5 feet from the top of the highest groundwater levels, the landfill would refine the groundwater model as necessary, and if needed, revise the cell design with base grade elevations to ensure that a separation of 5 feet or greater is maintained during landfill operations and post-closure (Lawrence and Associates 2021). This would be necessary to comply with the 5-foot separation requirements pursuant to Title 27.

The project also includes clean closure of the Class I Area. The Class I area contains sediment that contains hazardous pesticide residues and additional non-hazardous, yet contaminated, soil. Clean closure of the Class I Area would include removal and proper disposal of the contaminated soil, thereby eliminating the future potential for groundwater contamination from the residual pesticides.

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[9] The project proposes that leachate generated and routed to the sumps would be collected and applied on lined areas of the site to control dust and/or be reinjected into the buried waste to accelerate waste decomposition.

[10] Confined groundwater conditions refer to groundwater that is under pressures greater than atmospheric due to the presence of an overlying impervious or semi-impervious confining layer. Groundwater under confined conditions rises to a "potentiometric surface" in a well, which refers to the imaginary surface representing the total pressure head of the groundwater under confined conditions.

As described in the Design Basis Report, the peak leakage through the liner system would be less than 0.1 gallons per acre per day, (e.g., negligible) and has negligible potential to affect groundwater quality. Additionally, clean closure of the Class I Area would reduce the risk of future contamination for residual pesticides.

To further ensure that leachate and the contaminants it may contain (e.g., PFAS) are not contaminating the groundwater basin underlying and surrounding the project site, Title 27 requires that groundwater monitoring wells be installed both upgradient and downgradient from the landfill as close to the “point of compliance” or edge of waste as possible. These wells provide a mechanism to identify contaminants migrating offsite before they enter the groundwater basin. Early identification of offsite contaminant migration allows for the development of remediation strategies, which would be reviewed and approved by the CCRWQCB prior to implementation. The strategy to reduce the potential for PFAS contamination is outlined in the PFAS Follow-up Workplan (Golder 2021). The general requirements for monitoring-well design, installation, monitoring, and statistical analysis are described in Title 27 CCR. For the expanded landfill, an updated JTD would be prepared and submitted to both the CCRWQCB and CalRecycle. The CCRWQCB would use the JTD as a basis to update the existing Waste Discharge Requirement (WDR) and Monitoring and Reporting Program (MRP) Order R3-2013-0047. The WDRs are the landfill permit that controls the design of the landfill and other aspects that could affect water quality. The MRP describes the required groundwater and surface water monitoring for the landfill. The CCRWQCB General Order R3-2020-0001 also requires that waste be no closer than 50 feet from the property line, unless approved by the Executive Officer.

The current landfill has 35 monitoring wells that are monitored semiannually under MRP R3-2013-0047. The current wells are divided into background wells and detection compliance wells, of which seven are used for “detection” monitoring and are monitored semiannually, 14 are monitored to evaluate the “corrective action” related to a release of volatile organic compounds from the existing unlined Module 1 and are monitored semiannually, and four wells (of which one is also used for Class III Detection Monitoring) are used for the Class I Area detection monitoring and are monitored yearly to every 5 years. The remaining wells are used for water levels only. There are also five groundwater extraction wells that intercept groundwater downgradient from unlined Module 1. In addition, 10 landfill-gas monitoring probes are monitored annually for volatile organic compounds. Monitoring of these wells would continue under the expansion and the monitoring network would be modified over time if determined necessary for increased monitoring efficiency or as required by the CCRWQCB.

As shown on Figure 4.9-6, 11 wells have been installed in the landfill expansion area, seven of the wells (N-1, N-2, N-3, N-4, N-5, N-7, and N-8) have been installed so that they can be used as upgradient or compliance wells for the expanded landfill. Compliance wells would identify leachate migrating offsite before the contaminants enter the underlying groundwater basin. If contaminants are detected, the landfill would develop remediation strategies (e.g., groundwater extraction), which would require approval by the CCRWQCB prior to implementation. The remainder of the wells would be used temporarily and then decommissioned prior to landfill construction in that area.

Perimeter landfill-gas monitoring wells would be installed around the perimeter of the facility as the expansion modules are constructed. If permitted under the MRP, an alternative approach could involve a network of temporary wells placed at a determined compliance boundary closer to the waste and then moved as the landfill expands. As needed and required, the probes within the additional wells would be added to the list of probes monitored for trace gases.

Prior to expansion of the landfill, the landfill operator would submit a JTD containing a ROWD that would propose the monitoring network for the expanded area. The CCRWQCB would review the JTD and request changes to the monitoring network if it identifies a need to add, remove, or relocate monitoring points. The CCRWQCB would then update the WDRs and MRP for the landfill and request additional monitoring points, as needed. General Order R3-2020-001 requires that the JTD be reviewed and updated if needed every five years at which time the monitoring network and WDRs would be reviewed and updated, if needed.

Because the construction of new landfill modules associated with the proposed landfill expansion would (1) be required to construct an LCRS underlain with a composite liner system, (2) include clean closure of the Class I area, (3) include the installation of groundwater monitoring wells both upgradient and downgradient from the landfill, (4) maintain a 5-foot separation between the highest encountered groundwater and the bottom of the waste, and (5) be required to comply with updated WDRs and a MRP, the proposed project would not be expected to degrade groundwater quality or contribute contaminants to domestic groundwater wells within the project vicinity. Therefore, the project's impacts on groundwater quality would be **less than significant**.

### Mitigation Measure 4.8-5 Potential for Leachate to Degrade Groundwater Quality

No mitigation measures would be necessary.

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|---|---|
| **IMPACT 4.8-6** | **Potential Adverse Impacts to Groundwater Supply and Local Wells.** *The JSRL will use a groundwater supply well located at 1370 Shore Road in Hollister as a supplemental water supply. Use of this well could adversely impact aquifer supply and local well users if groundwater is extracted at a rate that would substantially lower groundwater levels. The intermittent and seasonal extraction of supplemental supply from the 1370 Shore Road well would not reduce aquifer supply or cause groundwater levels to decline to the degree that neighboring wells would be adversely impacted. Therefore, this impact would be considered* ***less than significant****.* |

As described in the Project Description and the Public Services and Utilities section, during most of the year, site-use water at the JSRL would be provided by onsite stormwater detention basins. During drought periods and in the dry season (late summer and fall), the water supply in the basins may become depleted, requiring the landfill to rely on a supplemental water source. The landfill proposes to use a groundwater supply well located at 1370 Shore Road in Hollister (Shore Road well) for supplemental site-use water. The pumped groundwater would be imported to the landfill by truck. The Shore Road well is located 10.4 miles northwest of the landfill in the North San Benito subbasin of the Gilroy-Hollister Valley Basin. Locally, the North San Benito sub-basin is further divided into smaller subbasins or "management areas" by the San Benito County Water District (SBCWD). The Shore Road well is in the Bolsa subbasin as defined by the SBCWD (Lawrence and Associates, 2022). Groundwater levels in the vicinity of the Shore Road well are considered shallow and were recorded at or above (i.e., artesian[11]) the ground surface in 2020 (Lawrence and Associates, 2022).

The potential adverse groundwater impacts associated with the JSRL's use of the Shore Road well would be the reduction of regional and local groundwater availability and excessive drawdown in neighboring wells caused by well interference. These two potential impacts were evaluated by Lawrence and Associates and the results were presented in its technical memorandum dated May 25, 2022 (Lawrence and Associates, 2022).

Groundwater availability was determined by comparing the amount of groundwater stored in the vicinity of the Shore Road well to the late summer/fall water demand of the landfill. Based on an average storativity[12] of 0.08 for the Bolsa subbasin, an average area of 1,280 acres, and average aquifer thickness of 82 feet, the aquifer storage is approximately 8,400 acre-feet (Lawrence and Associates, 2020). The landfill's water demand would be a maximum of approximately 22-acre feet per year [13] (dry season only), which would represent about 0.26 percent of the groundwater availability in the vicinity of the well. This volume of periodic dry season groundwater use would be minor and would not substantially reduce groundwater availability in the portion of the Bolsa subbasin.

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[11] Artesian refers to groundwater that flows out of a well above the ground surface due to confining pressures on the source aquifer.

[12] Storativity is the volume of water an aquifer releases from or takes into groundwater storage per unit surface area of the aquifer per unit change in head.

[13] Calculated assuming 24 gpm over 24 hours for 215 days per year (Lawrence and Associates, 2022).

A potential effect of groundwater extraction would be a decline in the water levels in neighboring wells caused by local groundwater drawdown. This could occur if groundwater pumping caused water levels to decline to a degree that neighboring wells would become damaged and no longer functional. The potential that neighboring wells would experience groundwater drawdown from pumping the Shore Road well was evaluated based on storativity and transmissivity[14] to determine the resulting well drawdown and drawdown at a prescribed distance away. (Lawrence and Associates, 2022.) The assumed pumping rate for the Shore Road well was 72 gallons per minute (gpm) for an 8-hour day (equivalent to an average of 24 gpm over 24 hours) for a period of 215 days.

Based on results of the drawdown analysis, well interference at a distance of 500 feet from the Shore Road well could range from less than 0.5 feet to about 0.5 inches, with diminishing drawdown at greater distances. With an average aquifer thickness of 82 feet, drawdown of 0.5 feet accounts for less than 1 percent of the aquifer thickness. Considering the shallow groundwater depths in the vicinity of the Shore Road well and average well depths ranging between 100 and 200 feet, the potential for substantial drawdown at the Shore Road well due to pumping associated with the proposed project is low. This is especially the case considering that the groundwater drawdown analysis conservatively assumed a pumping rate equivalent to 34,560 gallons per 24-hour day for 215 days when the actual pumping rate would likely be considerably less because the landfill proposes to haul 3 to 6 truckloads of water per day and only in the late summer and fall months. This intermittent and inconsistent use of the Shore Road well would not result in a constant groundwater drawdown and would allow the well to recover daily, thus, the overall drawdown at and in the vicinity of the Shore Road well would likely be less than that calculated by the analysis.

Given the aquifer characteristics (i.e., thickness, shallow groundwater depth, and high transmissivity) and the proposed intermittent and seasonal use of the Shore Road well, the effects on the regional and local groundwater supply and the neighboring groundwater wells would be minor and therefore, this impact is **less than significant.**

#### Mitigation Measure 4.8-6 Potential Adverse Impacts to Groundwater Supply and Local Wells

No mitigation measures would be necessary.

[14] Transmissivity is the rate at which water is transmitted through an aquifer at a particular hydraulic gradient expressed as gallons per foot per day.

## 4.8.4 REFERENCES

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# 4.9 GEOLOGY, SOILS AND PALEONTOLOGY

This section describes the existing geologic, soil, seismicity, hydrogeologic, and paleontological conditions at the project site and provides an analysis of the potential related hazards associated with development of the proposed project. This section also identifies potential geology, soils and paleontology impacts that would result from project implementation and presents mitigation measures to reduce or avoid the potential impacts, if necessary. Potential impacts were identified by reviewing and evaluating regional and local geologic and seismic information, applicable regulatory codes and requirements, and local plans and policies, along with the Design Basis Report for the proposed expansion (Lawrence & Associates 2021).

## 4.9.1 EXISTING SETTING

### GEOGRAPHIC SETTING

The terrain in the project vicinity consists of rolling hills ranging from roughly 840 feet above mean sea level (msl) on the hilltops near the site to over 1,000 feet msl to the northeast and south of the project site, to 630 feet msl in the valley bottoms (Figure 4.9-1). Seasonal drainages generally drain to the west and northwest. The project site is located between seasonal drainages that are tributary to Santa Ana Creek. Santa Ana Creek drains into the Pajaro River via Tequisquito Slough. The Pajaro River drains northwest and through San Benito Valley and is tributary to Monterey Bay. The project site is not located within a designated flood plain (FEMA 2009).

Elevations at the project site, as of January 2020, range between approximately 900 feet msl in the east end of the site to 580 feet msl in the west end. The currently permitted elevation, including the closure cap, is 920 feet msl to the top of the highest point on the John Smith Road Landfill (JSRL). The top of the existing JSRL is within 10 feet of the permitted elevation.

### GEOLOGY

#### Regional Geology

The project site is located in the California Coast Range Geomorphic Province near the City of Hollister. The primary local geologic feature is the Hollister Valley, which is bounded on the southwest by the San Andreas Fault Zone and the Gabilan Mountain Range, which is composed of granitic and tertiary marine, as well as volcanic rocks. The Hollister Valley is bounded to the north and east by the Diablo Mountain Range, which is composed of metamorphosed marine sedimentary and igneous rocks of the Franciscan Formation and marine sedimentary rocks of the Great Valley Sequence. The valley lies along the southeastern margin of the Gilroy-Hollister groundwater basin.

#### Project Site Geology and Structure

Three major geologic units have been mapped at the site including the Cretaceous-age (66 to 145 million years old) Panoche Formation (Kp and Kps), Pleistocene-age (11,700 to 2.58 million years old) older terrace deposits (Qoa), and Quaternary-age (less than 2.58 million years old) surficial deposits (Qal) (Dibblee 1979 and Majmundar 1994) (Figure 4.9-2)[1]. The Panoche Formation is composed of interbedded marine sandstones (Kps), siltstones, claystones, and shales (Kp) with bedding thicknesses ranging from less than 1-inch to several feet.[2]

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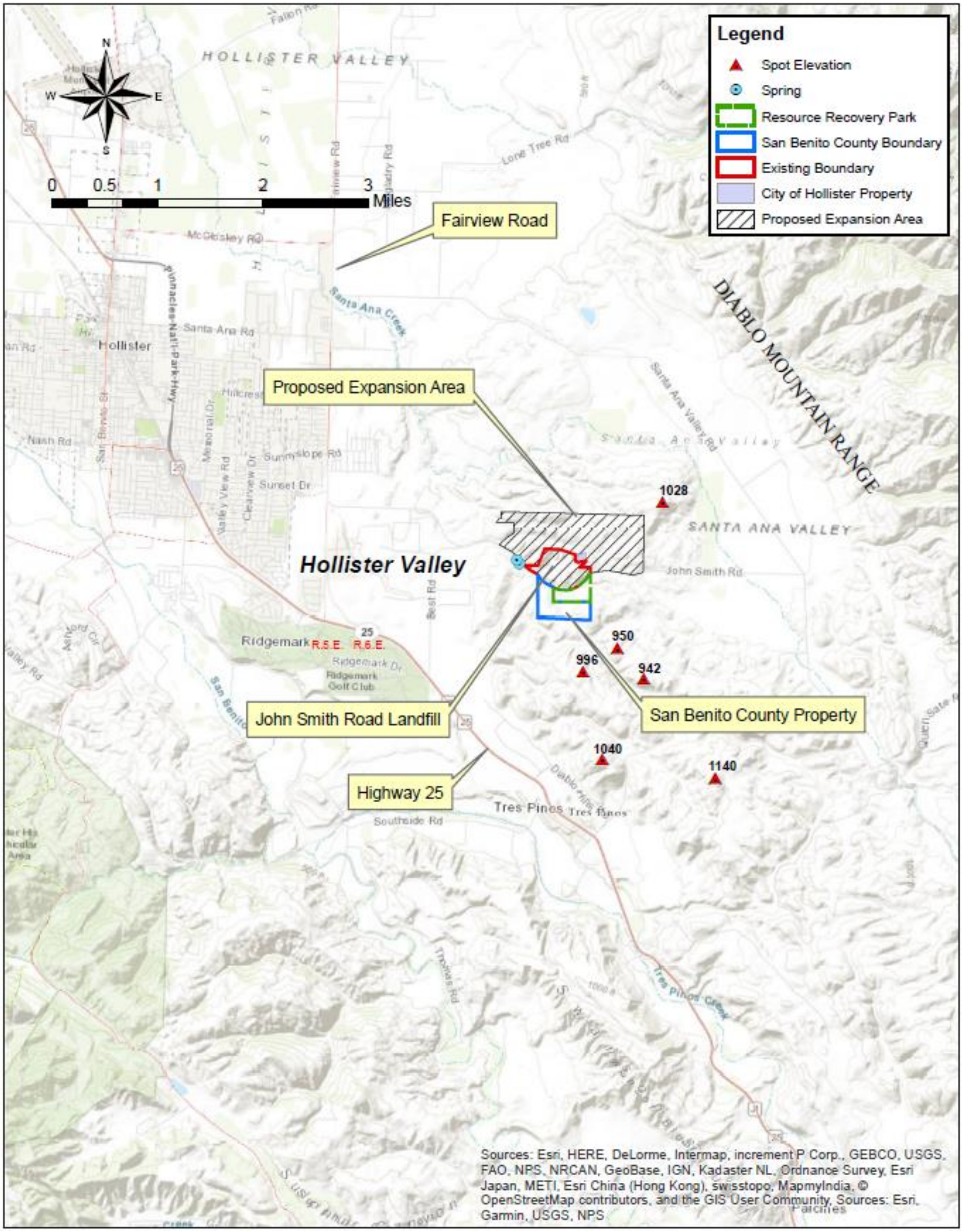
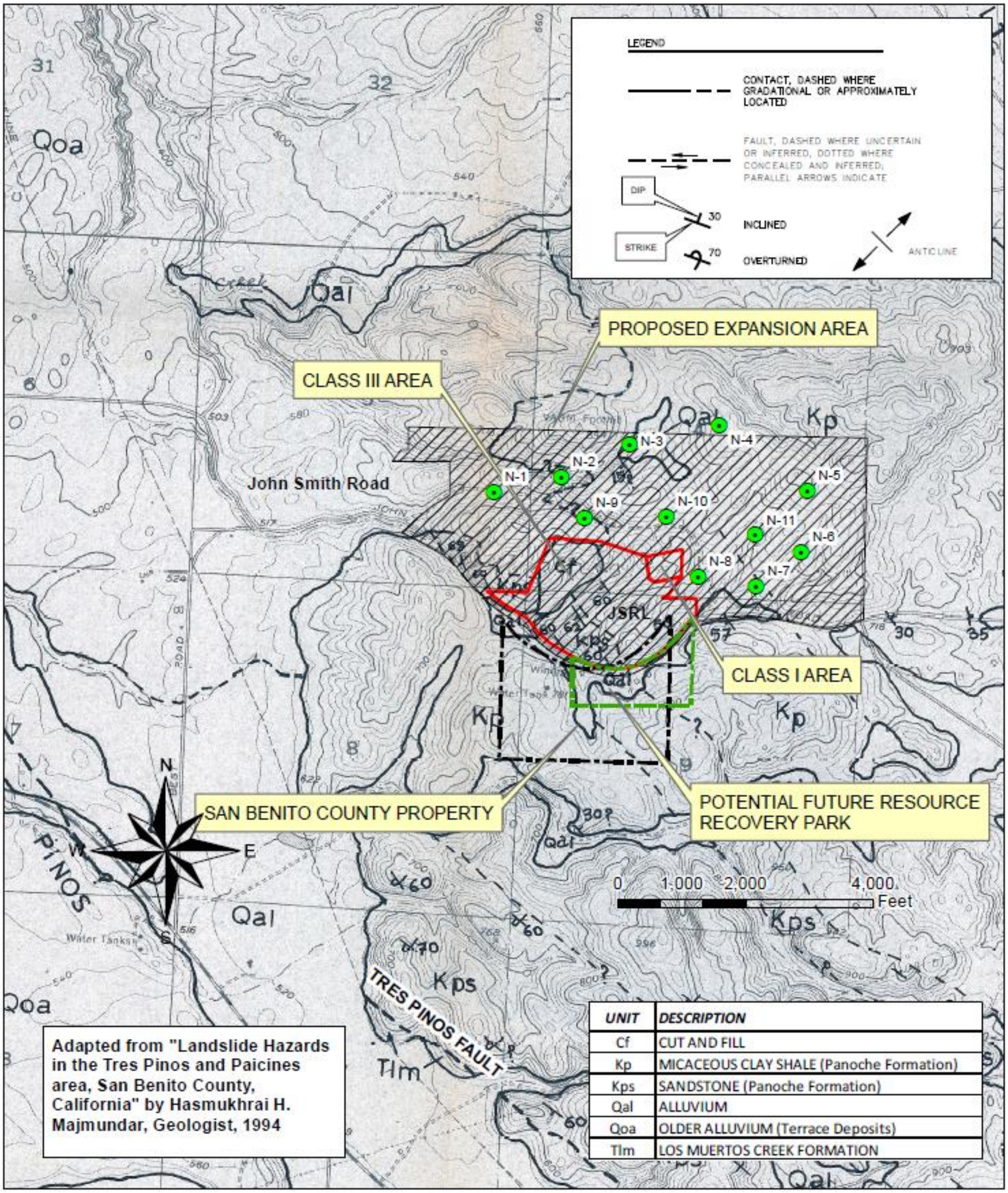
1 Figure 4.9-2 was obtained from a map developed by Majmundar (1994). His map was based on an earlier map by Dibblee (1979).

2 Siltstone and clay stone are sedimentary rocks made up of small-sized (0.01 to 0.1 millimeter) soil particles deposited by water. Because silt and clay are finer grained, they have lower permeability than sand and gravel.




Source: Lawrence & Associates 2021

**Elevations of Hills Surrounding the Project Site** **Figure 4.9-1**




Source: Lawrence & Associates 2021

**Geologic Map** **Figure 4.9-2**

Sandstones tend to be moderately to highly fractured, and claystones and siltstones tend to be crushed to moderately fractured. The claystones also tend to be saprolitic, that is, retaining the structure of the parent rock while being decomposed to the characteristics of soil. The decomposition diminishes with depth, gradually transitioning between a soil-like material to soft bedrock over several 10's of feet.

As shown on Figure 4.9-2, the Panoche Formation underlies the eastern two thirds of the proposed expansion area. It tends to be very clayey and soft at the surface and becomes harder with depth.

The older terrace deposits (Qoa) unconformably[3] overlie the Panoche Formation and were mapped by Dibblee within the western portion of the project area. Dibblee identified Qoa in this area as "$Qoa_1$"; the oldest terrace deposit. Based on the well log for monitoring well N-1 (location of N-1 is shown on Figure 4.9-2), the Qoa deposits appears to be 40 feet thick in the valley bottom at the west end of the landfill expansion area. The well log for monitoring well N-2 shows a depth of 50 feet and the well log for N-9 shows no Qoa deposits, strongly suggesting the contact in that location. The depth of the Qoa deposits ranges from 45 to 75 feet in the northwest corner of the existing landfill property where these deposits are very dense and support steep slopes. These deposits appear similar to the Panoche Formation but are less fractured.

Beds within the Qoa deposits are inclined (known in geology as "dip") to the northwest at approximately 20 degrees. The Qoa deposits are composed primarily of poorly- to semi-consolidated sands and silts. Erosion has removed the terrace deposits from most of the eastern portions of the project site. Quaternary-age surficial alluvium (Qal) was present in the Class III area but was removed during landfill excavation. This alluvium forms the valley fill in the field across from the JSRL entrance and around the pond on the northern portion of the proposed expansion area. The greatest observed thickness of the valley-fill alluvium is 27 feet in the soil boring for monitoring well WA-13 in the field across John Smith Road from the JSRL entrance.

### SOILS

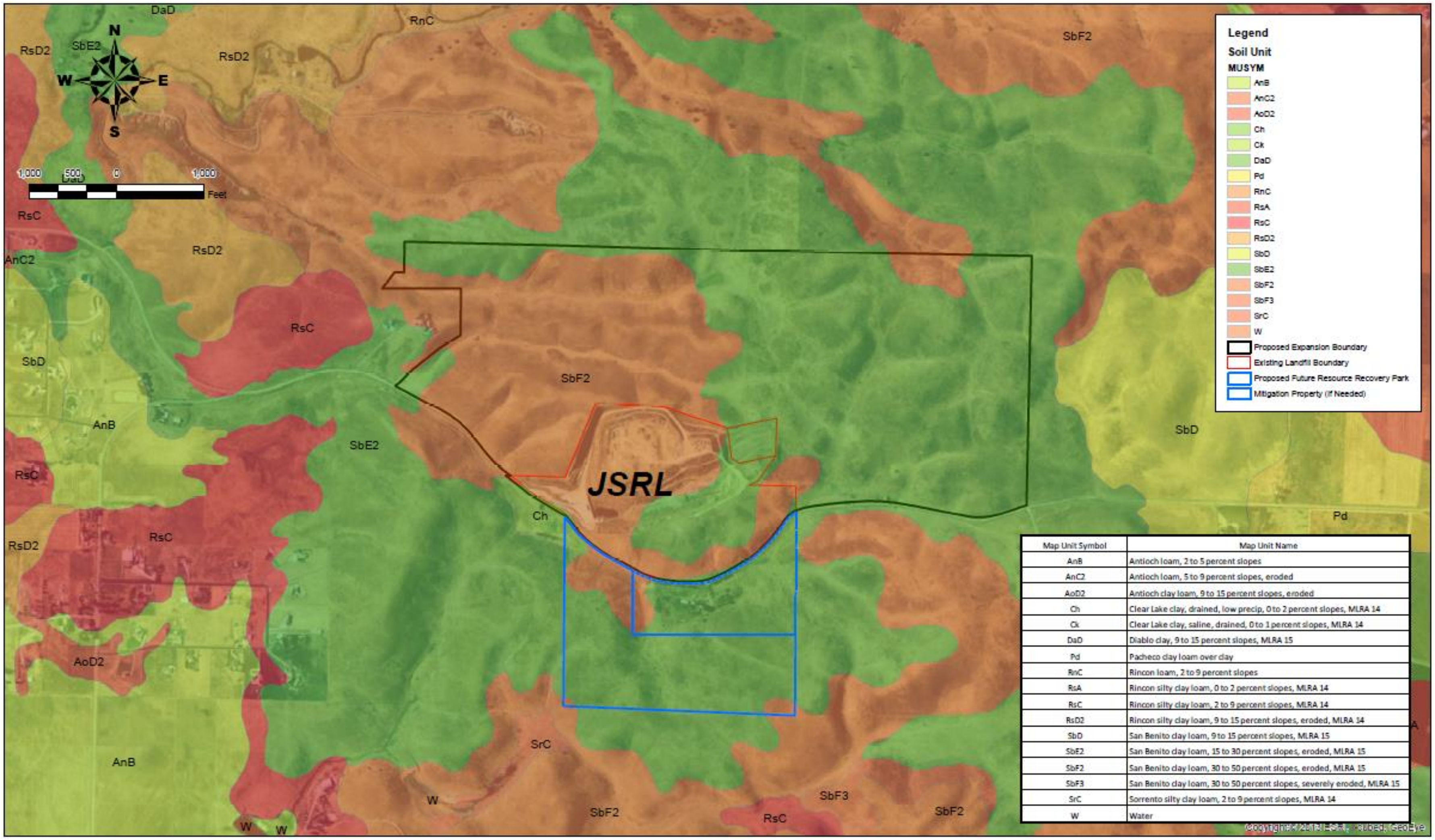
The soils map for the project site and vicinity indicates that most of the soil within the project area is designated as either San Benito clay loam, 15 to 30 percent slopes, eroded (SbE2) or San Benito clay loam, 30 to 50 percent slopes, eroded (SbF2) (Figure 4.9-3). Both soils are described as a clay loam with a "A" horizon (topsoil) consisting of clay loam 0 to 28 inches deep and weathered bedrock ranging in depth from 48 to 79 inches (USDA 2020).[4] According to the California Department of Conservation, California Important Farmland Finder (CDC 2021), the soils on the project site are not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Based on observations from preparing the soil-stockpile areas for the JSRL construction of Modules 3B through 6, topsoil depth ranged from less than 12 inches to approximately four feet within the footprint of Modules 7 and 8. Topsoil consists of bedrock, almost completely weathered to the consistency of clayey soil with a very thin organic horizon. The proportion of rock within the soil increases to some degree with depth but remains predominantly weathered to the consistency of rocky soil and is fractured throughout the section.

### REGIONAL HYDROGEOLOGY

Hydrogeology is the study of groundwater (water that occurs beneath the ground surface) and how water gets into the ground (recharge), how it moves in the subsurface (through aquifers), and how it interacts with the surrounding soil and rock (the geology).

[3] Meaning that the surface of the underlying formation was eroded prior to placement of the overlying formation.
[4] Loam is defined as roughly equal parts clay, silt, and sand.




| Map Unit Symbol | Map Unit Name |
|---|---|
| AnB | Antioch loam, 2 to 5 percent slopes |
| AnC2 | Antioch loam, 5 to 9 percent slopes, eroded |
| AoD2 | Antioch clay loam, 9 to 15 percent slopes, eroded |
| Ch | Clear Lake clay, drained, low precip, 0 to 2 percent slopes, MLRA 14 |
| Ck | Clear Lake clay, saline, drained, 0 to 1 percent slopes, MLRA 14 |
| DaD | Diablo clay, 9 to 15 percent slopes, MLRA 15 |
| Pd | Pacheco clay loam over clay |
| RnC | Rincon loam, 2 to 9 percent slopes |
| RsA | Rincon silty clay loam, 0 to 2 percent slopes, MLRA 14 |
| RsC | Rincon silty clay loam, 2 to 9 percent slopes, MLRA 14 |
| RsD2 | Rincon silty clay loam, 9 to 15 percent slopes, eroded, MLRA 14 |
| SbD | San Benito clay loam, 9 to 15 percent slopes, MLRA 15 |
| SbE2 | San Benito clay loam, 15 to 30 percent slopes, eroded, MLRA 15 |
| SbF2 | San Benito clay loam, 30 to 50 percent slopes, eroded, MLRA 15 |
| SbF3 | San Benito clay loam, 30 to 50 percent slopes, severely eroded, MLRA 15 |
| SrC | Sorrento silty clay loam, 2 to 9 percent slopes, MLRA 14 |
| W | Water |

Source: Lawrence & Associates 2021

**Soils Map**

**Figure 4.9-3**

An aquifer is a body of porous rock or sediment saturated with groundwater. Aquifers in which the groundwater is found within gravel, sand, silt, or clay materials are called alluvial aquifers. Aquifers in which the groundwater is found within fractures of hard rocks or cemented sedimentary rocks are called bedrock aquifers. Typically, alluvial aquifers consisting of sand and gravel transmit groundwater better than do bedrock aquifers because there is more space for the groundwater (therefore, more groundwater can be stored in the aquifer) and the spaces are better connected (therefore, the groundwater can move more easily through the aquifer). There are exceptions, such as volcanic rock or limestone aquifers, but these do not occur in the project vicinity.

An alluvial aquifer, or a stacked series of alluvial aquifers, with reasonably well-defined lateral boundaries and a definable bottom is known as a groundwater basin. Groundwater basins are not defined for areas where groundwater occurs mainly in bedrock aquifers.

The project site is located outside of a defined groundwater basin. Figure 4.9-4 identifies the groundwater basins surrounding the project. The main groundwater basin to the west of the project site is the Gilroy-Hollister Valley – North San Benito Basin (Gilroy Basin). This basin is a significant water source for much of the Hollister Valley (although groundwater sources are combined with imported surface-water sources). East of the project site is the smaller Santa Ana Valley groundwater basin. As shown on Figure 4.9-5, most of the active groundwater wells in the vicinity of the project site draw water from the Gilroy Basin.

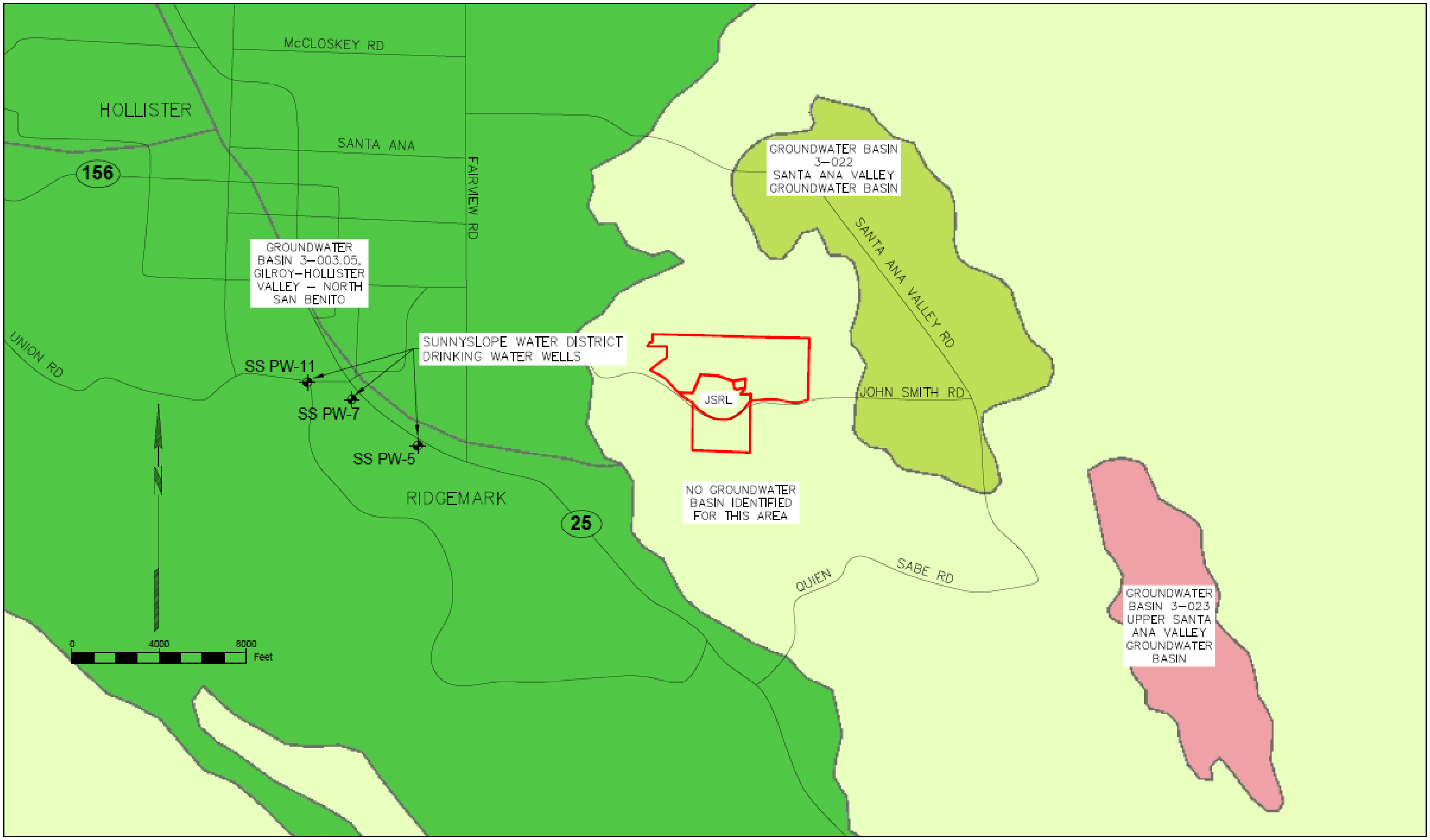
Groundwater recharge in the Gilroy Basin is provided by stream losses along the Pájaro and San Benito Rivers and their tributaries, areal recharge of precipitation and irrigation waters, seepage along canals, and interbasin lateral flow. In the northern portion of the Gilroy Basin, engineered recharge facilities (i.e., percolation ponds and channels supplied by imported water and precipitation) enhance ambient recharge. In the southern region of the Gilroy Basin, recharge occurs from the San Benito River as a result of river regulation at the Hernandez Reservoir, which is located approximately 20 miles southeast of the Gilroy Basin. Groundwater discharge occurs primarily as pumping for municipal and irrigation supply.

The major faults that bound the Gilroy Basin (Calaveras, San Andreas, and Sargent) are relatively impermeable barriers to groundwater movement. An unnamed clay layer in the northern part of the Gilroy Basin restricts vertical groundwater movement in that area.

### SITE HYDROGEOLOGY

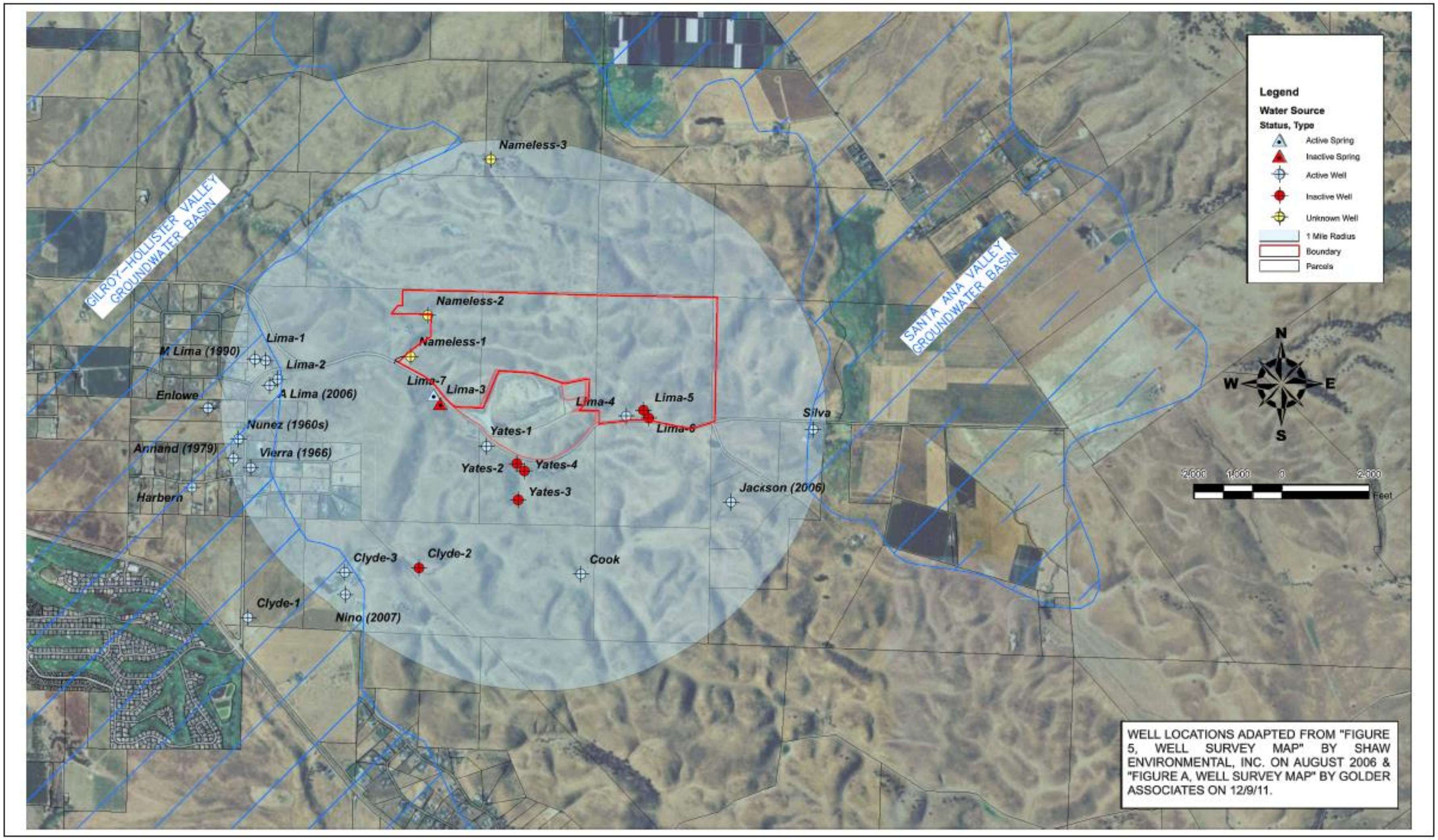
The project site lies outside of the Gilroy Basin, in an area where the bedrock is uplifted and the younger formations are thinner or absent. Although the younger, alluvial aquifers usually are considered distinct from bedrock aquifers, in the project area they can behave as one. This occurs where the upper portion of the Panoche Formation (which is considered bedrock in the project area) is weathered (broken down physically and chemically). Because of the weathering, the upper portion of the Panoche Formation has more space for groundwater, so it is easier for the groundwater in each formation to mix (i.e., there is a hydraulic connection between the aquifers), and behave as a single aquifer. In these locations, groundwater generally occurs in semiconfined to unconfined conditions (i.e., the groundwater is not under pressure, and the first-encountered and static water levels are very close or the same) and groundwater can move through the rock matrix. This groundwater condition occurs southwest of the existing JSRL in the field across John Smith Road near well W-13.

In most other areas in the project vicinity, groundwater in the Panoche Formation generally occurs under confined conditions (i.e., the groundwater is under pressure, and the static water level is higher than the first-encountered water levels) and the groundwater flow is primarily along fractures. During the installation of most of the older monitoring wells in the Panoche Formation, the groundwater rose as much as 40 feet from the first-encountered elevation to the static (i.e., potentiometric) elevation.




Source: Lawrence & Associates 2021

**Groundwater Basin Map** **Figure 4.9-4**




Source: Lawrence & Associates 2021

**Groundwater Wells within One Mile of Project Site** **Figure 4.9-5**

New wells N-1 though N-11, installed during the summer of 2020 to monitor the expansion area, showed generally similar characteristics to the older wells. In N-1 through N-4, N-7, and N-9 (all screened within the unweathered Panoche Formation bedrock), the water level rose 10 to 30 feet above the first water observed during drilling, indicating confined conditions, similar to the older wells (Golder 2020). No water was detected initially during drilling in N-5 and N-6 (screened within the unweathered bedrock), but eventually rose to 45 feet and 27 feet, respectively, above the bottom of the casing (Figure 4.9-2). Throughout the current landfill and proposed expansion area, the first encountered groundwater is located 20 feet or more below the current and proposed base grades. However, as discussed in further detail in Section 4.8, Hydrology and Water Quality (Impact 4.8-5), the highest anticipated water levels, which are due to the confined groundwater rising in the well, could be less than 5 feet from the base grades in two small, localized areas on proposed Phases 2A and 2B.

Well N-8 was the only well installed with a portion of the screened interval above the top of the unweathered bedrock. The well was initially dry but rose 40 feet within a month after installation, to 20 feet below ground surface. It is not clear whether the water level in this well represents water in an unconfined or semi-confined condition. Wells N-10 and N-11 were installed with their screened interval entirely within the unweathered bedrock. The static water level in N-10 was only three feet higher than the first encountered water level, suggesting an unconfined water table condition within the bedrock in this location. In Well N-11, moisture was detected at the bottom of the hole and a month later the static water level had risen 32 feet.

The results from the drilling of the new wells around the expansion area suggest that the geologic formation is of very low permeability in the area of the new wells and that groundwater occurs mostly in a confined condition.

Aquifer hydraulic properties for the expansion-area wells were not determined as part of the well installation program. An initial assessment of the well development logs, however, indicates that groundwater production will be very limited: Several wells went dry during development (the pumping done to clean the residual soil particles from a well after drilling), a few wells could be pumped at 1 gallon per minute (gpm) with minimal drawdown (N-6, N-7, and N-10), and only one well (N-11) could be pumped at 4 gpm with minimal drawdown.

Aquifer hydraulic parameters have been measured in older wells at the existing JSRL by Wahler & Associates in 1993 and EMCON in 1987. Although these tests were conducted approximately 30 years ago, the results remain valid because aquifer parameters generally do not change over short geologic time periods. The results of aquifer tests in the valley-fill alluvium showed hydraulic conductivity ranging from $3.1 \times 10^{-3}$ to $4.8 \times 10^{-5}$ centimeters per second (cm/sec); this equates to a range of 8.8 feet per day to 0.1 feet per day.

Analysis of data from long-term pumping tests (as much as 72 hours) in the Panoche Formation showed hydraulic conductivity ranging from $1.4 \times 10^{-3}$ to $1.0 \times 10^{-5}$ cm/sec; this equates to a range of 4.0 feet per day to 0.03 feet per day. Similar values were obtained for the Panoche Formation during hydraulic characterization of the Class I facility; values ranged from $1.8 \times 10^{-4}$ to $1.0 \times 10^{-5}$ cm/sec; or a range of 0.5 feet per day to 0.03 feet per day. The observations of variable pumping rates in the new wells around the expansion area are consistent with the aquifer hydraulic properties of the adjacent Class I area. Generally, the hydraulic conductivity of the Panoche Formation is low compared to unconsolidated alluvial aquifers which can have hydraulic conductivities in the 10’s to 100’s of feet per day.

Effective porosity (the relative amount of connected spaces in an aquifer) was estimated based on storativity calculations from the pumping tests. An effective porosity value of 0.03 was obtained for the valley-fill alluvium. Effective porosity values for the Panoche Formation range from 0.09 to 0.10. Effective porosity is important to know because it is one of the values used to calculate how fast groundwater may move through geologic materials.

Another parameter that is important for describing groundwater conditions, and how fast groundwater may move, is the groundwater gradient. The groundwater gradient is the slope of the water table (for unconfined aquifers) or potentiometric surface (for confined aquifers). The direction of the slope of the gradient shows the direction the groundwater likely moves. The steepness of the gradient is an indication of how easily groundwater can move through the aquifer. A steeper gradient indicates that groundwater does not move as readily as a flatter gradient.

The groundwater gradient is calculated by dividing the difference in groundwater elevations over the distance between groundwater elevation contours. At the JSRL, the groundwater potentiometric surface occurs at elevations ranging from approximately 775 feet msl in the northeast corner of the expansion area to approximately 630 feet msl near the current landfill entrance. In the field across from the existing landfill entrance, the groundwater potentiometric surface occurs at elevations ranging from approximately 630 to 600 feet msl and drops to below 580 feet msl down the canyon at the location of well CP-25. Figure 4.9-6 identifies groundwater elevations in August 2020. The blue-dotted lines on Figure 4.9-6 represent contour lines of equal groundwater elevation, interpreted from the groundwater elevations in the wells (groundwater-elevation contours are similar to the contours of a topographic map). The lighter blue arrows show the direction of the groundwater gradient.

Historically, the groundwater potentiometric gradient has ranged from approximately 0.3 feet per foot off the southern ridge near well W-2 to approximately 0.01 feet per foot beneath the field across from the site entrance. In the expansion area, the overall groundwater gradient in August 2020 was 0.027 feet per foot (770 feet msl – 630 feet msl per 5,200 feet).

Overall, the direction of the groundwater gradient is to the southwest, towards the Gilroy Basin. There are variations in the gradient, for example, in the area of the Class I Area. In that area, the gradient is to both the north and south because there is a groundwater divide[5]. Directly beneath the Class I Area the gradient is generally to the south and southeast, toward the relatively deep John Smith Road valley farther to the southeast. The groundwater gradient beneath the Class III facility is generally to the west and southwest, toward the landfill entrance, within the relatively shallow valley occupied by the landfill.

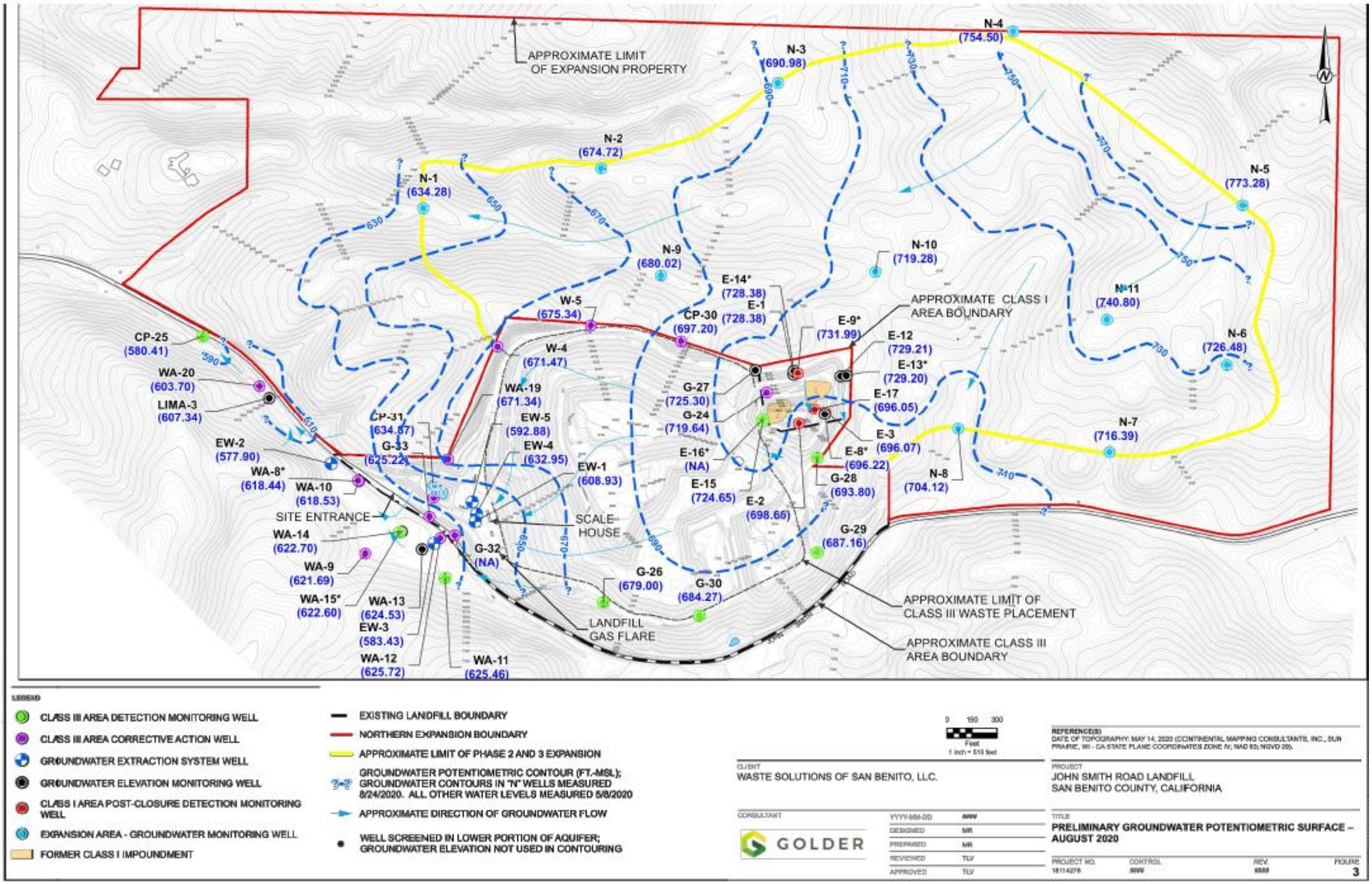
Based on this data, the groundwater beneath the landfill is calculated to move approximately 0.05 feet per day or about 18 feet per year. This rate represents the horizontal travel rate only, not the vertical travel rate. Generally, the vertical hydraulic conductivity of alluvial sedimentary formations is as much as 10 times lower than the horizontal hydraulic conductivity. Assuming a hydraulic conductivity 5 to 10 times lower than the horizontal hydraulic conductivity, the vertical groundwater velocity would be 0.005 to 0.01 feet per day or about 2 to 4 feet per year.

For the expansion area, the closest downgradient property boundary is approximately 1,100 feet to the west of the proposed landfill footprint (on Figure 4.9-6, this would be between the location of new well N-1 and the western property line). At a groundwater velocity of 18 feet per year, groundwater would take 61 years to reach the property line from the closest western edge of the proposed Phase 2 and Phase 3 expansion area (1,100 feet per 18 feet per year).

### REGIONAL SEISMICITY AND FAULT ZONES

Potential seismic hazards resulting from a nearby moderate to major earthquake can generally be classified as primary and secondary. Typically, primary hazards are caused by the direct interaction of seismic wave energy with the ground, such as fault rupture and ground shaking. Secondary hazards are caused as a consequence of that ground shaking, such as ground settlement, lateral ground displacement, liquefaction, landslides and rock falls, tsunamis, floods, fires and falling debris. Each of these potential hazards are discussed below.

[5] A groundwater divide is a ridge in a groundwater table or other potentiometric surface from which the groundwater represented by that surface moves away in both directions.




Source: Lawrence & Associates 2021

**2020 Groundwater Contours**

**Figure 4.9-6**

The likelihood that an earthquake may occur is evaluated based on the time since the last recorded displacement on a given fault. The California Geological Survey categorizes faults based on the age of the last displacement as follows (Jennings and Bryant, 2010):

- Historical: Faults that have evidence of surface rupture or fault creep, during the recent human record (200 years).
- Active-Holocene: A fault that has had displacement within Holocene time (the last 11,700 years).
- Late Quaternary: A fault that has had displacement within the last 700,000 years or younger faults that lack deposits by which to differentiate younger displacements.
- Quaternary (or undivided quaternary): A fault that has had displacement within the last 1.6 million years.
- Pre-Quaternary: Faults that lack recognized evidence of Quaternary displacement or show evidence of no displacement during Quaternary time.

The severity of seismic effects is related to the distance from a fault and the length of the fault rupture. Longer faults have the potential to produce larger magnitude earthquakes and shorter faults produce smaller magnitude earthquakes. The closer a facility is to the earthquake epicenter, the greater the risk of damage. The epicenter is the point on the earth's surface directly above the initial rupture point of an earthquake.

In the past, earthquake magnitude was commonly reported using the Richter scale developed in 1935. However, it was found that it had limitations measuring earthquakes larger than 7.0 and more distant earthquakes. In 1979, the moment magnitude ($M_W$) was introduced that overcame the shortcomings for the Richter scale. The moment magnitude measures the size of earthquakes in terms of the energy released. Reporting of earthquake magnitude has since shifted almost exclusively to moment magnitude. Earthquake magnitude is a logarithmic scale. Each whole number change in magnitude represents 32 times more energy.

Earthquakes cause ground shaking or vibration of the ground during an earthquake commonly known as seismic waves. Ground shaking at a given location is measured in terms of ground acceleration. Earth movement caused by seismic acceleration (or change in speed) at a given location is measured in terms of fractions of the earth's gravity or "g". The highest or "peak" acceleration is the largest increase in velocity measured at a given location and it is stated as Peak Ground Acceleration (PGA). Seismic acceleration is lower in harder bedrock than in softer sediments and is called "bedrock acceleration." Softer sediments can amplify seismic shaking and result in locally higher seismic acceleration. Peak ground acceleration and seismic shaking diminish with distance from the earthquake epicenter.

The Modified Mercalli Intensity (MMI) scale is a measure of earthquake intensity expressed in terms of the damage caused by ground shaking, as shown on Table 4.9-1. Table 4.9-2 compares the MMI scale to Richter scale magnitude. Table 4.9-2 also identifies how far away from the epicenter the earthquake can typically be felt. The actual damage will vary depending on the depth of the fault, whether surface rupture occurs, the type of fault offset (horizontal versus vertical), geologic conditions, and building type.

## Regional Setting

Figure 4.9-7 shows the faults within 100 kilometers (62 miles) of the project site. The faults most likely to affect the project site are shown on Figure 4.9-8. The boundary between the Salinian Block (Pacific Plate) and the North American Plate is approximately 6 miles west of the project site along the San Andreas Fault Zone. Looking west, the Pacific Plate is moving to the north (right), relative to the North American Plate on which the project site is located. This portion of the San Andreas Fault is considered a "creeping" section that undergoes slow and continuous displacement, versus locked sections of the fault zone that build up mechanical stress, which then ruptures to cause an earthquake. Therefore, a creeping fault section is generally considered to have a lower probability of generating large earthquakes, as fault-creep movement relieves the mechanical stresses along the fault zone instead of storing up energy and releasing it all at once in a large earthquake event.

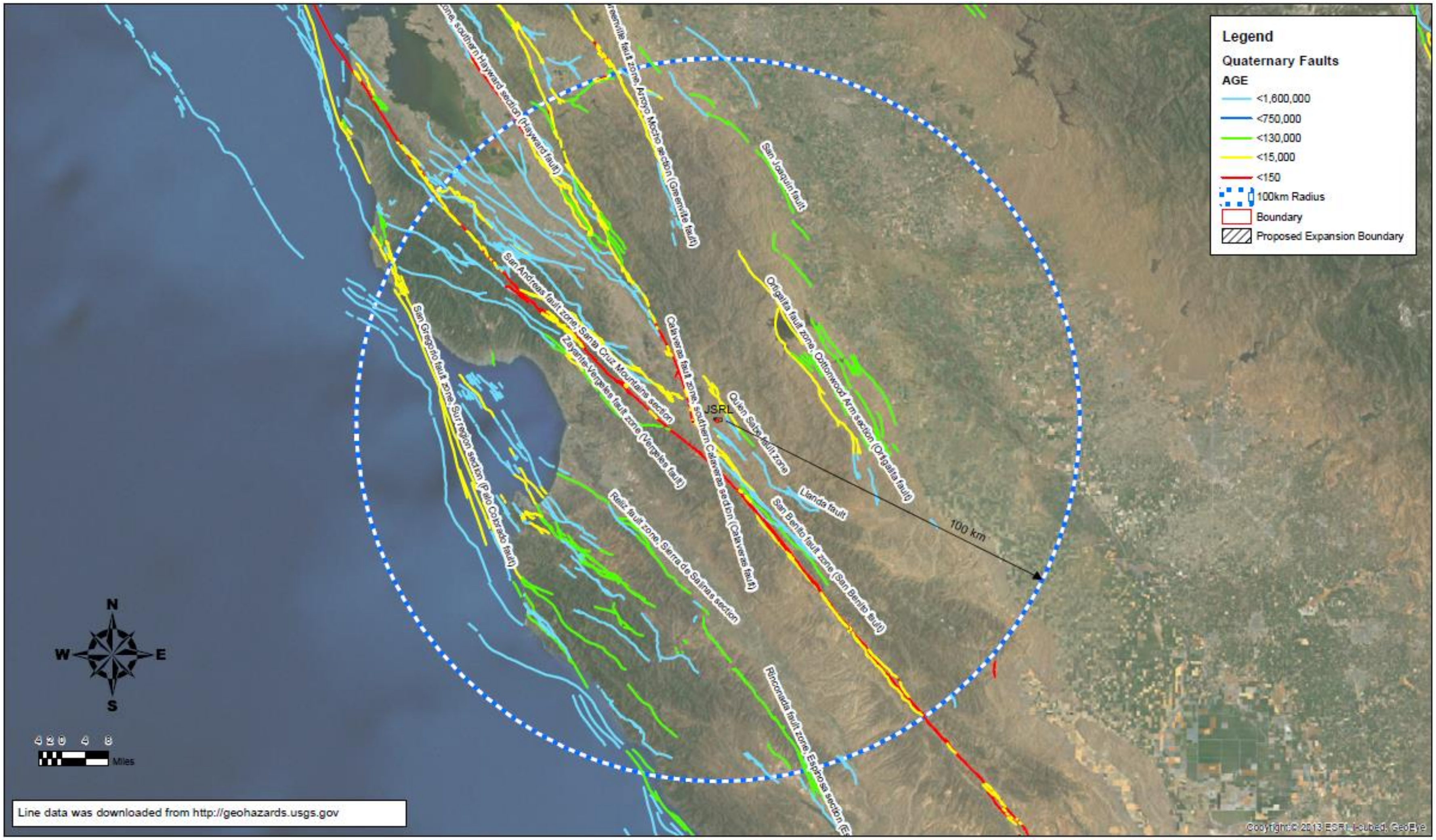
**Table 4.9-1**
**Modified Mercalli Scale of Earthquake Intensity**

| Scale | Effects |
|---|---|
| I. | Not felt except by a very few under especially favorable conditions. |
| II. | Felt only by a few persons at rest, especially on upper floors of buildings. |
| III. | Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated. |
| IV. | Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably. |
| V. | Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop. |
| VI. | Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. |
| VII. | Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken. |
| VIII. | Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned. |
| IX. | Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations. |
| X. | Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. |
| XI. | Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly. |
| XII. | Damage total. Lines of sight and level are distorted. Objects thrown into the air. |
| Source: U.S. Geological Survey 2005a | |

### Historic Seismicity

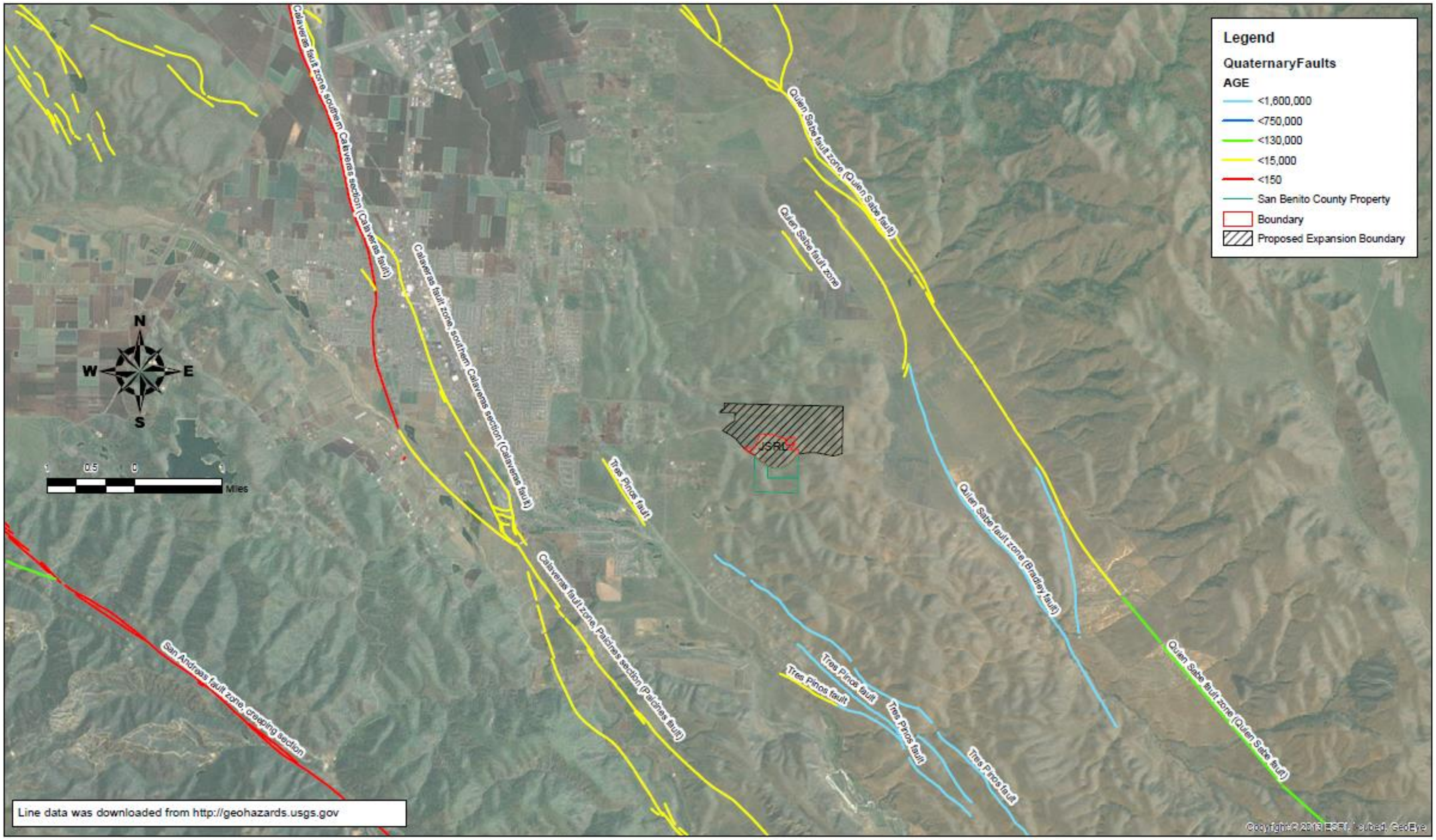
The proposed project is in the seismically active San Francisco Bay region and has experienced ground shaking associated with moderate to large earthquakes throughout the period for which records are available. The closest known earthquake had a magnitude of 5.1 and occurred approximately 3 kilometers (km) (1.9 miles) from the project site.[6] The largest known earthquake within 100 km (62 miles) of the site was the 6.9 moment magnitude, 1989 Loma Prieta earthquake that occurred approximately 55 km (34 miles) from the project site. The largest known earthquake within 25 km (16 miles) of the site occurred in 1883, had a magnitude of 6.0 and occurred approximately 16 km (10 miles) from the project site. According to Attachment C of the Design Basis Report (Lawrence & Associates 2021), the estimated mean site peak horizontal ground accelerations (PHGAs) in bedrock associated with these earthquakes were approximately 0.13g, 0.04g, and 0.10g, respectively.

[6] Until roughly 20 years ago earthquake magnitude was most commonly described by the Richter scale, therefore, unless the magnitude is described as a moment magnitude (Mw), assume that it is Richter.




Source: Lawrence & Associates 2021

**Seismic Faults within 100 Kilometers Map** **Figure 4.9-7**



Source: Lawrence & Associates 2021

**Regional Fault Map** **Figure 4.9-8**

| Table 4.9-2<br>Approximate Relationships between Earthquake Magnitude and Intensity | | |
|---|---|---|
| **Richter Scale Magnitude** | **Maximum Expected Intensity (Modified Mercalli Intensity Scale)** | **Distance Felt (Approx. Miles)** |
| 3.0 – 3.9 | I – III | 15 |
| 4.0 – 4.9 | IV – V | 30 |
| 5.0 – 5.9 | VI – VIII | 70 |
| 6.0 – 6.9 | VII – VIII | 125 |
| 7.0 – 7.9 | IX – X | 250 |
| Source: OES 2005 | | |

### Faults Near Project Site

The JSRL area is bounded by active regional faults that are related to the San Andreas system (Figures 4.9-7 and 4.9-8). The closest of these faults represent the most significant potential source of ground shaking at the site and include:

- **Quien Sabe Fault**. The Quien Sabe Fault is the closest active fault to the site and is located 3.7 km to the east. The Quien Sabe fault has a length and width of 23 and 10 km (14 and 6 miles), respectively, and an estimated slip rate of 1.0 millimeter (mm) per year (Cao et al., 2003).

- **San Andreas Fault.** The San Andreas fault is located west of the site where it is subdivided into the Peninsula segment (north) and the Creeping segment (south). The distance to the southern end of the Peninsula segment is approximately 14 km (9 miles) and the creeping segment is closer at approximately 6 km (4 miles). The San Andreas Fault extends from Cape Mendocino to Mexico. The northern and southern sections of the fault are divided by the central creeping section that is located between Hollister and Parkfield. The northern half of the San Andreas Fault is further segmented near San Francisco. The largest historical earthquake on the North Coast segment was the 1906, San Francisco Earthquake with a moment magnitude of 7.8 (Wells and Coppersmith, 1994).

- **Calaveras Fault**. The Calaveras fault is located about 6.8 km (4.2 miles) west of the site. The total fault length of the fault is approximately 123 km (76 miles) although it is often segmented into the northern, central, and southern segments. The northern segment, 45 km (28 miles) long, extends from north of the Calaveras Reservoir to Danville. The central segment extends from the Calaveras Reservoir south to San Felipe Lake with a total length of approximately 59 km (37 miles). The southern segment is 19 km (12 miles) long and extends from San Felipe Lake to the northern end of the Paicines fault. The JSRL is closest to the southern segment. The Calaveras fault has generated several historical earthquakes over magnitude 5. The largest historical earthquake associated with the Calaveras fault was a magnitude 6.6 earthquake in 1911.

- **Zayante-Vergeles Fault**. The Zayante-Vergeles fault is located approximately 13 miles southwest of the site and has had late Pleistocene and possible Holocene displacement. The estimated slip rate for this fault is estimated to be between 0.03 and 1.4 mm per year (Coppersmith, 1979). The fault is a major northwest-striking structural element of the Santa Cruz Mountains.

- **Ortigalita Fault**. The Ortigalita Fault is located approximately 28 km (17 miles) east of the site with a length and width of 70 and 11 km (43 and 7 miles), respectively, and an estimated slip rate of 1.0 mm per year (Cao et a1. 2003).

### Ground Rupture

Surface rupture is cracking or breaking of the ground along a fault during an earthquake. Structures built over an active fault can be torn apart if the ground ruptures. Surface rupture along faults is generally limited to a linear zone a few meters wide. The Alquist-Priolo Act (see the Regulatory Setting discussion below) was created to prohibit the location of structures designed for human occupancy across the traces of active faults, thereby reducing the loss of life and property from an earthquake. There are no mapped active faults within the project property boundary.

### Seismic Ground Shaking

Ground shaking is motion that occurs as a result of energy released by sudden fault displacement during an earthquake. The term is used to describe the vibration of the ground during an earthquake. As a generalization, the severity of ground shaking increases as earthquake magnitude increases and decreases as distance from the causative fault increases.

Ground shaking could potentially result in the damage or collapse of buildings and other structures, depending on the magnitude of the earthquake, the location of the epicenter, and the character and duration of the ground motion. Other important factors to be considered are the characteristics of the underlying soil and rock, the building materials used, and the workmanship of structures.

Pursuant to CCR Title 27, the Class III (nonhazardous, like the JSRL) landfill must be designed to withstand the ground motions associated with the maximum probable earthquake (MPE). The California Geologic Survey (CGS) defines the MPE as the earthquake that is likely to occur in 100 years, but it is not to be smaller than the largest historical earthquake. The term describes a probable occurrence, rather than an assured event that will occur at a specific time; therefore, the following factors have a bearing upon the derivation of the MPE for a given facility (from Title 27 CCR Section 20164):

- the regional seismicity, considering the known past seismic activity;
- the fault or faults within a 62-mile (100-kilometer) radius from the facility boundary that may be active within the 100 years following first acceptance of waste;
- the type(s) of faults considered;
- the seismic recurrence factor for the area within 62 miles of the facility and for any faults (when known) within that area; and
- the mathematic probability analysis (or statistical analysis) of seismic activity associated with the faults included in the area within 62 miles of the facility, including a graphical plot of recurrence information.

For the purposes of this analysis, Geo-Logic/RMC performed a deterministic seismic hazard analysis to estimate the PGA from Holocene active faults within 100 km (62 miles) of the project site (Geo-Logic/RMC 2021). A PGA of 0.34g was estimated based on a moment magnitude 6.1 earthquake on the Quien Sabe Fault, 3.7 kilometers (2.3 miles) from the landfill.

Pursuant to CCR Title 27 and Title 22, the existing closed Class I Unit, which includes several hundred cubic yards of pesticide residuals within the City of Hollister property, has been designed to withstand the ground motions associated with the maximum credible earthquake (MCE). The CGS defines the MCE as the maximum earthquake that appears capable of occurring under the presently known geologic framework. An MCE is less likely to occur than an MPE but with a higher magnitude. In determining the maximum credible earthquake, little regard is given to its probability of occurrence except that its likelihood of occurring is great enough to be of concern. The term describes an event that could be approached more frequently in one geologic environment than in another; therefore, the following factors have a bearing upon the derivation of the MCE for any given facility (from Title 27 CCR Section 20164):

- the seismic history of the vicinity and of the geologic province;
- the length of the significant fault or faults which can affect the site within a radius of 62 miles (100 kilometers) of the facility boundary;
- the type(s) of faults involved;
- the tectonic and/or structural history; and
- the tectonic and/or structural pattern or regional setting (geologic framework); nevertheless
- the time factor shall not be a parameter.

In 2012, a stockpile was designed on top of the Class I Area and was later incorporated into the closure permit for the facility (DTSC 2018). Using a deterministic seismic hazard analysis, Geologic/RMC determined the MCE to be a moment magnitude 8.05 on the north San Andreas Fault that would produce peak horizontal ground acceleration of 0.38g at the site (RMC 2018a, Page 7).

### Ground Failure/Liquefaction

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking.

Liquefaction poses a hazard to engineered structures. The loss of soil strength can result in bearing capacity insufficient to support foundation loads, increased lateral pressure on retaining or basement walls, and slope instability. Based on the soils described above and depth to groundwater, the potential for liquefaction at the expansion site is negligible. Lateral spreading is caused by liquefaction and is the horizontal movement or spreading of soil toward an open face, such as a streambank, the open side of fill embankments, or the sides of levees. Because the potential for liquefaction is negligible, lateral spreading is not considered a potential hazard at the project site.

As described in the boring logs for the expansion area in Attachment B of the Design Basis Report, groundwater was not encountered within strata identified as bedrock (sandstone or siltstone) either of the older terrace deposits or Panoche Formations, and saturated bedrock is not susceptible to liquefaction.

### Subsidence and Expansion

Land surface subsidence can be induced by both natural and human phenomena. Natural phenomena include: (1) subsidence resulting from tectonic deformations and seismically induced settlements; (2) soil subsidence from consolidation; (3) hydrocompaction, or rapid sedimentation; (4) subsidence from oxidation or dewatering of organic-rich soils; and (5) subsidence related to subsurface cavities. Subsidence related to human activity includes subsurface fluid or sediment withdrawal. Pumping of water for residential, commercial, and agricultural uses from subsurface water tables causes more than 80 percent of the identified subsidence in the United States (Galloway et al. 1999).

Because the surrounding active faults are steeply dipping strike-slip (laterally moving), the risk of regional tectonic or seismically induced settlement is low. The likelihood of consolidation of native soil/rock, hydrocompaction, and settling is negligible because the soil underlying the site consists of dense non-organic weathered bedrock, groundwater is relatively deep, and the aquifer underlying the site is incapable of producing significant flows from wells. The risk of settlement related to subsurface cavities also is negligible because there are no subsurface mines or limestone (karst).

Expansive soils can shrink and swell with wetting and drying. Soils with high clay content tend to be the most affected. The shrink-swell potential of expansive soils can result in differential movement beneath foundations. Soils on the site have a high Plasticity Index, which means they can have expansive characteristics. The Plasticity Index for the site soils ranges between 15 and 23, which is above the limit that requires additional shrink-swell testing for buildings under the CBC regulations.

### SLOPE STABILITY

A landslide is the downhill movement of masses of earth material under the force of gravity. The factors contributing to landslide potential are steep slopes, unstable terrain, and proximity to earthquake faults. This process typically involves the surface soil and an upper portion of the underlying bedrock, or thick soil sequences that are water saturated. Expansive soil on slopes tends to shrink and swell in response to moisture content changes. During this shrinking and swelling process, gravity tends to work the soil downslope. Movement may be very rapid, or so slow that a change of position can be noted only over a period of weeks or years (creep). The size of a landslide can range from several square feet to several square miles.

At landfills, soil is constantly being excavated or "cut" and used to cover the waste or used for "structural fill" to contain the lined waste modules, build roads and pond berms and other more or less permanent uses, and used for temporary fill, such as stockpiles. Cut slopes may be divided into temporary and permanent slopes. Although slopes that are cut to construct landfill modules will be permanent, subsequent filling with waste will "buttress" the slope and hold it in place. Commonly, slopes that will be filled with waste must be stable until they are covered with waste and for the purposes of slope movement, tend to be semi-permanent.

For this discussion, slope stability is divided into stability of slopes in the existing natural state (including the impacts of cattle grazing), and its modified state through past construction activities for the JSRL.

#### General Susceptibility to Naturally Occurring Landslides

Figure 4.9-9 includes a portion of the Landslide Susceptibility map from San Benito County GIS Viewer (SBC 2020). The Landslides Susceptibility layer shows that the majority of the project site north of John Smith Road is designated as Level 3 - generally susceptible, and Level 4- most susceptible, as cited below:

> ***"3 – Generally Susceptible Area –** Slopes within this area are at or near their stability limits due to a combination of weaker materials and steeper slopes. Although most slopes within area 3 do not currently contain landslide deposits, the materials that underlie them can be expected to fail, locally, when modified because they are close to their stability limits.*
>
> ***4 – Most Susceptible Area –** This area is characterized by steep slopes and includes most landslides in upslope areas, whether apparently active at present or not, and slopes upon which there is substantial evidence of downslope creep of surface materials. Slopes within area 4 should be considered naturally unstable, subject to failure even in the absence of the activities of man."*

The San Benito County GIS viewer shows two "questionable" landslides; one of which is on the location of the current landfill. A second landslide is shown east of the existing landfill boundary, but there is no evidence of a landslide in that location based on a review of aerial photographs of the property. No other landslides are mapped within the project boundary as shown on Figure 4.9-10.

As shown on Figure 4.9-10, several possible ancient landslides in the proposed expansion area and on the County-owned property to the south were identified by the surface contours and photographic inspection. The features are subdued, indicating that if present, they are ancient inactive landslides. A review of aerial photography from Google Earth from 1998 to 2020 and the aerial photograph and topography from 2015, did not reveal any recent landslides and slumps.

### Historical Slope Stability for Permitted Landfill – Cut Slopes

During the first winter after excavation of Module 2 (2008) of the existing JSRL, a 1-1/2 to 1 horizontal to vertical ratio (H:V) north-facing, 80-foot-tall cut slope failed, resulting in a shallow slide feature (RMC 2008b). As a result, the temporary cut slope for Module 3A was designed to a 2 to 1 (H:V) slope with benches every 50 feet. According to RMC 2012:

> *"Instability in the form of tension cracks, indistinct evidence of shallow sloughing, and bulging near the base of the slope was observed shortly after excavation of the slope. Site observations suggested that bedrock structural discontinuities coupled with heterogeneous lithology may have contributed to the instability affecting the cut slopes south of Modules 2 and 3.*
>
> *Based on these observations, a bedrock structural and kinematic evaluation was completed to identify principal surfaces that may have contributed or led to the observed conditions (RMC 2010 and 2011a). The results of this evaluation were then used to identify the combination (or combinations) of cut orientation and inclination that would minimize the potential for discontinuity surfaces or the wedges formed by the intersection of discontinuity surfaces to 'daylight' in the excavated slope."*

It was found that a combination of bedding, joints, north facing slope orientation, and slope angle led to the previous shallow slide feature and RMC subsequently recommended that future permanent north-facing module slopes within the Panoche Formation be no steeper than 3 to 1 (H:V). RMC recommended that temporary north-facing slopes be no steeper than 2 to 1 (H:V) because, should the cut-slope slide, it would be excavated in the future to remove the slide plane.

The temporary north facing slope south of Modules 3B through 6 was constructed with a maximum 50-foot tall, 2 to 1 (H:V) slope that did not slide or show evidence of potential slope movement over the several years that it was in place.

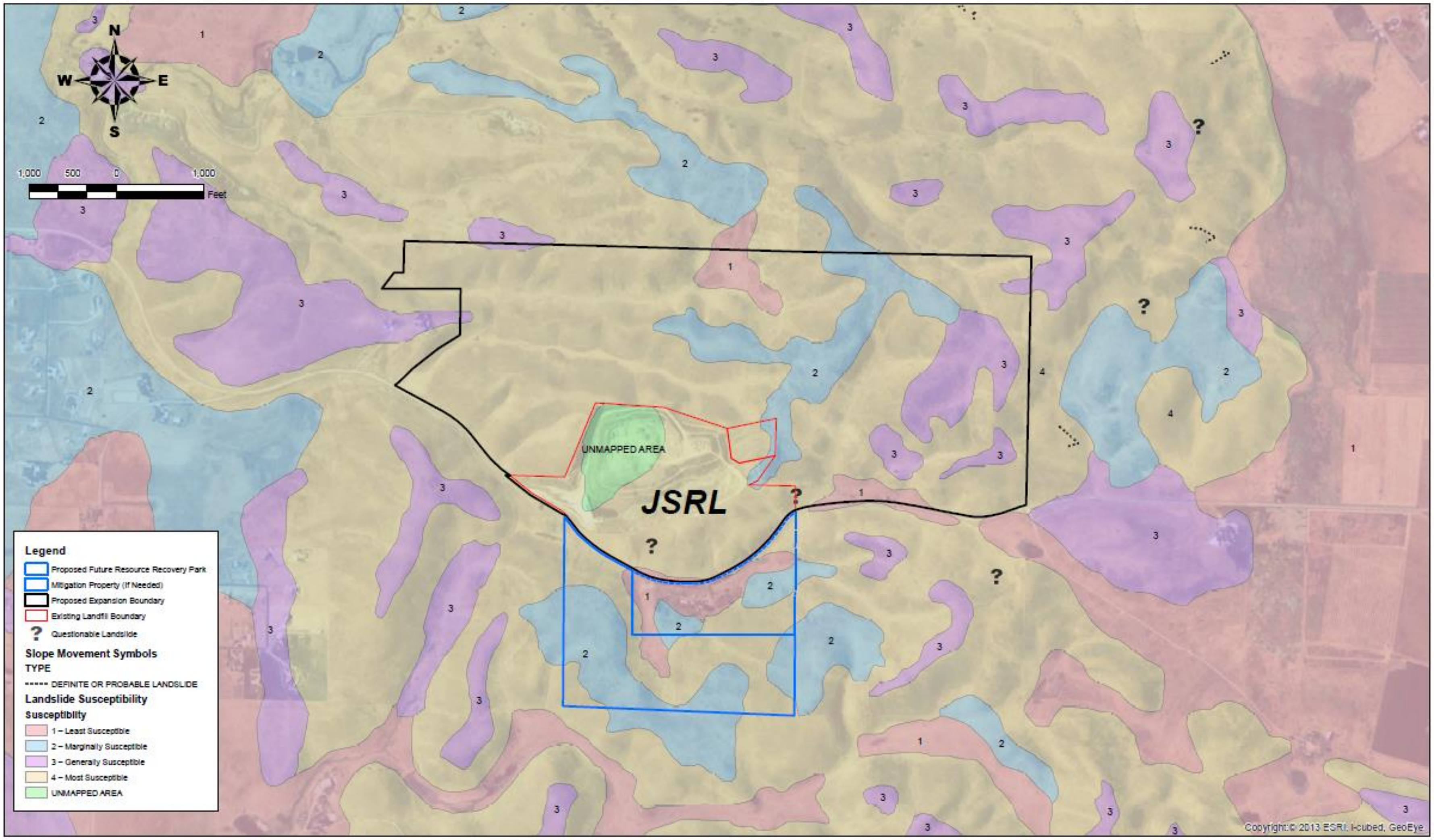
A shallow (2-foot thick) bedding-controlled slump was observed in the temporary south facing 2 to 1 (H:V), 40-foot-tall slope for Module 7/8A and was caused by undercutting the slope during construction of a ditch. The slope was subsequently excavated for borrow soil. Subsequent south-facing temporary slopes for Module 7/8B were designed to 2.25 to 1 (H:V) with no evidence of slope movement.

The east facing slope west of Module 1 is approximately 65 to 70-feet tall with slopes ranging from 1 to 1 (H:V) to 1.5 to 1 (H:V). The slope has generally steeper upper slopes and slightly flatter lower slopes. Based on Google Earth photos, the slope has been there since before 1998 and shows no obvious evidence of sliding. At least a portion of the slope may consist of older terrace deposits that would have different bedding and structural characteristics than the Panoche Formation.

In summary, the stability of cut slopes is linked to the geologic structure at the project site. For the existing permitted JSRL, north and west facing slopes tend to be susceptible to landsliding at somewhere between 2 to 1 (H:V) and 3 to 1 (H:V) or steeper slopes and east facing slopes are more resistant to sliding at steeper slopes. The geologic structure and rock type varies across the project site and slope stability will vary across the site, so this relationship may not apply to the entire project site.

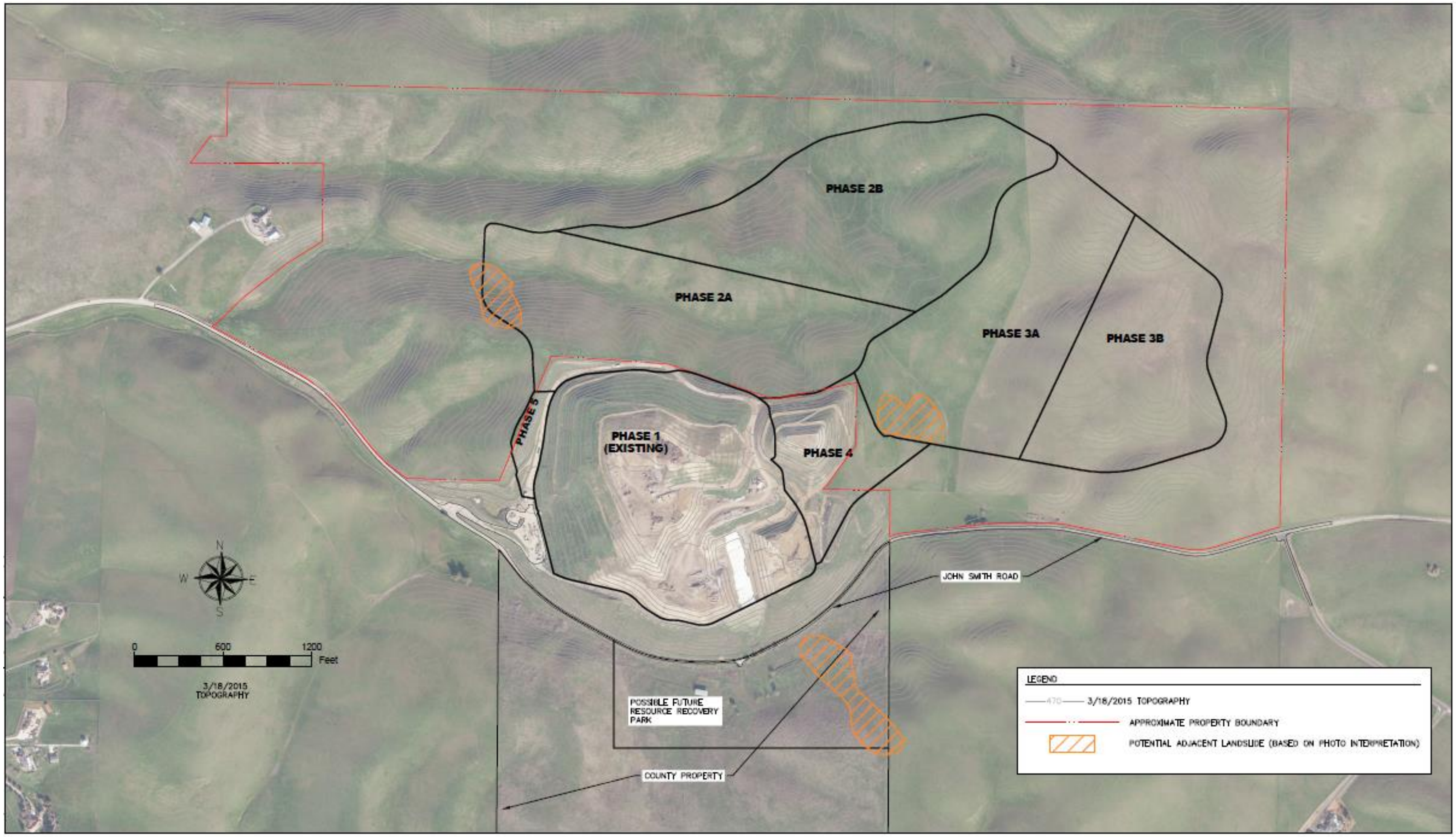
### Historical Slope Stability – Fill Slopes

Fill stability is controlled by (1) soil type, (2) compactive effort in placing the fill, (3) the slope of the fill face, (4) the slope angle of the fill, (5) strength of the underlaying soil or rock, and (6) the bonding of the underlying soil and rock with the fill. Clayey soil is considered cohesive (sticky) and can typically support steeper slopes more readily than sandy soil. The soil within the project site and existing JSRL is predominantly cohesive but




Source: Lawrence & Associates 2021

**Landslide Susceptibility Map** **Figure 4.9-9**




Source: Lawrence & Associates 2021

**Potential Landslides on Project Site** **Figure 4.9-10**

could have isolated sandy areas. Stripping off topsoil, benching, and roughing of the underlying surface have been required prior to placement of all the current structural fill and stockpiles at the existing JSRL. Slope stability of individual constructed landfill units is discussed below.

During construction of Modules 4 through 7/8C at the JSRL, a 70-foot-tall stockpile was placed in the Class I area. The stockpile has 2 to 1 (H:V) side slopes and benches no less than every 50 feet vertically. The stockpile was compacted to no less than 85% of maximum dry density. A slope stability analysis(RMC 2018a) indicated that the stockpile is stable under "static" (with no seismic acceleration) conditions and could have displacement (movement in an earthquake) of less than 0.5-inches during an MCE. The stockpile was constructed in stages during 2013, 2015, 2017, 2018, and 2019. To date, the stockpile has shown no evidence of slumps or landslides.

Existing stockpiles east of Module 7/8A (2013 and 2015) and east of the Class I Area (2020) were constructed to no less than 85% of maximum dry density and with 3 to 1 (H:V) side slopes. Neither stockpile has shown signs of landslides.

Portions of the west and south perimeter slopes of Modules 7 and 8 were constructed of structural fill that were compacted to no less than 92% of maximum dry density with a 2 to 1 (H:V) slope angle.

In summary, both 2 to 1 (H:V) permanent structural soil slopes and 2 to 1 (H:V) temporary soil slopes have been stable since they were constructed.

#### OTHER RAPID GEOLOGIC CHANGES

As described, above, the project site is not in a flood plain and is not subject to inundation by flooding. The project site is not near an ocean or lake that could inundate the site with a tsunami (ocean tidal wave) or seiche (lake tidal wave). There are no cliffs adjacent to or on the site that have the potential to topple or collapse. There are no active or dormant volcanoes near the site that could affect the site with lava or ash fall.

#### PALEONTOLOGICAL RESOURCES

Fossil remains of prehistoric plant and animal life could be found in the sedimentary rocks of the Panoche Formation. The Panoche Formation, which has been mapped underlying the project site, is composed of interbedded marine sandstones, siltstones, claystones, and shales. While fossils can be found in sandstone and claystone deposits, shale deposits are the most likely to contain well preserved fossils. Fossils are much less common in the sandstones of the Panoche Formation and have consisted mostly of microfossils such as foraminifera (plankton) with less common invertebrates. In a search of the UC Berkeley fossil catalog for San Benito County, over 700 fossils were identified, all of which were microfossils and only one of which was identified as being from the Panoche Formation (UCMP 2014). Therefore, based on the findings that all identified remains were microfossils, and only one was found in the Panoche Formation, the likelihood of finding visible fossils in the Panoche Formation on the project site is low.

## 4.9.2 REGULATORY SETTING

#### FEDERAL REGULATIONS

### Earthquake Hazards Reduction Act

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the NEHRPA by refining the description of agency responsibilities, program goals, and objectives.

The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and USGS. Via these agencies, the Federal government provides funding for earthquake preparedness, education, and development of assistance with development of design recommendations and building codes. The NEHRPA affects the project indirectly through funding and technical support.

### Code of Federal Regulations (CFR)

CFR Part 258, Subpart B describes the siting requirements for Municipal Solid Waste Landfills (258.10 et seq.). Subpart D describes the Design Criteria (248.40 et seq.). The liner system required for modern landfills is commonly called a "Subpart D" liner after this section. The requirements of the federal regulations have been incorporated into the California Code of Regulations (CCR), Title 27 as described below and in the Design Basis Report (Lawrence & Associates 2021).

## STATE REGULATIONS

### Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Act (Public Resources Code Sections 2621–2630) was passed in 1972 to mitigate the hazard of surface faulting to structures designed for human occupancy. The main purpose of the law is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. The Alquist-Priolo Act requires the State Geologist to establish regulatory zones known as "Earthquake Fault Zones" around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and State agencies for their use in planning efforts. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. No mapped Alquist Priolo earthquake fault zones are located near the project site.

### Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) of 1990 (Public Resources Code Sections 2690–2699.6) addresses earthquake hazards from non-surface fault rupture, including liquefaction and seismically induced landslides. The SHMA established a mapping program for areas that have the potential for liquefaction, landslide, strong ground shaking, or other earthquake and geologic hazards. The SHMA also specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

The only Seismic Hazard Zone Map delineated on the CGS Earthquake Zones of Required Investigation website (https://maps.conservation.ca.gov/cgs/EQZApp/) is the Alquist Priolo Map, which does not identify any seismic hazards on the site. No studies are required for the project site based on the referenced map.

### California Building Standards Code

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations, Title 24). Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls. The California Building Code (CBC) applies to building design and construction in the state. The 2019 edition of the CBC is based on the 2018 International Building

Code (IBC) published by the International Code Council. The code is updated triennially, and the 2019 edition of the CBC, which was published by the California Building Standards Commission, took effect starting January 1, 2020. The 2019 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures, provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (such as wind loads) for inclusion into building codes.

The State earthquake protection law (California Health and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design.

Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

### California Standards for Landfill Siting, Design and Operation

CCR Title 27 provides minimum standards for the siting, design, and operation of landfills. The design standards are enforced regionally by the State of California Regional Water Quality Control Board, Central Coast Region through the establishment of Waste Discharge Requirements. The California Department of Resources Recycling and Recovery (CalRecycle) enforces these standards through the issuance of solid waste facility permits (SWFP). The portions of Title 27 that relate to geology are those that pertain to a Class III (non-hazardous) Municipal Solid Waste (MSW) Landfill including:

**Title 27, Division 2, Chapter 3, Subchapter 2, Article 4, Section 20310, Table 3.1 - Siting**:

- Ground Rupture: Not located on a known Holocene fault.
- Rapid Geologic Change: No restriction as long as the "Unit" is protected from geologic or environmental hazards involved.
- 

**Section 20240(d)** requires that all engineered structures (including, but not limited to, containment structures) constituting any portion of a Unit shall have a foundation or base capable of providing support for the structures, and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift and all effects of ground motions resulting from at least the maximum probable earthquake.

Title 27 regulations indicate that there is flexibility in siting a Class III landfill as long as the landfill's containment structures are designed, constructed and maintained to preclude failure (including flooding, ground rupture, rapid geologic change per section 20602 (c through e)).

Title 27, Section 21710, *et seq*., requires that a Report of Waste Discharge (ROWD) be submitted for new or expanded landfills, including a design report. A ROWD describes the design of the landfill and is reviewed by the Central Coast Regional Water Quality Control Board (CCRWQCB). Section 21769 requires submission of updated preliminary closure and postclosure maintenance plans and cost estimates for expanded landfills. These are reviewed by both CalRecycle and the CCRWQCB. Section 21600 requires submission of a Report of Disposal Site Information (RDSI) that describes the operation of the landfill and is reviewed by CalRecycle. To reduce redundancy, these three elements can be combined and submitted in a single Joint Technical Document (JTD). The JTD describes the overall site design. For each module or group of modules, a separate project-specific design report is submitted to the CCRWQCB for approval prior to construction.

## LOCAL REGULATIONS

### San Benito County General Plan

The San Benito County 2035 General Plan (2035 General Plan) includes the following applicable policies from the Seismic and Geologic Hazards section of the Health and Safety Element.

- **Policy HS-3.2 Subsidence or Liquefaction.** The County shall require that all proposed structures, utilities, or public facilities within recognized near-surface subsidence or liquefaction areas be located and constructed in a manner that minimizes or eliminates potential damage.

- **Policy HS-3.6 Unstable Soils.** The County shall require and enforce all standards contained in the current California Building Code related to construction on unstable soils and shall make a determination as to site suitability of all development projects during the building permit review process. The County shall not approve proposed development sited within areas of known or suspected instability until detailed area studies are completed that evaluate the extent and degree of instability and its impact on the overall development of the area.

- **Policy HS-3.7 Setback from Fault Traces.** The County shall require setback distances from fault traces to be determined by individual site-specific surface rupture investigations.

- **Policy HS-3.8 Liquefaction Studies.** The County shall require proposals for development in areas with high liquefaction potential to include detailed site-specific liquefaction studies.

### San Benito County Code Chapter 19.17, Grading Drainage, and Erosion Control

The purpose of Chapter 19.17, Grading Drainage and Erosion Control, as described is to:

*"safeguard public health, property and general welfare by regulating grading, drainage and erosion control on private and public property and requiring grading, erosion and drainage control plans which prevent water pollution and sedimentation of the county's water resources."*

As described in Section 19.17.004(A)(4): *"Solid waste facilities controlled by other regulatory agencies and subject to other permits"* are exempt from the requirement of grading permits. As described above, landfills are regulated by the California Regional Water Quality Control Board under both general and site-specific waste discharge requirements. The exemption also applies to Appendix J of 2019 CBC per Section J103.2.

### San Benito County Code Chapter 21.01, Building

The purpose of Chapter 19.17, Grading Drainage and Erosion Control, as described is to:

"*safeguard persons and property within the county by establishing minimum standards for building construction, including the installation of plumbing and electrical systems, and to safeguard life, health, safety and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures within the county.*"

Landfills are exempt from the County requirements for grading activities as waste disposal sites are regulated by state and federal agencies. However, the requirements of Chapter 19.17 are applicable to the construction of new buildings and structures at the site designed for human occupancy.

## 4.9.3 Impacts and Mitigation Measures

### Method of Analysis

Evaluation of potential geology, soils and paleontology impacts was based on a review of documents pertaining to the project site, including the County General Plan, County Code, the Design Basis Report and the references and information cited above. The information obtained from these sources was reviewed and summarized to establish existing conditions and to identify potential environmental effects, based on the thresholds of significance presented in this section. In determining impact significance, the analysis assumes that the proposed project would comply with relevant federal, state, and local ordinances and regulations, as well as the County General Plan policies presented in this section.

### Thresholds of Significance

An impact is considered significant, as identified by the State CEQA Guidelines (Appendix G), if the proposed project would:

- 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 active fault (refer to Division of Mines and Geology Special Publication 42);
  - strong seismic ground shaking;
  - seismic-related ground failure, including liquefaction; or
  - landslides;
- result in substantial soil erosion or the loss of topsoil;
- 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-site or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse;
- be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property;
- 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;
- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or
- violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater quality.

## Impacts and Mitigation Measures

**IMPACT 4.9-1** **Risks to People and Structures from Fault Rupture.** *The project site is not located within an earthquake fault zone as designated by the Alquist-Priolo Earthquake Fault Zone Act and no known faults are located on the project site. Therefore, the proposed project would not be expected to expose people or structures to a fault rupture and there would be* ***no impact****.*

The landfill expansion site and RNG pipeline route are not located within an earthquake fault zone as designated by the Alquist-Priolo Earthquake Fault Zone Act. The closest active fault to the site is the Quien Sabe Fault, which is located 2.3 miles to the east. Because no known faults are located on the project site, fault rupture (cracking or breaking of the surface along a fault trace during an earthquake) would not be expected on the project site. Therefore, implementation of the proposed project would not be expected to expose people or structures to a fault rupture. Therefore, there would be **no impact**.

**Mitigation Measure 4.9-1: Risks to People and Structures from Fault Rupture**

No mitigation measures would be necessary.

**IMPACT 4.9-2** **Exposure of People and Structures to Slope Instability from Earthquake Ground Shaking.** *Ground shaking resulting from seismic activity at nearby or distant earthquake faults could expose unstable slopes to ground failure and landslides. However, because the project's proposed facilities would be required by Title 27 and the CBC to be designed and constructed to be stable when exposed to seismic ground shaking at the site, the proposed project would not be expected to expose people or structures to substantial seismic hazards and this impact would be* ***less than significant****.*

The project site is located in an area that is seismically active and is bounded by a number of active regional faults. Ground shaking associated with seismic activity could affect the stability of the proposed landfill slopes, the proposed slopes associated with the new entrance facilities, and the proposed structures within the expanded entrance facilities.

The site is not located on a geologic unit or soil that is unstable and although minor slope failures have historically occurred within the cut slopes at the JSRL, the slopes at the project site appear to be relatively stable. However, the San Benito County GIS Viewer (SBC 2020) indicates that most of the project site is designated as "generally susceptible" and "most susceptible" to landslides. The excavation necessary to construct landfill modules would alter existing slope angles. By disturbing the site soils through excavation and altering slope angles, the project has the potential to increase slope instability. Within excavation areas, localized slope failures or landslides could occur. These slope failures could also occur within soil stockpiles depending upon their height and side slope angles. These failures would occur on temporary cut or fill slopes that can be repaired and would have a low risk to equipment and site workers.

Class III landfills are required by Title 27 to be designed to withstand the seismic acceleration from an MPE. To assess whether the expanded Class III landfill would remain stable when exposed to the expected MPE seismic acceleration, Geo-Logic/RMC (2021) performed slope stability analyses of the critical waste-fill slopes (those most likely to fail, assuming other slopes are more stable) within the expansion area. The sections analyzed were found to be stable under static conditions (without seismic acceleration). Geo-Logic/RMC performed a displacement analysis using the spectral acceleration (based on the natural frequency of the landfill) for the deterministic seismic hazard analysis and found seismic displacement would be less than 1 centimeter under seismic acceleration (less than the typically accepted displacement of 6 to 12 inches). Based on this analysis, the proposed landfill would be considered stable under strong seismic ground shaking (Geo-Logic/RMC 2021).

In addition, waste discharge requirements to be established by CCRWQCB for the proposed expansion would require that a design report be submitted to the CCRWQCB for each waste module or group of modules prior to construction. The design reports are required to include seismic analyses of the interim cut, soil fill, and waste fill slopes to ensure that they remain stable until covered with additional waste. With the implementation of these requirements, the expanded landfill would not be expected to cause seismic-related ground failure or landslides.

For the proposed entrance facility, a new cut slope would be constructed to the west of the existing facilities to accommodate its proposed expansion. This slope was preliminarily evaluated for slope-stability and found to have a static factor of safety greater than 1.5. The analysis indicates that the slope is likely to be stable. In addition, the Design Basis Report (Lawrence & Associated 2021) states that a geotechnical report would be prepared for the entrance improvements including the cut slope prior to permitting and construction, and further states that the slope would be flattened, if necessary, to provide a stable configuration. The design and construction of the entrance facility slopes consistent with Title 27 and with recommendations included in the geotechnical report would ensure that people and structures are not exposed to seismic-related ground failure or landslides at the site.

Structures such as the landfill office and scale house would be required to be designed in accordance with seismic standards of the CBC. These construction standards would minimize the effects of seismic ground shaking on any developed structures.

The RNG pipeline route would be at a depth of over three feet either under the roadway or in the shoulder adjacent to the roadway, and would not be subject to slope stability issues.

Because the expanded landfill, the expanded entrance facilities, and the proposed structures within the entrance facilities would be required by Title 27 and the CBC to be designed and constructed to be stable when exposed to seismic ground shaking at the site, the proposed project would not be expected to expose people or structures to substantial seismic hazards and this impact would be **less than significant**.

#### Mitigation Measure 4.9-2: Exposure of People and Structures to Slope Instability from Earthquake Ground Shaking

No mitigation measures would be necessary.

**IMPACT 4.9-3** **Exposure of People and Structures to Liquefaction, Lateral Spreading, Subsidence, or Collapse.** *The project site is not located within an area with soils that would be susceptible to liquefaction, lateral spreading, subsidence, or collapse. Therefore, the potential for people or structures to be exposed to these geologic hazards at the site would be considered a* ***less-than-significant*** *impact.*

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking. Liquefaction poses a hazard to engineered structures. The loss of soil strength can result in bearing capacity insufficient to support foundation loads, increased lateral pressure on retaining or basement walls, and slope instability.

As described in the boring logs for the expansion area (Attachment B of the Design Basis Report), groundwater was encountered within strata identified as bedrock (sandstone or siltstone) either belonging to the older terrace deposits or Panoche Formations. Saturated bedrock is not susceptible to lateral spreading, subsidence, liquefaction, or collapse. The RNG pipeline would pass through similar geologic formations. Therefore, the potential for people or structures to be exposed to these geologic hazards is negligible and this impact would be **less than significant**.

**Mitigation Measure 4.9-3: Exposure of People and Structures to Liquefaction, Lateral Spreading, Subsidence, or Collapse**

No mitigation measures would be necessary.

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| **IMPACT 4.9-4** | **Erosion or Loss of Topsoil.** *Excavation and grading of soil could result in localized erosion during project construction and operations. With implementation of the proposed project consistent with applicable water quality regulations, erosion from site soils would be minimized and sediments would be largely captured on the site. Therefore, the project's short- and long-term soil erosion impacts are considered **less than significant**.* |

Project construction activities would involve excavation and grading of soil and the removal of vegetative cover on the site, thereby exposing on-site soils to wind and water erosion. Landfill operations involve daily soil disturbance, including excavation of soil for daily cover, waste covering, and other landfill activities. The expansion of these activities would increase the area that would be exposed to erosive forces, which could increase the transport of sediments into local waterways. As described in detail in Section 4.8, Hydrology and Water Quality, the proposed project would be subject to regulations applicable to the discharge of sediments and pollutants from the project site. Implementation of the proposed project consistent with the regulatory requirements described in Section 4.8 would minimize the potential for the offsite discharge of site soils and pollutants associated with site operations. Therefore, the project's construction- and operation-related erosion impacts are considered **less than significant**.

**Mitigation Measure 4.9-4: Erosion or Loss of Topsoil**

No mitigation measures would be necessary.

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| **IMPACT 4.9-5** | **Expansive Soils.** *The presence of expansive soils could damage the foundations of any buildings built on the site to support the solid waste operations, which could represent a risk for occupants or the public. However, compliance with the foundation design requirements of the CBC would minimize the potential for expansive soils at the project site to affect building foundations. Therefore, this impact would be **less than significant**.* |

Soils on the site have a high Plasticity Index, which means they can have expansive characteristics. The Plasticity Index for the site soils ranges between 15 and 23, which is above the limit that requires additional shrink-swell testing for buildings under the CBC regulations. Although having a high Plasticity Index is desirable for landfills because it provides beneficial low permeability and provides long-term containment and stability by the overlying waste, these soils can damage building foundations. Damage to building foundations can represent a risk for building occupants or the public.

The CBC requires that prior to building construction, the foundation design for fixed structures intended for human occupancy or that are sensitive to ground swelling shall include an analysis for expansive soils as described in Section 1803.5.3 *et seq* of the CBC 2019. Any recommendations identified in the analysis are required to be implemented during building construction. A typical recommendation could include, but not be limited to, over-excavating the foundations, reinforcing the foundations, and using fill soil to minimize the exposure of the foundations to the effects of the expansive soils. Similarly, the RNG pipeline would be located in a trench with a bed of non-expansive material. With compliance with the foundation design requirements of the CBC, the potential for expansive soils to damage building foundations at the project site would be minimized and this impact would be considered **less than significant**.

**Mitigation Measure 4.9-5: Expansive Soils**

No mitigation measures would be necessary.

**IMPACT 4.9-6** **Disturbance of Unique Paleontological Resources or Geologic Features.** *The project site is located within geologic formations that have a low potential to contain paleontological resources. Also, the project site does not include any unique geologic features. Therefore, the proposed project has a very low potential to disturb or destroy a unique paleontological resource or geologic feature and this impact would be **less than significant**.*

Fossils are not common in the sandstones of the Panoche Formation found on the site. When they have been discovered in the county, they have consisted mostly of microfossils such as foraminifera (plankton) with less common invertebrates. Of the over 700 fossils that were identified in a search of the UC Berkeley fossil catalog for San Benito County, all were microfossils and only one was identified as being from the Panoche Formation (UCMP 2014). Therefore, the likelihood of finding visible fossils in the Panoche Formation on the project site is extremely low. Also, the project site does not include any unique geologic features. This impact would be **less than significant**.

**Mitigation Measure 4.9-6: Disturbance of Unique Paleontological Resources or Geologic Features**

No mitigation measures would be necessary.

**IMPACT 4.9-7** **Potential for Methane Gas to Migrate into Surrounding Soil.** *Because all of the landfill modules since construction of Module 1 have been lined with a high-density polyethylene geomembrane as part of the liner system that is impermeable to landfill gas and all future expansion modules would be similarly lined, downward and lateral landfill gas migration into the soil would be prevented. Therefore, methane gas would not be expected to migrate from the expanded landfill into the surrounding soil and this impact would be considered **less than significant**.*

Landfill-gas (LFG) is generated by the decomposition of organic waste and typically contains 50 to 60 percent methane with the balance being primarily carbon dioxide with traces of nitrogen and oxygen. Methane is flammable between 5 and 15% by volume. Title 27 CCR requires that methane not exceed 5% by volume in soil at the perimeter of the facility or 1.25% in onsite structures. To monitor for methane, Title 27 CCR requires that perimeter landfill gas monitoring wells be installed every 1,000 feet along the landfill perimeter and at least as deep as the deepest waste anywhere on the landfill. The wells contain one to three probes at various depths depending on the depth of the well. Soon after implementation of the LFG migration regulations, LFG was detected around the existing unlined Module 1 portion of the landfill fill. A landfill-gas extraction system, using a series of vertical wells, piping, a vacuum blower, and flare to burn the methane, were subsequently installed to collect the LFG to correct the migration. Over time, additional wells and a larger blower/flare system have been added to prevent LFG migration. The Class I Area contains materials that generate landfill gas.

LFG contains trace gases (on the order of parts per billion) either created during the decay process or contained within the waste stream. LFG containing trace gases can vent into the atmosphere through the landfill surface, laterally into surrounding soil and downward into underlying groundwater where trace gases can dissolve into the groundwater creating groundwater contamination. Emissions of LFG into the surface air are described in the Air Quality and Greenhouse Gas sections in this EIR. The bottom of the waste in the unlined Module 1 is near the groundwater table and has been thought to historically contribute to groundwater contamination detected as a downgradient.

Since Module 2 was installed in 2012, all of the Modules (2 through 8) have been lined with a high-density polyethylene geomembrane as part of the liner system that is impermeable to LFG, thereby preventing migration into the surrounding soil. All of the future expansion modules would be similarly lined with a geomembrane in the liner system that would prevent downward and lateral LFG migration into the soil. Additionally, a preferential leachate pathway geomembrane would be installed between newer waste and the older Module 1 waste to reduce the potential for LFG to migrate from the newer waste into the older Module 1 waste. Therefore, methane gas would not be expected to migrate from the expanded landfill into the surrounding soil and this impact would be considered **less than significant**.

### Mitigation Measure 4.9-7: Potential for Methane Gas to Migrate into Surrounding Soil

No mitigation measures would be necessary.

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# 4.10 HAZARDS, HAZARDOUS MATERIALS AND WILDFIRES

This section describes the hazards, hazardous materials and wildfire conditions associated with historic and current use of the project site and surrounding areas. This section also identifies the project's potential hazards, hazardous materials and wildfire impacts as well as the effect of litter generation in the project vicinity. The potential for impacts on fire personnel and other emergency responders is addressed in Section 4.12, Public Services, Utilities and Energy, of this Draft EIR. The results of a health risk assessment conducted for this project are presented in Section 4.3, Air Quality, of this Draft EIR.

## 4.10.1 EXISTING SETTING

### DEFINITIONS OF TERMS

For purposes of this section, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. A "hazardous material" is defined in the Code of Federal Regulations (CFR) as "a substance or material that … is capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (49 CFR 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous wastes" are defined in California Health and Safety Code Section 25141(b) as wastes that:

> … because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness [, or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

### CLASS I SITE

The Class I facility at JSRL was constructed and permitted for the disposal of liquid hazardous wastes and operated by the City of Hollister from 1977 to 1983. It was constructed in response to a change in State regulations that required separation of hazardous and nonhazardous waste. The Class I facility contained two impoundments: Impoundment 1 and Impoundment 2. Impoundment 1 was the 0.43-acre primary disposal unit and accepted liquid hazardous wastes, mostly pesticide rinsate. Impoundment 2 (0.36 acres) was designed for storm water and overflow from Impoundment 1. The Class I facility was capped and closed in 1992 and is currently used as a location to stockpile soil for the Class III landfill. The Class I facility is regulated by the California Department of Toxic Substances Control (DTSC) under a Closure Permit. A Consent Order was issued by DTSC to the City of Hollister for the Class I site in October 2019. The Consent Order related to a dispute regarding the required frequency of groundwater quality sampling and groundwater level measurements. The City agreed to the terms of the Consent Order, which included conducting annual groundwater sampling (DTSC 2022).

### VECTOR NUISANCES

A vector is an organism that is capable of transmitting a disease. Vectors commonly associated with solid waste facilities include insects (e.g., flies and mosquitos), rodents, and birds (e.g., gulls). Solid waste facilities have the potential to provide shelter, food and breeding grounds for these undesirable organisms. Vectors spread diseases in two ways: by carrying decaying waste that contains bacteria, viruses, and other organisms off-site; or by becoming infected and contacting humans and animals in surrounding areas.

Flies, rodents and mosquitoes have the potential to inhabit and breed at the project site if proper sanitary waste disposal techniques are not implemented. Fly larvae and rodents are brought to landfills by collection vehicles and have the potential to breed if food waste is accessible. Mosquitos breed in areas of standing water such as detention basins and off-site drainage channels. The regular pumping of water out of the on-site detention basins for dust control purposes and the distance from population centers minimizes local mosquito populations and their effects on humans.

State law (California Code of Regulation Title 27) requires landfill operators to compact and cover waste with a layer of soil or alternative daily cover to minimize the introduction of vectors. The State-mandated performance standards for solid waste handling are enforced by CalRecycle through issuance of a Solid Waste Facilities Permit (SWFP).

The existing landfill currently controls potential vector problems through several indirect measures, including applying daily and interim soil cover or alternative daily cover, and minimizing the size of the working face. A minimum 6-inch-thick layer of cover soil or alternative daily cover is placed and compacted on the landfill working face at the end of operations each day. Areas not receiving refuse for 180 days or more are covered with a minimum 12-inch-thick layer of interim cover soil. Application of cover soil prevents fly larvae and flies from hatching and breeding and limits access for rodents and gulls.

The size of the working face is limited to the minimum area required to handle that particular day's refuse volume. Continual compaction of waste in collection vehicles is effective in killing rodents. Spreading and compacting wastes at the landfill face prevents the occurrence of gaps that could provide harborage for rodents. Rapid delivery of collected wastes to the landfill also limits the ability of rodent populations to become established. Based on a review of CalRecycle records for the past two years, the only vectors that have been identified at the site have been birds, including gulls that come inland during storm periods and crows at other times. However, due to limited sources of water in the area and lack of roosting sites, birds are generally not attracted to the site. Additionally, the birds are relatively quickly dispersed using small bird bombs fired by site personnel. Bird bombs are explosive pest control devises intended to frighten away birds. They are fired from a hand-held launcher that travels between 75 and 100 feet before exploding with a very loud bang. Other available methods to deter birds include mechanical deterrents, bird alarms and the use of falcons by a falconer (Lawrence & Associates 2021).

### LANDFILL GAS

Landfill gas (LFG) is generated by the anaerobic (without oxygen) decomposition of organic material in waste. LFG is made up primarily of methane and carbon dioxide with some nitrogen, oxygen, and other trace compounds. Because Title 27, CCR requires that the methane in the soil at the "facility boundary" remain below five percent by volume, and because Assembly Bill (AB) 32 requires collection and control of greenhouse gases, an LFG collection system is in operation at the JSRL. The LFG collection system uses blowers to provide vacuum to both vertical wells and horizontal collectors (also called horizontal wells) installed into the waste. Because LFG typically consist of 50 to 60 percent methane, it is combusted in an on-site LFG "flare" located adjacent to the entrance area (Figure 3-5, Chapter 3, Project Description). While the flare generates carbon dioxide, which is a greenhouse gas, it eliminates methane, which is a much more aggressive greenhouse gas. The flare also destroys any trace gases either present in the waste or generated during the waste decay process.

Because the system was originally designed to reduce subsurface migration of LFG from the unlined Module 1 and has subsequently been tasked with reducing surface emissions as required by AB 32, it is currently operated to maximize LFG extraction, which can result in methane in the collected gas as low as 35 percent. Landfill gas is currently combusted in a landfill-gas flare that is sized for 22.93 million British Thermal Units with a flow ranging from 160 cubic feet per minute (cfm) to 755 cfm at 50 percent methane and up to 1,200 cfm at 30 percent methane. LFG is typically 90 to 100 degrees Fahrenheit and near 100 percent humidity. As the LFG is collected from wells and flows through collection piping on the surface, the humidity condenses in the pipe and forms "condensate" that flows down the pipe and is collected and pumped into the sewer system. Condensate generation is roughly proportional to the LFG flow rate.

Horizontal collectors are installed periodically as lifts of waste are placed. Vertical wells will be installed, typically in areas that have reached their final waste depth, to provide additional control, if needed.

The quantity of gas generated by a landfill generally peaks about one year after closure. Generation rates depend on several factors such as temperature, humidity and amount of precipitation, and waste characteristics such as the amount, moisture content, physical composition, temperature, and pH of refuse.

As with all gases, landfill gas seeks the path of least resistance to vent to the atmosphere. It often moves through cracks, permeable backfill material, open pipes, and conduits. It can move beyond the fill area and become concentrated in unventilated structures (e.g., basements). If methane concentrations exceed 5 percent by volume in air, the lower explosive limit, a fire or explosion hazard may result if an ignition source is present. Methane gas could also displace air in structures and pose an asphyxiation threat if a pathway into the structure is available.

Through the LFG collection system, landfill gas levels are maintained below nonhazardous and non-explosive levels on the site and on surrounding properties. The system is monitored regularly for efficiency and, if necessary, will be modified over time to ensure the maintenance of regulatorily-mandated safe methane-gas levels, thereby greatly reducing the chance of explosion hazards at the landfill surface and on surrounding properties.

### Fire Potential and Response

Potential fire hazards in the operation of a solid waste facility result from the emission of methane gas, spontaneous combustion of buried waste from excess LFG extraction, refuse containing combustible debris, and storage and use of diesel fuel and motor oil. Fire potential is largely a function of operating procedures. The use of open dumps in the past created a significant fire hazard. However, fire control measures at landfills have become fairly standardized and fires are generally not a major problem. The operation and design of the site is regulated by CCR Title 27 and the Uniform Fire Codes and ordinances administered by local fire districts.

The site is located in a grassy rural area with a seasonally high fire risk, which increases the likelihood of a potential fire spreading beyond the facility. However, fire breaks are maintained around the entire facility. The project site has not been exposed to or caused a local wildland fire. Fires at the facility have been limited to hot loads (i.e., waste loads delivered to the site with smoldering materials) that are extinguished as soon as they are discovered using fire suppression equipment at the site (J. Pfister, pers. com. 2021).

Fire protection for vehicles and equipment used in solid waste operations is provided on the site by facility employees. Portable fire extinguishers are provided for the waste disposal equipment. Fires occurring at the landfill would be extinguished by facility employees using the appropriate equipment, stockpiled soil cover and water trucks as needed. If additional help is required, the Hollister Fire Department or local California Department of Forestry and Fire Protection (CALFIRE) station would be called. However, neither the Hollister Fire Department nor CALFIRE have been called to the site for emergency response situations within the last five years (J. Pfister, pers. com. 2021).

Landfills often contain the necessary elements to produce subsurface combustion (i.e., combustible materials, high temperatures, oxygen, and insulating characteristics). The ignition and spreading of subsurface fires are a function of several factors including waste composition and moisture content, available oxygen, and ambient pressure in the area of combustion. Subsurface fires may also result from the unknown burial of household hazardous wastes (e.g., lithium-ion batteries) or excessive LFG extraction, as mentioned above. An explosion hazard or subsurface temperature increase could arise from the corrosion and/or rupture of buried containers used to store incompatible materials. Because the majority of waste received at JSRL from commercial haulers is typically first processed through material recovery facilities, during which the materials are screened for household hazardous wastes, the potential for subsurface fires at the landfill associated with household hazardous waste is diminished. The landfill also has a load checking program, as described below, to identify and remove potential hazardous materials from public and commercial loads.

The severity of wildland fires is influenced primarily by vegetation, topography, and weather (temperature, humidity, and wind). CALFIRE has developed a fire hazard severity scale that considers vegetation, climate, and slope to evaluate the level of wildfire hazard. CALFIRE designates three levels of Fire Hazard Severity Zones (Moderate, High, and Very High) to indicate the severity of fire hazard in a particular geographical area. Fire hazard zoning is used to indicate both the likelihood for a fire (e.g., prevalence of fuels) and the potential for damage (e.g., proximity to residences). Local fire departments also use these severity zone designations within their jurisdictions. As identified by the San Benito County General Plan, the project site is located within a Moderate Fire Hazard Severity Zone (San Benito County 2015). These zones do not include any specific requirements for project proponents.

Five CAL FIRE stations and bases are located in the County, and a sixth is located on the San Benito/Santa Clara County border (Pacheco). Stations within the County include the Bear Valley Helitack Base in Bear Valley, the Beaver Dam Station near Bitterwater, the Antelope Station in Antelope Valley, the Hollister Station, and the Hollister Air Attack Base. The Bear Valley, Beaver Dam, Antelope, and Hollister CAL FIRE Stations are all in full operation during the fire season, which runs from May 1st to November 1st. The agency has air tankers housed at the Hollister Airport, a bulldozer housed at Hollister Station, and two battalion chiefs dedicated to the operations within the County. One acts as the County department head and the other acts as an as needed chief officer for emergency scene management (San Benito County 2012).

### LOAD CHECKING PROGRAM AND HOUSEHOLD HAZARDOUS WASTE FACILITY

A load-checking program is conducted at the landfill prior to delivery of waste to the working face. Vehicles are screened at the scale house by trained personnel. The load checking program is intended to identify and remove hazardous and otherwise prohibited waste from the waste stream prior to disposal. The staff at the scale house routinely question customers regarding the presence of household hazardous materials or unacceptable material in their loads. Vehicles carrying waste are stopped at the scale house and weighed or measured. The questioning of customers by scale house personnel may simultaneously involve physical assessment of the waste, inspection for warning labels such as “flammable” or “poison,” and for unidentified containers that may contain unacceptable wastes. After screening the loads, customers are directed to the working face. Spotters will generally conduct load content surveillance near the active working face. Waste inspections consisting of a detailed examination of a randomly selected load are regularly performed.

A small recycling drop-off area for recyclables, electronic waste (such as televisions and computers), and universal waste (consisting of mercury containing devices, such as fluorescent bulbs, and mercury-containing thermostats) is located near the outbound scale for public convenience. A household hazardous waste facility is located near the entrance and is used when needed for storage of hazardous wastes found in the landfill’s load checking program, and periodically by the San Benito County Integrated Waste Regional Agency for household hazardous waste recycling events. Hazardous wastes are stored for no longer than the time period allowed by State regulations (per Title 22, CCR, §66262.34(c)(1)). Licensed haulers remove the waste.

### LITTER CONTROL

Wind is the primary cause for fugitive litter around the landfill site and litter is a concern of the public in the project vicinity. The main control for windblown litter begins at the unloading area through the spreading and compacting of refuse and placement of daily/intermediate cover over all exposed refuse at the end of each working day. Portable litter cages and temporary fencing are used to control windblown litter at the working face. Perimeter fencing is used to control windblown litter within the boundaries of the site.

Litter is removed from and along the litter fences, other on-site areas, and adjacent off-site areas, as often as necessary, to maintain the effectiveness of the fences. The landfill is inspected for litter by landfill personnel and litter is regularly collected. Typically, the litter is placed in plastic bags and disposed of at the working face. Litter is regularly picked up along John Smith Road and Fairview Road by landfill crews. County crews will, on occasion, pick-up illegal dumping and bulky items along Fairview Road.

To control litter that may escape from incoming vehicles, all vehicles are required to be tarped and/or covered upon entering the landfill.

## 4.10.2 Regulatory Setting

### Federal Regulations

#### U.S. Environmental Protection Agency

EPA is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are contained mainly in CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR (see "Definitions of Terms" above), are listed in 49 CFR 172.101. Management of hazardous materials is governed by the following laws:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [USC] 6901 et seq.);
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC 9601 et seq.); and
- Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99–499).

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. EPA provides oversight and supervision for federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

#### *Hazardous Substances*

Hazardous substances are a subclass of hazardous materials. They are regulated under CERCLA and SARA (and the federal Clean Water Act for water resources). Under CERCLA, EPA has authority to seek the parties responsible for releases of hazardous substances and ensure their cooperation in site remediation. CERCLA also provides federal funding (the "Superfund") for remediation. SARA Title III, the Emergency Planning and Community Right-to-Know Act, requires companies to declare potential toxic hazards to ensure that local communities can plan for chemical emergencies. EPA maintains a National Priority List of uncontrolled or abandoned hazardous waste sites identified for priority remediation under the Superfund program. EPA also maintains the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, which contains information on hazardous waste sites, potential hazardous waste sites, and remedial activities across the nation.

### *Hazardous Wastes*

Hazardous wastes, although included in the definition of hazardous materials and hazardous substances, are regulated separately under RCRA. A waste can legally be considered hazardous if it is classified as ignitable, corrosive, reactive, or toxic. Title 22, Section 66261.24 of the California Code of Regulations (CCR) (i.e., 22 CCR 66261.24) defines characteristics of toxicity. Under RCRA, EPA regulates hazardous waste from the time that the waste is generated until its final disposal ("cradle to grave"). RCRA also gives EPA or an authorized state the authority to conduct inspections to ensure that individual facilities are in compliance with regulations, and to pursue enforcement action if a violation is discovered. EPA can delegate its responsibility to a state if the state's regulations are at least as stringent as the federal ones. RCRA was updated in 1984 by the passage of the federal Hazardous and Solid Waste Amendments, which required phasing out land disposal of hazardous waste.

### U.S. Department of Transportation

The U.S. Department of Transportation (DOT), in conjunction with EPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 (49 USC 5101 et seq.) directs DOT to establish criteria and regulations regarding safe storage and transportation of hazardous materials. Hazardous materials regulations are contained in 49 CFR 171–180, and address transportation of hazardous materials, types of materials defined as hazardous, and the marking of vehicles transporting hazardous materials. In particular, 49 CFR 173, titled "Shippers' General Requirements for Shipments and Packagings," defines hazardous materials for transportation purposes; within this portion of the code, 49 CFR 173.3 provides specific packaging requirements for shipment of hazardous materials, and 49 CFR 173.21 lists categories of materials and packages that are forbidden for shipping. 49 CFR 177, titled "Carriage by Public Highway," defines unacceptable hazardous materials shipments.

### Occupational Health and Safety Administration

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor is responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. Workers at hazardous waste sites must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations (29 CFR 1910.120).

## STATE REGULATIONS

### California Environmental Protection Agency

The DTSC, a division of Cal/EPA, has primary regulatory responsibility over hazardous materials in California, working in conjunction with the federal EPA to enforce and implement hazardous materials laws and regulations. DTSC can delegate enforcement responsibilities to local jurisdictions.

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in CCR Title 26. The State program thus created is similar to, but more stringent than, the federal program under RCRA. The regulations list materials that may be hazardous and establish criteria for their identification, packaging, and disposal.

Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the state, commonly called the Cortese List. The project site is included on the Cortese List based on a historical release of trace levels of volatile organic compounds (VOCs) from the Class I and adjacent unlined Class III Area (DTSC 2022). Monitoring programs are required to be implemented for both of these areas. As the owner of the Class I facility, the City of Hollister is responsible for implementing the Class

I Post-Closure Detection Monitoring Program. As the operator of the Class III facility, the project applicant is responsible for implementing the Detection Monitoring Program and the Corrective Action Monitoring Program for the Class III Area. These monitoring programs are discussed in detail in Section 4.8, Hydrology and Water Quality, of this Draft EIR.

California's Secretary for Environmental Protection has established a unified hazardous waste and hazardous materials management regulatory program (Unified Program) as required by Senate Bill 1082 (1993). The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental programs:

- hazardous waste generator and hazardous waste on-site treatment programs;
- Underground Storage Tank program;
- hazardous materials release response plans and inventories;
- California Accidental Release Prevention Program (CalARPP);
- Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans; and
- California Uniform Fire Code (UFC) hazardous material management plans and inventories.

The six environmental programs within the Unified Program are implemented at the local level by local agencies—Certified Unified Program Agencies (CUPAs). CUPAs carry out the responsibilities previously handled by approximately 1,300 State and local agencies, providing a central permitting and regulatory agency for permits, reporting, and compliance enforcement (California Resources Agency 2003). The San Benito County Department of Environmental Health is the Certified Unified Program Agency (CUPA) for San Benito County.

### State Water Resources Control Board

The State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives. The SWRCB has primary responsibility to protect water quality and supply. The project site is located within the jurisdiction of the Central Coast RWQCB. As described in Section 4.8, Hydrology and Water Quality, the RWQCB is authorized by the Porter-Cologne Water Quality Control Act of 1969 to protect the waters of the state. The RWQCB provides oversight for sites where the quality of groundwater or surface waters is threatened. Extraction and disposal of contaminated groundwater due to investigation/remediation activities or due to dewatering during construction would require a permit from the RWQCB if the water were discharged to storm drains, surface water, or land.

### California Department of Industrial Relations, Division of Occupational Health Administration

The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA), assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are more stringent than federal OSHA regulations and are presented in CCR Title 8. Standards for workers dealing with hazardous materials include practices for all industries (General Industry Safety Orders); specific practices are described for construction, and hazardous waste operations and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

### California Office of Emergency Services

The California Office of Emergency Services (OES) issued the State of California Multi-Hazard Mitigation Plan (Multi-Hazard Mitigation Plan) (California Office of Emergency Services 2004) in September 2004. The federal Disaster Mitigation Act required all state emergency services agencies to issue such plans by November 1, 2004, for the states to receive federal grant funds for disaster assistance and mitigation under the Stafford Act (44 CFR 201.4). The overall intent of the Multi-Hazard Mitigation Plan is to reduce or prevent injury and damage from natural hazards in California, such as earthquakes, wildfires, and flooding. The plan identifies past and present hazard mitigation activities, current policies and programs, and mitigation goals, objectives, and strategies for the future (California Office of Emergency Services 2004).

### California Department of Transportation and California Highway Patrol

The California Department of Transportation (Caltrans) and California Highway Patrol (CHP) enforce and monitor U.S. Department of Transportation hazardous materials and waste transportation laws and regulations in California. Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads. All motor carriers and drivers involved in transportation of hazardous materials must apply for and obtain a hazardous materials transportation license from CHP. When transporting explosives, inhalation hazards, and highway route-controlled quantities of radioactive materials, safe routing and safe stopping-places are required, as described in 26 CCR, Section 13 et seq. A route map must be carried in the vehicle.

### California Code of Regulations Title 27

Regulations covering waste disposal site operations specifically are defined in California Code of Regulations (CCR) Title 27, Division 2, Chapter 3, sections 20550 - 20750. Under Title 27, the Central Coast RWQCB is responsible for regulating the design and construction of landfills and CalRecycle is responsible for regulating landfill operations.

Section 20590 requires that operations and maintenance personnel wear and use approved safety equipment for personal health and safety. Section 20610 requires that personnel assigned to operate the site must be adequately trained in subjects pertinent to site operation and maintenance, hazardous materials recognition and screening, and heavy equipment operations, with emphasis on safety, health, environmental controls, and emergency procedures. Section 20615 specifies that the site operator is responsible for providing adequate numbers of qualified personnel to operate the site effectively related to environmental controls, emergencies, and health and safety. Adequate supervision is required by the site operator to ensure compliance with all applicable laws, regulations, permit conditions, and other requirements.

Title 27 regulations also set forth the performance standards and the minimum substantive requirements for landfill gas monitoring and control as it relates to active solid waste disposal sites and to proper closure, post-closure maintenance, and ultimate reuse of solid waste disposal sites to ensure that public health and safety and the environment are protected from pollution related to the disposal of solid waste. Postclosure maintenance guidelines include requirements for an emergency response plan and site security. Construction on the site must maintain the integrity of the final cover, drainage and erosion control systems, and gas monitoring and control systems.

### Landfill Controls and Standards

In 1997, some of the solid waste regulations specific to landfills were adopted by the State Water Resources Control Board (Title 23, Chapter 15) and combined with CalRecycle regulations (Title 14) to form Title 27 of the California Code of Regulations (CCR). Based on this, Title 27 CCR incorporates regulations of the State Water Resources Control Board and the CalRecycle that apply to waste disposal on land. Minimum standards related to solid waste handling and disposal are defined in Title 27 CCR, Division 2, Chapter 3. Landfill disposal site controls for public health and safety detailed in Articles 4 and 6 contain:

- Section 20760, Nuisance Control. Each disposal site shall be operated and maintained so as not to create a public nuisance.

- Section 20790, Leachate. The operator shall ensure that leachate is controlled to prevent contact with the public.

- Section 20800, Dust Control. The operator shall take adequate measures to minimize the creation of dust and prevent safety hazards due to obscured visibility.

- Section 20810, Vector and Bird Control. The operator shall take adequate steps to control or prevent the propagation, harborage or attraction of flies, rodents, or other vectors and to minimize bird problems.

- Section 20870, Hazardous Wastes. Owners or operators of all municipal solid waste landfill units must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in 40 CFR Part 261 and polychlorinated biphenyls wastes as defined in 40 CFR Part 761.

- Section 20919, Gas Control. Where the Enforcement Agency (EA) or Local Enforcement Agency (LEA), the local fire control authority, the local building authority, or the CalRecycle has sufficient relevant information to believe a hazard or nuisance is being or may be created by landfill gas, it shall so notify the operator. The local fire control authority and the local building authority shall also notify the EA or LEA and CalRecycle. Thereafter, as directed by the EA or LEA, the local fire control authority, the local building authority, or CalRecyle, the site operator shall cause the site to be monitored for presence and movement of landfill gas and shall take necessary action to control such gas. The monitoring program shall be developed pursuant to the specifications of the above agencies. The monitoring program shall not be discontinued until authorized to do so in writing by the requiring agency. Results of the monitoring shall be submitted to the appropriate agencies. If monitoring indicates landfill gas movement away from the site, the operator shall, within a period of time specified by the requiring agency, construct a gas control system approved by that agency. The agency may waive this requirement if satisfactory evidence is presented demonstrating that adjacent properties are safe from hazard or nuisance caused by landfill gas movement. The operator shall duly inform the EA or LEA of possible landfill gas problems.

### CalRecycle (California Department of Resources Recycling and Recovery)

CalRecycle is responsible for regulating landfill operations and perimeter landfill gas monitoring.

Title 14 CCR, Division 7, Chapter 3 establishes minimum regulatory standards for solid waste management, handling and disposal as well as operating standards pertaining to health and safety. Chapter 5 establishes guidelines for enforcement of solid waste standards and administration of solid waste facilities permits. Article 6.2 of Chapter 3 establishes minimum operating standards for operations and facilities that receive, store, handle, recover, transfer, or process solid waste, which include:

- Section 17407.5, Hazardous, Liquid, and Special Wastes. (a) An operation or facility shall not intentionally accept or store hazardous wastes, including batteries, oil, paint, and special wastes, unless it has been approved to handle the particular waste by the appropriate regulatory agencies. Such approvals shall be placed in the operating record. (b) At operations and facilities where unauthorized hazardous wastes are discovered, control measures as are necessary to protect public health, safety and the environment, such as elimination or control of dusts, fumes, mists, vapors or gases shall be taken prior to isolation or removal from the operation or facility,(c) Liquid wastes and sludges shall not be accepted or stored at an operation or facility unless the operator has written approval to accept such wastes from the appropriate agencies and the EA. The EA shall authorize acceptance of these wastes only if the operation, facility, and the transfer vehicles are properly equipped to handle such wastes in a manner to protect public health, safety, and the environment.

- Section 17408.1, Litter Control. Litter at operations and facilities shall be controlled, and routinely collected to prevent safety hazards, nuisances or similar problems and off-site migration to the greatest extent possible given existing weather conditions.

- Section 17408.2, Medical Waste. Medical waste, unless treated and deemed to be solid waste, which is regulated pursuant to the Medical Waste Management Act (commencing with Section 117600 of the Health and Safety Code), shall not be accepted at an operation or facility, unless approved by the appropriate regulatory agency.

- Section 17408.7, Personnel Health and Safety. The Injury, Illness, and Prevention Program shall be available for review by local and state inspectors during normal business hours. Nothing in this section is intended to make the local enforcement agency responsible for enforcing the Injury, Illness, and Prevention Program.

- Section 17409.5, Loadchecking. The operator of an attended operation or facility shall implement a loadchecking program to prevent the acceptance of waste which is prohibited by this Article. This program must include at a minimum: (1) the number of random load checks to be performed; (2) a location for the storage of prohibited wastes removed during the loadchecking process that is separately secured or isolated; and (3) records of loadchecks and the training of personnel in the recognition, proper handling, and disposition of prohibited waste. A copy of the loadchecking program and copies of the loadchecking records for the last year shall be maintained in the operating record and be available for review by the appropriate regulatory agencies.

- Section 17410.3, Training. Personnel assigned to the operation or facility shall be adequately trained in subjects pertinent to site solid waste operations and maintenance, hazardous materials recognition and screening, use of mechanized equipment, environmental controls, emergency procedures and the requirements of this Article. A record of such training history shall be maintained and made available for inspection.

- Section 17410.4, Vector, Bird and Animal Control. The operator shall take adequate steps to control or prevent the propagation, harborage and attraction of flies, rodents, or other vectors, and animals, and to minimize bird attraction.

## LOCAL REGULATIONS

### San Benito County Department of Environmental Health

The San Benito County Department of Environmental Health has been designated the lead agency for CUPA (Certified Unified Program Agency) or hazardous materials programs and acts as the single point of contact for issuance of permits. Site inspections of all hazardous materials programs (i.e., aboveground tanks and underground tanks, hazardous waste treatment, hazardous waste generators, hazardous materials management plans, etc.) are consolidated and accomplished by a single inspection.

The program provides emergency response to chemical events to furnish substance identification; health and environment risk assessment; air, soil, water and waste sample collections; incident mitigation and cleanup feasibility options; and on scene coordination for state Superfund incidents. The program also provides for the oversight, investigation and remediation of unauthorized releases from underground tanks.

Environmental Data Resources, Inc. performed a search of regulatory agency databases to determine if soil or groundwater contamination had or could occur at the site (San Benito County 2012; State Water Resources Control Board 2020). As is typical for solid waste disposal sites, the John Smith Road Landfill was listed on the following databases:

- Hazardous Waste Information System,

- Land Disposal Site Listing,

- Solid Waste Facility/Landfill (Solid Waste Information System),

- Financial Assurance,

- California Waste Discharge System,
- National Pollutant Discharge Elimination System,
- Aboveground Storage Tank Deed Restriction Listing,
- Hazardous Waste and Substances Site list (Cortese List), and
- ENVIROSTOR.

### San Benito County Code of Ordinances

The County has adopted a fire protection facilities fee (Chapter 5.01, Article VIII) requiring that applicants for building permits pay a fee to defray the cost of constructing and equipping fire protection facilities as needed to minimize level of service impacts on fire protection caused by new development. All new development within the County is required to pay a fire facility fee that is held in an account by the County and transferred at least quarterly to the fire district serving the area from which the fees were collected. San Benito County collects the fee for the City of Hollister Fire Department, which serves the facility under contract to the County.

Fire design standards are included in Chapter 23.27 of the County Code. These design standards encourage fire safety including roadway width, surface grade, turning radius, structure standards, gate entrance standards, street and road sign standards, and emergency water supply standards. The water supply required for industrial uses includes providing water storage of sufficient size to provide 2,500 gallons per minute at 20 pounds per square inch for a two-hour duration.

### San Benito County 2035 General Plan

The San Benito County 2035 General Plan (San Benito County 2015) includes the following goals and policies from the Health and Safety Element that are applicable to the proposed project:

- **Goal HS-4:** To minimize the risk of wildland and urban fire hazards.
  - **Policy HS-4.1:** The County shall maintain and implement the Community Wildfire Protection Plan as a mechanism for community input and identification of areas presenting high fire hazard risk.
  - **Policy HS-4.4:** The County shall require development in high fire-hazard areas to be designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable State and County fire standards.
  - **Policy HS-4.5:** The County shall require development in high fire-hazard areas to have fire-resistant vegetation, cleared fire breaks separating communities or clusters of structures from native vegetation, or a long-term comprehensive vegetation and fuel management program consistent with State codes 4290 and 4291 for wildland fire interface and vegetation management.
- **Goal HS-6:** To safeguard and protect the health and safety of people, the environment, and personal property from the potential dangers associated with a hazardous materials release.
  - **Policy HS-6.1:** The County shall require proper storage and disposal of hazardous materials to prevent leakage, potential explosions, fires, or the escape of harmful gases, and to prevent individually innocuous materials from combining to form hazardous substances, especially at the time of disposal.
  - **Policy HS-6.5:** The County shall restrict transport of hazardous materials within San Benito County to designated routes.

- **Policy HS-6.6:** The County shall continue to sponsor household hazardous waste collection days to help residents lawfully dispose of household hazardous waste that is not accepted by the landfill.

## 4.10.3 IMPACTS AND MITIGATION MEASURES

### METHOD OF ANALYSIS

This analysis considers the range and nature of foreseeable hazardous materials use, storage, and disposal resulting from the proposed project and identifies the primary ways that these hazardous materials could expose individuals or the environment to health and safety risks. Local and State agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. The analysis also considers how the proposed project could affect the generation of litter and the potential for wildfires in the project vicinity.

In determining the level of significance, the analysis assumes that the development and operation of the proposed project would comply with relevant federal, State, and local ordinances and regulations.

### THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, and county concerns related to litter generation from the proposed project, hazards, hazardous materials and wildfire impacts are considered significant if implementation of the proposed project would do any of the following:

- 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 or through the routine transport, use, or disposal of hazardous materials;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- result in litter generation that creates a safety hazard, nuisance, or similar problems;
- be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- 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;
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or,
- expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

### ISSUES NOT DISCUSSED FURTHER IN THIS EIR

**Schools within One-Quarter Mile of the Project Site –** No schools are located within one-quarter mile of the project site. As such, no safety hazards related to emitting hazardous emissions or handling hazardous materials near schools are anticipated. This issue area will not be evaluated further in this Draft EIR.

**Included on List of Hazardous Materials Sites (Cortese List) –** The project site is included on the Cortese List based on a historical release of trace levels of volatile organic compounds (VOCs) from the Class I and adjacent unlined Class III Area (DTSC 2022). The City of Hollister, as the owner of the Class I facility, is required to comply with the terms of a Consent Order issued in October 2019 by DTSC regarding the frequency of groundwater sampling identified in the Class I Post-Closure Detection Monitoring Program. Based on data collected from this detection monitoring program, DTSC has concluded that there is no evidence of releases from the Class I area (DTSC 2022). For the Class III facility, two monitoring programs are in place including the Detection Monitoring Program and the Corrective Action Monitoring Program. These monitoring programs, as well as existing groundwater conditions at the site and effects of the proposed project on groundwater, are discussed in detail in Section 4.8, Hydrology and Water Quality, of this Draft EIR. Therefore, this issue area will not be evaluated further in this section of this Draft EIR.

**Airports within Two Miles of the Project Site –** The project is not located within an airport land use plan or within two miles of a public or private airport. As such, no safety hazards related to airports are anticipated. This issue area will not be evaluated further in this Draft EIR.

**Effects on Emergency Response or Evacuation Plans –** The project is not anticipated to affect emergency response or evacuation plans due to the site's remote location, the project's inclusion of a second access road, the ability to evacuate the site to either the east or the west on John Smith Road, and the inclusion of fire suppression equipment within the landfill operations (e.g., bulldozers, water pumps, fire extinguishers). This issue area will not be evaluated further in this Draft EIR.

## IMPACTS AND MITIGATION MEASURES

| IMPACT 4.10-1 | **Exposure to Known and Unknown Hazardous Materials**. *An increase in the allowable peak daily tonnage at the site could result in an increase in the amount of incidental hazardous waste illegally or accidentally delivered to the site within loads of municipal solid waste. However, with the continued implementation of the existing load checking program and waste acceptance procedures, this impact would be* ***less than significant****.* |
|---|---|

The proposed project involves an increase in the peak daily tonnage of waste accepted at the landfill. With the increase in daily tonnage, it would be expected that an increased amount of incidental hazardous waste, on a daily basis, could be illegally or accidentally delivered to the site and deposited into the landfill within loads of municipal solid waste. However, these hazardous wastes would not be expected to create a public health hazard because the landfill would continue to enforce a no-acceptance policy regarding hazardous waste, the continued implementation of the existing load checking program would greatly reduce the chances that hazardous waste would be deposited into the landfill without detection, a portion of the waste entering the landfill is first sorted and inspected within material recovery facilities prior to transport to the site, and a household hazardous waste storage facility is available at the site. In addition, the existing hazardous materials employee training program would continue to be utilized to educate and direct employees on the proper methods for handling hazardous waste and safely responding to emergencies, thereby further minimizing the risk of human exposure to hazardous waste in the landfill. For these reasons, any potential impact to human health or potential risk of upset resulting from possible illegal or accidental disposal of hazardous wastes is expected to be **less than significant**.

### Mitigation Measure 4.10-1 Exposure to Known and Unknown Hazardous Materials

No mitigation would be necessary.

**IMPACT 4.10-2** **Exposure to Hazardous Materials during Project Construction and Operations**. *Use of various paints, solvents, cements, glues, and fuels is expected during the various construction and operational components of the proposed project. Site workers could be exposed to hazardous materials as a result of improper handling or use; accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies, resulting in adverse health effects. However, all allowable uses would be subject to compliance with federal, state, and local hazardous materials regulations, and would be monitored by the state (e.g., Cal/OSHA, DTSC, CHP) and/or local jurisdictions. Therefore, the potential for human exposure to hazardous materials during construction and operations would be a* ***less-than-significant*** *impact.*

Hazardous materials would be used in varying amounts during the various construction and operational components of the proposed project. Construction and operational activities would use hazardous materials, such as fuels (gasoline and diesel); oils and lubricants; paints and paint thinners; and glues; cleaners (which could include solvents and corrosives in addition to soaps and detergents). Site workers and the general public could be exposed to hazards and hazardous materials as a result of improper handling or use during construction and operational activities (particularly by untrained personnel); transportation accidents; or fires, explosions, or other emergencies. Site workers could also be exposed to hazards associated with accidental releases of hazardous materials, which could result in adverse health effects.

The proposed project would be required to comply with regulations on the transportation of hazardous materials codified in 49 CFR 173 and 49 CFR 177 and CCR Title 26, Division 6. These regulations, which are under the jurisdiction of Caltrans and the CHP, provide specific packaging requirements, define unacceptable hazardous materials shipments, and prescribe safe-transit practices by carriers of hazardous materials. Compliance with these regulations would reduce the risk of exposure to humans and the environment related to the transportation of hazardous materials.

Hazardous materials regulations, which are codified in CCR Titles 8 and 22, and their enabling legislation set forth in Chapter 6.5 (Section 25100 et seq.) of the California Health and Safety Code, were established at the State level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. Construction specifications would include the following requirements in compliance with applicable regulations and codes, including, but not limited to CCR Titles 8 and 22, Uniform Fire Code, and Division 20 of the California Health and Safety Code: all reserve fuel supplies and hazardous materials must be stored within the confines of a designated construction area; equipment refueling and maintenance must take place only within the staging area; and construction vehicles shall be inspected daily for leaks. These regulations and codes must be implemented, as appropriate, and are monitored by the State and/or local jurisdictions.

Contractors would be required to comply with Cal/EPA's Unified Program; regulated activities would be managed by San Benito County Department of Environmental Health, the designated Certified Unified Program Agency for San Benito County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California UFC hazardous material management plans and inventories). Such compliance would reduce the potential for accidental release of hazardous materials during construction of the proposed project. As a result, it would lessen the risk of exposure of construction workers and the public to accidental release of hazardous materials, as well as the demand for incident emergency response.

As with construction, operation of the proposed project is required to be consistent with federal, State, and local laws and regulations addressing hazardous materials management and environmental protection mentioned above. Additionally, businesses are regulated as employers by Cal/OSHA and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers.

The proposed project would be required to comply with all applicable federal, State, and local regulations pertaining to safe-transit practices, workplace safety, spill prevention, and other hazardous materials-related concerns. The San Benito County Department of Environmental Health and other agencies would be required to enforce compliance, including issuing permits and tracking and inspecting hazardous materials transportation and storage. As a result, construction and operation of the proposed project would not create a significant hazard to the general public or the environment involving the release of hazardous materials into the environment or through the routine transport, use, or disposal of hazardous materials. Therefore, this impact would be **less than significant**.

#### Mitigation Measure 4.10-2 Exposure to Hazardous Materials during Project Construction and Operations

No mitigation measures would be necessary.

| | |
|---|---|
| **IMPACT 4.10-3** | **Increase in Litter Generation**. *The proposed project would potentially increase litter generation at the site and along local haul routes due to the increased volume of material delivered and disposed of at the site. Litter that travels onto adjacent lands from the project site or that falls from vehicles transporting waste to the site can be a nuisance for adjacent landowners, residents along the haul routes, and local travelers. While the project operator would be required by Title 27 and Title 14 to control litter that creates a safety hazard, nuisance, or similar problem, the proposed project's increased waste acceptance could increase litter along local haul routes near the landfill. Therefore, litter impacts along local haul routes related to the proposed project would be **significant**.* |

The proposed project would potentially increase litter generation at the site and along local haul routes due to the increased volume of material delivered and disposed of at the site. Litter that travels onto adjacent lands from the project site or that falls from vehicles transporting waste to the site can be a nuisance for adjacent landowners, residents along the haul routes, and local travelers. Depending upon the type of litter and its volume, it can also attract scavengers. On rare occasions, grazing animals can ingest litter. In addition, litter on roadways can be a safety hazard if it includes materials that can damage vehicles or obstruct passage. However, the project operator would be required by Title 27 and Title 14 to control litter that creates a safety hazard, nuisance, or similar problem.

Within the unloading area, windblown litter is controlled by spreading and compacting the refuse and by placing daily/intermediate cover over the exposed refuse. At the working face, portable litter cages and temporary fencing are used by the landfill operator to control windblown litter. The placement of daily cover effectively limits the generation of litter from the working face during evening and nighttime hours, and the application of intermediate cover eliminates the generation of litter from covered modules. Perimeter fencing is used by the landfill operator to control windblown litter within the site boundaries. Litter is regularly removed by landfill personnel from and along the litter fences, other on-site areas, and adjacent off-site areas. The landfill is inspected for litter by landfill personnel and litter is regularly collected. Landfill crews regularly pick up litter along John Smith Road and Fairview Road. All vehicles are required to be tarped and/or covered upon entering the landfill to minimize litter along the haul routes. Fines of $5 for regular pickup trucks and $50 for trailers or larger vehicles are applied at the scale house for arriving waste haul vehicles that are not tarped. In addition, the proposed project includes installing fixed litter fences in the predominant downwind location from the active expansion areas as those areas are expanded. Litter collection would also occur along the fences surrounding the expansion property. For anyone wanting to report the presence of litter in the project vicinity, they can contact the site operator directly at the telephone number listed on the webpage for the landfill (www.johnsmithroadlandfill.com).

Due to the increased tonnage of waste being hauled on County roads and potential for increased litter from the haul traffic, the proposed project could increase litter along local haul routes near the landfill. This impact would be **significant**.

#### Mitigation Measure 4.10-3 Increase in Litter Generation

The operator shall implement and fund a litter pick-up program on the adopted haul route to the landfill entrance that provides for inspection and removal of any litter at least three times per week. All complaints received from the public about litter or calls to the litter hotline shall be reported to Integrated Waste Management monthly. Complaints about litter shall be responded to within 48 hours.

### Level of Significance after Mitigation

Implementation of the litter pick-up program would reduce the impact of increased litter on the adopted haul route to **less than significant**.

| IMPACT 4.10-4 | **Exposure to Hazardous Materials within the Class I Area**. *The proposed project includes clean closing the Class I facility to minimize potential public health risks. With the clean closure of this facility, the long-term risk of public exposure to hazardous materials would be eliminated. Therefore, this impact would be **less than significant**.* |
|---|---|

A clean closure plan would be prepared for the California Department of Toxic Substances Control and the Central Coast Regional Water Quality Control Board. Approval from these agencies would be required prior to clean closure. The proposed project includes the conversion of the closed Class I disposal facility owned by the City of Hollister to a disposal area for Class III waste. The clean closure would include performing soil borings or test pits to collect soil samples for analysis to identify the vertical and horizontal limits of hazardous and non-hazardous contamination. The existing closure cap and overlying stockpiled soil that is located on this parcel would be removed. The removed soil would be used in ongoing landfill operations and the capping materials would be disposed of in the existing Class III landfill. The clean closure would include excavating and transporting approximately 3,500 cubic yards of hazardous waste to the Kettleman Hills Landfill, Button Willow Landfill, or another licensed hazardous waste facility for disposal. Excavating and transporting this hazardous waste could expose site workers and the public to health risks associated with these materials. However, the removal area would be restricted to workers only and the removal of these materials from the site would be required to comply with applicable hazardous materials handling and transportation regulations. Following contaminated material removal, compliance sampling would be required to confirm clean closure of the Class I site. In addition, a post-closure report documenting the clean closure would be required. Once removed, the potential for exposure to these materials on the site would be eliminated.

Following removal of all Class I waste and clean closure, the area would be converted into a Class III waste disposal module. This would include excavating uncontaminated soil, installing a composite landfill liner and leachate collection and removal system, similar to other Class III modules at the project site. Because a long-term exposure risk would be eliminated with the clean closure of the Class I waste disposal module and the short-term exposure risk would be minimized through compliance with the applicable closure procedures and regulations, this impact would be **less than significant**.

#### Mitigation Measure 4.10-4 Exposure Hazardous Materials within the Class I Area

No mitigation would be necessary.

**IMPACT 4.10-5**

**Vector Nuisances**. *The increased tonnage accepted at the landfill could increase vector populations at the site. However, the current operational procedures required to control vectors would continue to control vectors at the site. In addition, the regular pumping of water out of the on-site detention basins for dust control purposes and the distance from population centers would minimize mosquito populations and their effects on humans. Therefore, this impact would be* ***less than significant****.*

Vectors commonly associated with landfills include insects, rats, mice, and birds, particularly crows and gulls. Vectors can potentially spread diseases by carrying decaying waste containing bacteria, viruses, and other organisms off-site, or by becoming infected themselves and coming into contact with humans, animals, or plants in surrounding areas.

State law (California Code of Regulation Title 27) requires landfill operators to compact and cover waste with a layer of soil or alternative daily cover to minimize the introduction of vectors. The State-mandated performance standards for solid waste handling are enforced by CalRecycle through issuance of a Solid Waste Facilities Permit (SWFP). Application of cover soil prevents fly larvae and flies from hatching and breeding and limits access for rodents and gulls. Also, the continual compaction of waste in collection vehicles is effective in killing rodents. Spreading and compacting wastes at the landfill face prevents the occurrence of gaps that could provide harborage for rodents. Rapid delivery of collected wastes to the landfill also limits the ability of rodent populations to become established.

Refuse compaction, maintaining a manageable size working face, and the application of daily cover are the most effective preventions against the propagation of vectors on a landfill site. Site personnel inspect landfill areas daily for any signs of rodent activity and implement the measures described above to minimize vector nuisances. Professional pest control services are used, as necessary.

The proposed stormwater retention ponds could generate mosquitoes at the site, which could affect on-site workers and residential areas in the area. The regular pumping of water out of the on-site detention basins for dust control purposes and the distance from population centers would reduce the local mosquito populations and their effects on humans to a less-than-significant level.

For these reasons, the increase in waste delivered to the landfill would not be expected to create vector problems at the site and vicinity and this impact would be **less than significant**.

#### Mitigation Measure 4.10-5 Vector Nuisances

No mitigation measures would be necessary.

**IMPACT 4.10-6**

**Hazards from Increased Landfill Gas**. *An increase in the peak daily tonnage at the landfill would result in an increase in daily methane generation, which could increase hazards associated with landfill gas. However, expanded operation of the landfill gas collection system as the landfill expands would ensure this impact remains* ***less than significant****.*

An increase in the peak daily tonnage would increase the volume of landfill gas generation on a daily basis. The increased daily generation of landfill gas could exacerbate the risk of explosion both on the site and on surrounding properties as a result of methane gas migration; however, the potential for an explosion would be minimal as methane gas dilutes quickly in the atmosphere to non-explosive levels. Additionally, a landfill gas collection system is currently in place that extracts landfill gas from both infill and perimeter locations. Through the system, landfill gas levels are, and would continue to be, maintained below non-hazardous and non-explosive levels on the site and on surrounding properties. The system would be monitored regularly for efficiency and, if necessary, would be modified over time to ensure the maintenance of safe methane gas levels, thereby greatly reducing the chance of explosion hazards at the landfill surface and on surrounding properties. This system would control current landfill gas levels and would be expanded consistent with the landfill expansion to control any increases in landfill gas generation as a result of the proposed project. In addition, gas monitoring systems would be required to be installed in any enclosed buildings on the project site to ensure the accumulation of landfill gas is detected, if it occurs, prior to reaching dangerous levels. Because a landfill gas collection system is in place that would be expanded to accommodate the increase in daily gas generation associated with the proposed project, substantial public health risks associated with increased landfill gas generation would not be expected. Therefore, the proposed project would not result in a public health impact and this impact would be **less than significant**.

#### Mitigation Measure 4.10-6 Hazards from Increased Landfill Gas.

No mitigation measures would be necessary.

**IMPACT 4.10-7** **Exposure of People or Structures to Wildland Fires**. *The expanded operations at the project site could increase the potential for wildland fires. However, with proper operation of the facility, the potential for the proposed project to increase wildland fire risks would be minimal. This impact would be* ***less than significant****.*

Solid waste material contains a high proportion of combustible components. Although the operation of solid waste facilities can result in fire risks and the expanded operations proposed at the site could increase this risk, when properly operated, there should be few or no problems with fires. Fire risk at solid waste facilities is largely associated with poor operation or maintenance. Facility equipment may catch fire due to a faulty electrical connection, igniting collected refuse on or near the equipment; smoldering refuse is occasionally brought into the facility by the haul trucks; fuel stored on the site may be ignited; spontaneous combustion of buried waste can occur due to excessive LFG extraction; and fires may be started by careless smokers.

Operating procedures and design features at the facility greatly reduce potential fire hazards at the site. These operating procedures include the application of daily and interim cover at the landfill; implementation of a hazardous waste screening program; implementation of an equipment maintenance program; regular monitoring of the LFG system; and implementation of design, safety, training, and reporting measures specified in the site's Hazardous Materials Management Plan, as required by Chapter 6.95 at the California Health and Safety Code. In addition, the potential for on-site fire to spread to adjacent grasslands is reduced by stored water, stockpiled soil, and equipment on the site that can be used to extinguish or contain small fires, as well as the maintenance of fire breaks. The project includes the installation of fire breaks around the entirety of the expansion area. For these reasons, the potential for the proposed project to contribute to increased wildland fire risks would be minimal and this impact would be **less than significant**.

#### Mitigation Measure 4.10-7 Exposure of People or Structures to Wildfire Fires.

No mitigation measures would be necessary.

## 4.10.4 REFERENCES


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# 4.11 AESTHETICS

This section describes the existing aesthetic setting of the project site, the regulatory background that applies to the project, and the potential visual impacts on aesthetic resources associated with implementation of the proposed project.

## 4.11.1 EXISTING SETTING

The following text describes the existing visual character of the project site and surrounding land. The descriptions of existing conditions are accompanied by photographs of representative views taken during a site visit on January 12, 2021. The locations of project site viewpoints are shown in Figure 4.11-1.

### VISUAL CHARACTER OF THE PROJECT SITE

The project site is on the western slope of a small range of hills, with peak elevations ranging between approximately 780 to 960 feet above mean sea level (msl). The City of Hollister is located in a northward-sloping valley to the west of the project site, with elevations approximately 400 feet above msl at the nearest city limit along Fairview Road. The rural and agricultural Santa Ana Valley lies to the east. The project site and vicinity are predominantly large open spaces historically used for orchard production. The site consists of expansive grasslands with little tree cover and includes the existing John Smith Road Landfill. The existing John Smith Road landfill is visible from a short stretch of John Smith Road but is generally screened from views in the nearby valleys by the slopes of the surrounding hills. The hills are a prominent visible feature from publicly accessible areas in the Hollister and Santa Ana Valleys, especially to motorists and travelers along Fairview Road, State Route (SR) 25, and John Smith Road. These users are considered sensitive viewers.

### VISUAL CHARACTER OF THE SURROUNDING AREA

The surrounding hills are generally open rangeland with few trees. Large lot rural residential development is present to the west of the project site, between the existing landfill and the Hollister city limits. The nearby areas within the Hollister city limits are characterized by suburban residential development. There are scattered rural residences on the slopes of the hills, and in the Santa Ana Valley to the east. The general character of the surrounding area is described below.

- **North:** The project site is bordered to the north by a range of hills, with peak elevations ranging to approximately 960 feet above sea level. These hills are covered with grassy vegetation and few trees.

- **East:** Areas immediately east of the project site consist of hills containing a small number of rural residences, with agricultural uses (primarily row crops) in the Santa Ana valley beyond.

- **South:** John Smith Road borders the JSRL to the south, and areas south of the 101.3-acre County-owned property consist of hills, with peak elevations ranging to approximately 960 feet above sea level. These hills are covered with grassy vegetation and few trees.

- **West:** To the west of the site, John Smith Road travels down out of the hills towards Fairview Road and the City of Hollister. There are several rural residential subdivisions and agricultural land with suburban residences beyond.

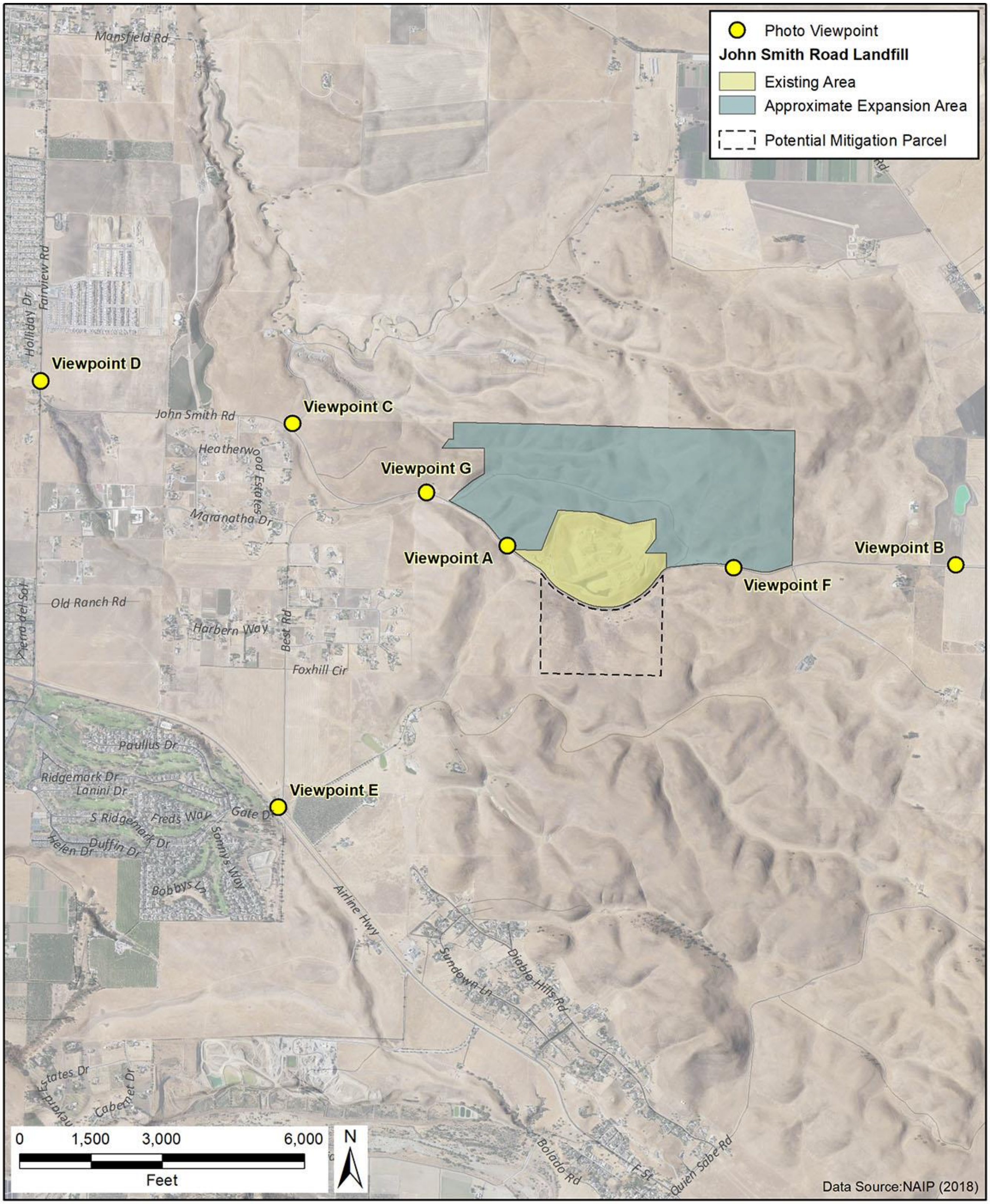


Figure Source: GEI Consultants, Inc.2021.

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**Viewpoint Locations** **Figure 4.11-1**

Views of the site are partially obstructed by the hills in the middle ground. The existing landfill and surface topography of the project site are generally visible to motorists in the immediate vicinity of the landfill on John Smith Road. The existing landfill and the existing surface topography of the project site are not visible to viewers from farther away, including along Best Road or Fairview Road to the west, or in the Santa Ana Valley.

Five viewpoint locations discussed below were chosen to represent areas where sensitive viewers, including travelers along area roadways, could experience visual change (Figure 4.11-1). The general nature of views of the project site is described from these locations.

### View from John Smith Road near existing landfill entrance (Viewpoint A)

This viewpoint is just west of the existing landfill (Figure 4.11-1). As can be seen in Figure 4.11-2, the foreground is dominated by gently rolling grasslands with scattered trees and fences along the roadway. The landfill entrance road, disturbed areas, truck trailers and temporary structures are visible at left and ascending the slope on the existing landfill. These views are primarily experienced for short durations by travelers along John Smith Road.

### Views from John Smith Road on the Santa Ana Valley floor (Viewpoint B)

This viewpoint is located in the Santa Ana Valley to the east of the project site (Figure 4.11-1). As can be seen in Figure 4.11-3, the road, agricultural land, and existing power lines along John Smith Road are the dominant foreground views. Middleground and distant views from this viewpoint include rolling hills and grassland. The existing landfill entrance and operational areas are not visible from this viewpoint.

### Views from John Smith Road facing Best Road intersection (Viewpoint C)

This viewpoint is located along John Smith Road in the vicinity of several rural housing subdivisions (Figure 4.11-1). As shown in Figure 4.11-4, foreground views include fences and grasslands, with middleground views including hills and residential areas with trees and landscaped vegetation. The existing landfill entrance and operational areas are difficult to distinguish from this viewpoint due to their distance from the site and intervening topography.

### Views from Fairview Road facing near John Smith Road intersection (Viewpoint D)

This viewpoint is located along Fairview Road just north of its intersection with John Smith Road (Figure 4.11-1). As shown in Figure 4.11-5, foreground views include fences and grasslands, with middleground views of a rural residential area with trees and landscaped vegetation and the range of hills separating the Hollister area from the Santa Ana Valley. Background views are of the Diablo Range. The existing landfill entrance and operational areas are difficult to distinguish from this viewpoint due to their distance from the site and intervening topography.

### Views from State Route 25 near Best Road intersection (Viewpoint E)

This viewpoint is located near the intersection of SR 25 and Best Road (Figure 4.11-1). As shown in the photograph (Figure 4.11-6), foreground views include fences and fallow land, with middleground views of hills, residences, trees, and landscaped vegetation. Middleground views are of hills, with a mix of bushy and wooded vegetation and grasslands. Distant views are of the Diablo Range. A previously disturbed landfill slope is distinguishable by its darker soil color from this viewpoint; however, the existing landfill entrance is not visible due to intervening topography.

### Views from John Smith Road facing west towards Landfill (Viewpoint F)

This viewpoint is located along John Smith Road approximately 1,500 feet east of the existing landfill (Figure 4.11-1). As shown in the photograph (Figure 4.11-7), foreground views include fences and grassland, middleground views are of hills, with a mix of bushy and wooded vegetation and grasslands. Middleground hills include artificially graded slopes of the existing landfill. However, the landfill entrance is not visible from this viewpoint due to intervening topography.

### Views from John Smith Road facing west towards Landfill (Viewpoint G)

This viewpoint is located along John Smith Road approximately 1,500 feet west of the existing landfill (Figure 4.11-1). As shown in the photograph (Figure 4.11-8), foreground views include fences and grassland, middleground views are of grassy hills. The litter control fence near the project entrance is visible from this viewpoint.

View from John Smith Road looking east at existing landfill entrance.

**Representative Photograph (Viewpoint A)** **Figure 4.11-2**


View facing west on John Smith Road toward the existing landfill

**Representative Photograph (Viewpoint B)** **Figure 4.11-3**


View from John Smith Road looking east towards Best Road intersection.

**Representative Photograph (Viewpoint C)** **Figure 4.11-4**


View from Fairview Road looking east (just north of John Smith Road).

**Representative Photograph (Viewpoint D)** **Figure 4.11-5**


View from SR 25 at Best Road, looking northeast.

**Representative Photograph (Viewpoint E)** **Figure 4.11-6**

View from John Smith Road, facing west towards the landfill.

**Representative Photograph (Viewpoint F)** **Figure 4.11-7**

View from John Smith Road, facing east towards landfill.

**Representative Photograph (Viewpoint G)** **Figure 4.11-8**

## 4.11.2 REGULATORY SETTING

### CALIFORNIA SCENIC HIGHWAY PROGRAM

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. The nearest State highway is SR 25, located approximately one mile southwest of the project site. This portion of SR 25 (between SR 156 north of Hollister and SR 198 in Monterey County) is eligible for designation as a State scenic highway (Caltrans 2019), but it has not been designated as a State scenic highway.

### SAN BENITO COUNTY GENERAL PLAN

The Natural and Cultural Resources Element of the San Benito County 2035 General Plan (2015) includes the following policies related to visual resources. No County scenic highways or scenic vistas are located in the vicinity of the project site.

**Goal NCR-8:** To enhance and preserve the attractive visual qualities of scenic vistas and corridors in the county.

- **NCR-8.1 Protect Scenic Corridors**. The County shall endeavor to protect the visual characteristics of certain transportation corridors that are officially designated as having unique or outstanding scenic qualities.
- **NCR-8.3 Grading within Scenic Corridors.** The County shall review all projects involving grading within Scenic Corridors to protect valuable soil resources, preserve the natural environment, and avoid significant adverse impacts within scenic areas.
- **NCR-8.9 Hillside and Ridgeline Protection.** The County shall use design review for development on hillsides and within Scenic Corridors to protect the hillsides and ridgelines that are a unique scenic resource in the county. The County shall prohibit development within 100 vertical feet of any ridgeline unless there are no site development alternatives.

**Goal NCR-9:** The County shall promote the preservation of dark skies necessary for nighttime astronomical viewing at local observatories.

- **NCR-9.1: Light Pollution Reduction.** The County shall continue to enforce the development lighting ordinance (SBC Code Chapter 19.13) and restrict outdoor lighting and glare from development projects in order to ensure good lighting practices, minimize nighttime light impacts, and preserve quality views of the night sky. The ordinance shall continue to recognize lighting zones and contain standards to avoid light trespass, particularly from developed uses, to sensitive uses, such as the areas surrounding Fremont Peak State Park and Pinnacles National Park.

### SAN BENITO COUNTY CODE

#### Chapter 19.31: Development Lighting

Section 19.31.005 of the San Benito County Code identifies Lighting Zones with centers at Fremont Peak State Park and Pinnacles National Park. The project site falls within Lighting Zone II, which extends for 13 miles from the center of Fremont Peak State Park. Regulations in Lighting Zone II include a maximum of 50,000 initial raw lamp lumens per net acre, and no more than 5,500 raw lamp lumens per net acre in unshielded fixtures. Other regulations for Lighting Zone II in Chapter 19.31 focus on recreational lighting, lighted signs, and commercial lighting.

## 4.11.3 IMPACTS AND MITIGATION MEASURES

### METHOD OF ANALYSIS

Analysis of aesthetic impacts is qualitative and inherently subjective. Viewers respond differently to views, aesthetic conditions, and overall visual character. This visual impact analysis evaluated the visual changes that would occur at the project site using the standards of quality, consistency, and symmetry typically used for a visual assessment. Views may be characterized in terms of foreground, middleground, and distant background views. Foreground views are those immediately presented to the viewer and include objects at close range. Middleground views occupy the center of the viewshed and tend to include objects that dominate the viewshed in normal circumstances. Background views include distant objects and other objects that form the horizon.

Identification of the visual resources and aesthetics effects of the proposed project was based on the three steps listed below.

1. An objective inventory of the visual features or visual resources that comprise the landscape.

2. An assessment of the character and quality of the visual resources in the context of the overall character of the regional visual landscape.

3. A determination of the importance to viewers, or sensitivity of the viewers, to the identified visual resources in the landscape.

Viewer sensitivity, also considered in relation to visual quality, depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also affected by viewer activity, awareness, and expectations in combination with the number of viewers and the duration of the view. The viewer's distance from landscape elements plays an important role in the determination of an area's visual quality. Landscape elements are considered higher or lower in visual importance based on their proximity to the viewer. Generally, the closer a resource is to the viewer, the more dominant, and therefore visually important, it is to the viewer. The project site and its vicinity were observed and photographed. The analysis is based on these photographs and observations, and reflects the County's General Plan goals and policies, and zoning regulations. In accordance with CEQA, this analysis considers only publicly accessible views. The visual impacts are compared against the thresholds of significance discussed below.

### THRESHOLDS OF SIGNIFICANCE

The project would cause a significant impact related to aesthetic resources, as defined by the State CEQA Guidelines (Appendix G), if it would:

- have a substantial adverse effect on a scenic vista;

- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;

- substantially degrade the existing visual character or quality of public views of the site and its surroundings; or,

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

## IMPACTS AND MITIGATION MEASURES

**IMPACT 4.11-1** **Impacts on Scenic Vistas or Visual Character.** *The project site, including the proposed expansion area, makes up part of the background views from publicly accessible areas and roadways to the west, south, and east of the site. The proposed expansion would be visually prominent in middleground or background views for many sensitive viewers, including motorists on local roadways and viewers from publicly accessible areas throughout the surrounding valleys. Because the proposed expansion would affect the appearance of the hills that contribute to the surrounding visual character, this impact would be* ***significant****.*

A scenic vista is generally characterized as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Although San Benito County has not designated scenic vistas that would be affected by the proposed project, views of the hills are important to the visual character of the project site and immediate vicinity. This visual character is dominated by agricultural and grazing land, rolling hillsides, and rural residential uses. The hills and open grasslands that make up the proposed expansion area are consistent with surrounding properties and make up the middleground of views from nearby valley areas for sensitive viewers.

Existing views of the project site generally include agricultural land, grassland, and rural residential areas in the foreground, with the hills in the middleground and mountains in the background. The existing landfill entrance area and facilities are visible to motorists on John Smith Road but are not a prominent part of the middleground views of the hills for the majority of sensitive viewers in the valleys due to their location along a curve in John Smith Road within a relatively narrow canyon.

The proposed project would include the installation of temporary and permanent stormwater basins, expansion of the landfill entrance, and construction of a renewable natural gas facility within the landfill entrance area. These site changes are generally represented in the Proposed Landfill Expansion Phasing figure included in Chapter 3, Project Description, of this Draft EIR (Figure 3-6). The landfill entrance expansion and the proposed renewable natural gas facility are more specifically represented in Figures 3-8 and 3-9 in Chapter 3. Figure 3-10 includes photographs of typical renewable natural gas facilities. The expanded landfill entrance facilities, including the renewable natural gas facility, would be located along a curve in John Smith Road within a relatively narrow canyon. Therefore, they would only be visible from vehicles traveling on John Smith Road near the landfill entrance. These facilities would not be visible from middleground viewpoints or from offsite residences. The low-lying character of the stormwater basins would also obscure their visibility from off site. Because the proposed changes to the site entrance facilities and the stormwater basins would rarely be seen by the public, these changes would result in a **less-than-significant** visual impact.

Operation of the proposed project would also include the creation, use, and movement of soil stockpiles, grading activities, and operating individual waste modules that would vary in location and height during the anticipated period of operation. Figure 4.11-9 represents the waste dumping activities at a typical landfill working face. Once the waste is dumped, bulldozers spread and compact the waste (Figure 4.11-10) as they develop the waste module. The permitted elevations of the modules and the movement of materials would substantially change the elevation of portions of the project site. The clean closure of the Class I Area would also result in the movement of materials on the site and changes in elevation.

The waste modules that would be created through operation of the project as proposed would have slopes that would differ visually from the surrounding hillsides and would rise to elevations that would be visible to sensitive viewers from a substantial portion of the surrounding valleys. Areas in active use might include exposed soil or stockpiles, which would represent a distinct color compared to the surrounding grasslands. Typical soil stockpiles range between 50 and 100 feet in height. Active areas might also have visible movement of vehicles or equipment. After active use of each module ceased, the outside slopes would be either hydroseeded or chipped green material would be applied.

**Typical Waste Dumping at a Landfill Working Face** **Figure 4.11-9**

**Typical Waste Compacting at a Landfill Working Face** **Figure 4.11-10**

Visual simulations were prepared for the proposed project from five locations as it would appear after approximately 30 years of waste filling and at full buildout. For the three viewpoints located west and southwest of the project site, the 30-year visual simulations were virtually the same as the full buildout due to the fill sequence commencing along the western side of the expanded landfill. Therefore, only the full buildout simulation is provided for these three locations. Visual simulations were not prepared for viewpoints A and C due to the limited changes to the landfill footprint that would be visible from these viewpoints based on intervening topography. To be able to easily perceive the change in visual character over time, the landfill is represented as a dark brown (wet dirt) color in the simulations. Because landfill slopes that are undisturbed for extended periods (i.e., typically six months) would be vegetated with native grasses, the identification of the slopes as dark brown does not accurately represent the typical view of the landfill over the project life. Therefore, an additional simulation was prepared that identifies views of the landfill with native annual grasses added to the slopes.

Figures 4.11-11a illustrates a simulated view from the east (Viewpoint B) of the proposed project as it would appear after approximately 30 years of operation, including the development of several of the waste modules. Figure 4.11-11b illustrates a simulated view from the same location after the landfill reaches its peak elevation.

Figure 4.11-11c illustrates the same simulated view as Figure 4.11-11b but with native grasses added to the slopes.

Figures 4.11-12a and Figure 4.11-13a illustrate simulated views from the west and southwest (Viewpoints D and E), respectively, of the proposed project as it would appear after the landfill reaches its peak elevation. A 30-year simulation is not provided from these viewpoints because they would not substantially differ from the full buildout simulations. Figures 4.11-12b and 4.11-13b illustrate the same simulated views but with native grasses added to the landfill slopes.

Figures 4.11-14a illustrates a simulated view from the east (Viewpoint F) of the proposed project as it would appear after approximately 30 years of operation, including the development of several of the waste modules. Figure 4.11-14b illustrates a simulated view from the same location after the landfill reaches its peak elevation. Figure 4.11-14c illustrates the same simulated view as Figure 4.11-14b but with native grasses added to the slopes.

Figure 4.11-15a illustrates simulated views from the west (Viewpoint G) of the proposed project as it would appear after the landfill reaches its peak elevation. A 30-year simulation is not provided from this viewpoint because it would not substantially differ from the full buildout simulation. Figure 4.11-15b illustrates the same simulated view but with native grasses added to the landfill slopes.


Simulated view facing west on John Smith Road toward the proposed project after 30 years of operation. The change in elevation with the proposed project is visible at the horizon directly above the roadway.

**Visual Simulation after 30 Years of Operation (Viewpoint B) Figure 4.11-11a**


Simulated view facing west on John Smith Road toward the proposed project after full buildout. The change in elevation is visible at the horizon directly above the roadway and extending to the right.

**Visual Simulation after Peak Landfill Elevations Reached (Viewpoint B) Figure 4.11-11b**


Simulated view facing west on John Smith Road after full buildout. Native grasses have been added to the filled landfill slopes visible at the horizon directly above the roadway and extending to the right.

**Visual Simulation after Peak Landfill Elevations Reached with Grasses (Viewpoint B) Figure 4.11-11c**


Simulated view from Fairview Road looking east (just north of John Smith Road) toward the proposed project at full buildout. The proposed project is visible at left in the middleground.

**Visual Simulation after Peak Landfill Elevations Reached (Viewpoint D) Figure 4.11-12a**


Simulated view from Fairview Road looking east (just north of John Smith Road) toward the proposed project at full buildout. Native grasses have been added to the filled landfill slopes visible at left in the middleground.

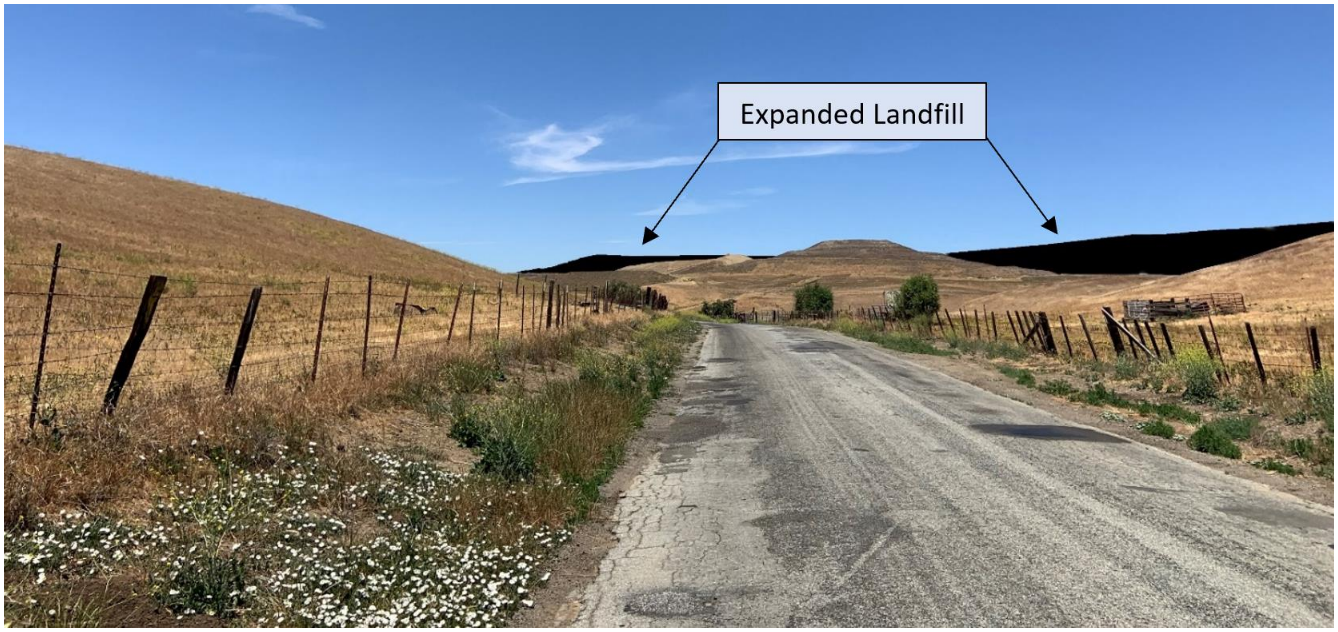
**Visual Simulation after Peak Landfill Elevations Reached with Grasses (Viewpoint D) Figure 4.11-12b**

Simulated view from SR 25 at Best Road, looking northeast toward the proposed project at full buildout.

**Visual Simulation after Peak Landfill Elevations Reached (Viewpoint E) Figure 4.11-13a**

Simulated view from SR 25 at Best Road, looking northeast toward the proposed project at full buildout. Native grasses have been added to the filled landfill slopes.

**Visual Simulation after Peak Landfill Elevations Reached with Grasses (Viewpoint E) Figure 4.11-13b**

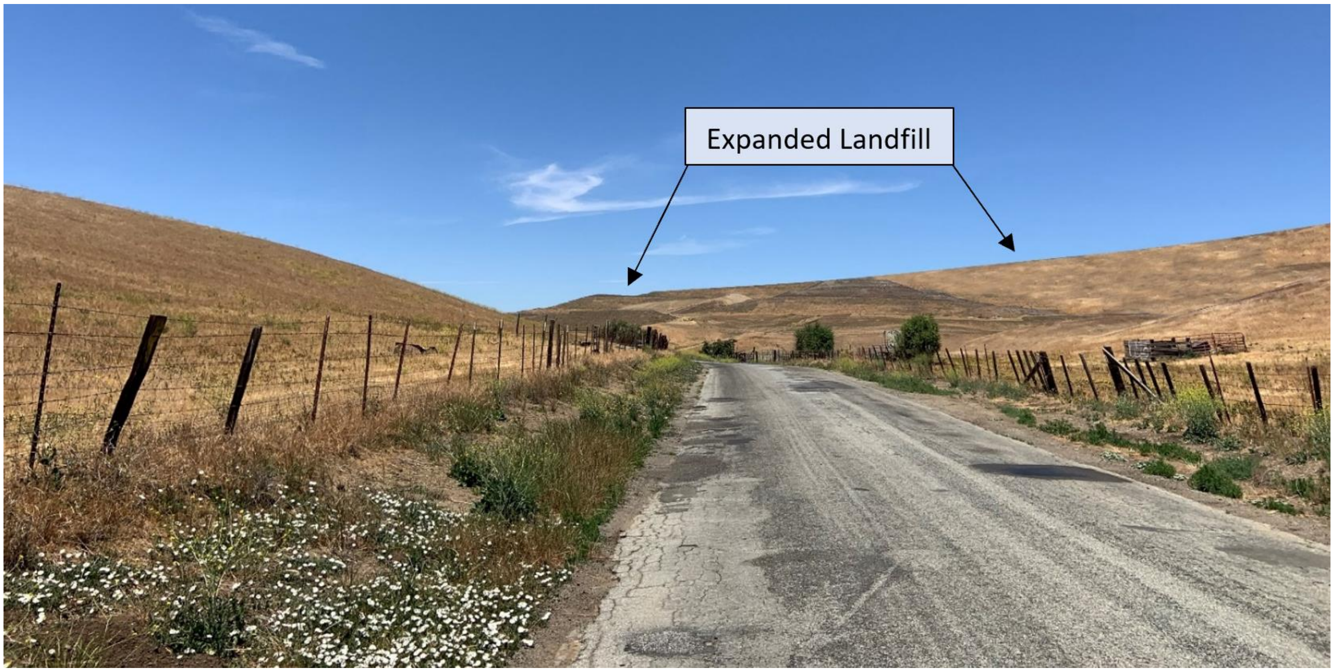


Simulated view facing west on John Smith Road toward the proposed project after 30 years of operation. The change in elevation with the proposed project is visible at the horizon above and to the right of the roadway.

**Visual Simulation after 30 Years of Operation (Viewpoint F)** **Figure 4.11-14a**

Simulated view facing west on John Smith Road toward the proposed project at full buildout. The change in elevation with the proposed project is visible at the horizon directly above and to the right of the roadway.

**Visual Simulation after Peak Landfill Elevations Reached (Viewpoint F)** **Figure 4.11-14b**




Simulated view facing west on John Smith Road toward the proposed project at full buildout. The change in elevation with the proposed project is visible at the horizon directly above and to the right of the roadway. Native grasses have been added to the filled landfill slopes.

**Visual Simulation after Peak Landfill Elevations Reached with Grasses (Viewpoint F) Figure 4.11-14c**


Simulated view facing east on John Smith Road toward the proposed project at full buildout. The change in elevation with the proposed project is visible at the horizon directly above and to the left of the roadway.

**Visual Simulation after Peak Landfill Elevations Reached (Viewpoint G) Figure 4.11-15a**


Simulated view facing east on John Smith Road toward the proposed project at full buildout. The change in elevation with the proposed project is visible at the horizon directly above and to the left of the roadway. Native grasses have been added to the filled landfill slopes.

**Visual Simulation after Peak Landfill Elevations Reached with Grasses (Viewpoint G) Figure 4.11-15b**

Although the landfill slopes and mound that would be built up as part of the project's operation would be broadly consistent with the elevation of the surrounding hills, they would be visually prominent in middleground or background views for a large number of sensitive viewers, including motorists on local roadways and viewers from publicly accessible areas throughout the surrounding valleys. Depending on the stage of operation, the new features might also have distinct coloration compared to the surrounding hillsides. Once vegetated, these features would tend to blend into the surrounding vegetated hillsides. However, because these features would be present in so many views from the surrounding valleys, and would affect the appearance of the hills which contribute to the surrounding visual character, this impact would be **significant**.

#### Mitigation Measure 4.11-1 Impacts on Scenic Vistas or Visual Character

Implement the following mitigation measures to reduce the project's effects on visual character.

- Locate soil stockpiles adjacent to the western and eastern expansion boundaries to provide visual screening when the active landfill operations are at lower elevations. Vegetate with native grasses any soil stockpiles that remain in place for longer than six months.

- Design and construct landfill modules so that initial waste placement or a perimeter soil containment provides a visual barrier between the active working face and offsite observers where feasible and safe to do so. For example, a soil containment berm will be constructed at the west ends of the landfill and/or the landfill will be excavated below grades so that initial filling will be out of sight. To the degree feasible, when each lift (10- to 20-foot-thick layer of waste) is placed, a berm of waste will be placed on the outside edge of the lift first and covered with daily soil cover to obscure filling of the remaining lift.

### Level of Significance After Mitigation

Although Mitigation Measure 4.11-1 would screen most views of the active landfill operations from off site, the changes in elevation that would result from the operation of the modules are inherent to the proposed landfilling activities. As the landfill increases in elevation, it would become more prominent in relation to the surrounding natural hills. The elevated landfill would be visible in middleground views for a large number of sensitive viewers in the surrounding valleys. This change in topography would represent a substantial change in the area's visual character that could not be avoided even with implementation of the identified mitigation measures. Also, although the soil stockpiles would provide visual screening for extended periods, the piles would eventually be depleted due to the use of the soil to meet the landfill's operational requirements. Therefore, this impact would remain **significant and unavoidable**.

| IMPACT 4.11-2 | **Damage to Scenic Resources within a State Scenic Highway.** *The change in the visual character of the project site as the landfill expansion progresses has the potential to alter the visual landscape as viewed from State Route 25. Because State Route 25 is eligible to be designated as a State Scenic Highway, this change in views from the highway would be considered a* ***significant*** *visual impact.* |
|---|---|

The project site is not located within a designated state scenic highway corridor. However, SR 25 is eligible for designation as a state scenic highway. Although SR 25 has not been designated as a state or county scenic highway, its eligibility for designation indicates the sensitivity of the visual resources located adjacent to this highway. As the landfill increases in elevation, it would become more prominent in relation to the surrounding natural hills and would become visible over time from sections of SR 25. As it becomes more visible, the landfill would have the potential to change the visual character of the landscape views experienced by drivers on SR 25. For some drivers, this change in visual character would diminish the scenic quality of SR 25. Therefore, this impact would be considered **significant**.

#### Mitigation Measure 4.11-2 Damage to Scenic Resources within a State Scenic Highway

Implement Mitigation Measure 4.11-1.

### Level of Significance After Mitigation

Although Mitigation Measure 4.11-1 would screen most views of the active landfill operations from SR 25, the changes in elevation that would result from the operation of the modules are inherent to the proposed landfilling activities. As the landfill increases in elevation, it would become more prominent in relation to the surrounding hills. The elevated landfill would become visible over time from sections of SR 25. This change in topography would represent a substantial change in the area's visual character that could not be avoided even with implementation of the identified mitigation measures. Also, although the soil stockpiles would provide visual screening for extended periods, the piles would eventually be depleted due to the use of the soil to meet the landfill's operational requirements. Therefore, this impact would remain **significant and unavoidable**.

| IMPACT 4.11-3 | **Impacts from Lighting and Reflective Surfaces.** *The project would require very limited new security lighting in the vicinity of on-site buildings, well below the limits established in the County Zoning Code. The project would not include the use of substantial reflective surfaces. This impact is considered* ***less than significant****.* |
|---|---|

The JSRL is open for commercial refuse disposal operations seven days a week during daylight hours, meaning that portion of the day between sunrise and sunset. The landfill receives refuse from the public from 8:00 a.m. to 4:00 p.m. Monday through Friday and 9:00 a.m. to 3:00 p.m. on Saturdays and Sundays. No landfill activity currently occurs during nighttime hours and no nighttime activities are proposed to occur with project implementation.

The existing landfill has very limited security lighting. The proposed project would potentially add additional security lighting, generally in the vicinity of the expanded project entrance and associated buildings, including the renewable natural gas facility. The proposed project does not include the addition of any other nighttime lighting at the site. The security lighting required as part of the project would be far below the thresholds (5,500 raw lumen of unshielded lighting or 50,000 raw lumens of total lighting per net acre) identified in Chapter 19.31 of the County Zoning Code for Lighting Zone II. All lighting at the site would be downcast and shielded to minimize light scatter. The entrance and building security lighting would be expected to include between 20 and 30 new lights. Security lighting typically produces between 700 and 1,000 lumens per light. For 30 lights, the total lumens for the entire site would not be expected to exceed 30,000 lumens. Also, due to its location along a curve in John Smith Road within a relatively narrow canyon, views of the entrance area, and associated security lighting, are screened from residences within the project vicinity by intervening hills. Therefore, the project would not be expected to create a new source of substantial nighttime lighting that would adversely affect nighttime views in the area.

In addition, the project does not include the use of substantial reflective materials or surfaces, such as glass or metal. Therefore, the project would not be expected to create a new source of substantial glare that would adversely affect daytime views in the area. The project's impacts related to lighting and reflective surfaces would be **less than significant**.

**Mitigation Measure 4.11-3 Impacts from Lighting and Reflective Surfaces.**

No mitigation measures would be necessary.

## 4.11.4 REFERENCES

California Department of Transportation. 2019. *List of Eligible and Officially Designated State Scenic Highways.* Available: https://dot.ca.gov/-/media/dot-media/programs/design/documents/desig-and-eligible-aug2019_a11y.xlsx.

San Benito County. 2015. *2035 General Plan.* Available: https://www.cosb.us/home/showpublisheddocument?id=5859.

# 4.12 PUBLIC SERVICES, UTILITIES AND ENERGY

This section provides an overview of existing public services, utilities and energy usage for San Benito County and the proposed project area, including water supply, wastewater service, solid waste management, fire protection, police protection, public schools, and parks. Impacts are evaluated in relation to increased demand for public services, utilities and energy associated with the proposed project and actions needed to provide the services that could potentially lead to physical environmental effects. The potential for wildfire impacts is addressed in Section 4.10, Hazards, Hazardous Materials, and Wildfires, of this Draft EIR.

## 4.12.1 EXISTING SETTING

### PUBLIC UTILITIES

Public utilities include water supply, wastewater, and solid waste disposal.

#### Water Supply

The project site is not connected to a public water system and the landfill is sited on bedrock that does not produce significant amounts of groundwater. Non-potable water is currently obtained for landfill operations from a fire hydrant in Hollister (3 miles from the site) within the Sunnyslope County Water District and trucked to the site. Non-potable domestic water (i.e., for toilet flushing and hand washing) is stored in two 2,500-gallon water tanks on the western side of the landfill property. Water captured in the existing on-site stormwater basins is available for operational and construction uses at the project site. However, because adequate water has been available from the Sunnyslope County Water District to meet the site's demands, the stormwater basins have not contributed substantially to the site's water usage.

The majority of the water demand at the existing landfill is associated with dust control for landfill operations. Water is also used for dust control during construction, and for other construction activities such as moisture conditioning soils.. Site operations also use water for domestic purposes (e.g., toilet flushing, sinks).

The dust-generating activities that occur during current landfill operations include the following:

- Customer traffic on paved and gravel roads
- Customer traffic in the unloading area.
- Operator equipment to compact and bury the waste
- Operator traffic to excavate, haul, and place daily soil cover.

The Best Management Practices (BMPs) that are currently implemented at the site to minimize the use of water for dust control include the following:

- Paving the entrance area to eliminate soil exposure and provide a cleanable surface.
- Applying gravel to dirt roads to reduce soil exposure.
- Reducing watering, when appropriate, to reduce the potential for mud tracking.
- Installing rumble plates at the transition between the graveled and paved road to prevent track-on.
- Using a wheel wash during muddy (rainy) periods to reduce track-on.
- Vacuum sweeping to collect tracked dust from paved surfaces.
- Washing pavement followed by vacuum sweeping to remove adhered mud.

Based on records from the Sunnyslope Water District between 2018 to 2020, the average approximate water needed for site operational purposes is approximately 2.44 million gallons per year (gpy). Water demand for operational dust control varies substantially by season, which affects the site's total water demand. In the winter, one water delivery truck per day with a capacity of 3,600 gallons is necessary to meet the site's domestic and dust suppression requirements. On average, in the spring and fall, two trucks per day are necessary to meet the site's water demand, and in the summer, four trucks per day are necessary. Detailed information regarding the historic operational water usage is provided in the Long-Term Water Use Memo in Appendix D.

Module construction occurs, on average, every two years with peak construction trips and dust generated during the bulk excavation and clay-screening phases, when several heavy off-road trucks are hauling soil from the excavation area to the stockpile area and soil screening is concurrently occurring. Partial final closure projects occur every 5 to 10 years. The most water-intensive construction use occurs two to three months during the late spring and early summer (approximately April 15 through July 15). These activities would typically occur five days per week. Less intense water usage is required during the other parts of the construction process, such as during clay liner and geosynthetic placement.

Based on records from the Sunnyslope Water District between 2018 to 2020, the average approximate water needed for construction purposes is approximately 2.2 million gallons per year. The greatest demand for construction water is during the late spring and summer months when an average of five truck trips per day, in addition to the loads required for site operations, are necessary to meet the site's water needs. Detailed information regarding the historic construction water usage is provided in the Long-Term Water Use Memo in Appendix D.

The current domestic water demand for the bathroom facilities at the site is approximately 91,250 gpy. Bottled water is brought to the site for employee consumption purposes and is available in the landfill office, the employee lunch/break room and the scale house.

### Wastewater

Wastewater generated at the landfill (from the scale house, leachate, condensate, and the extraction well water, as identified in Table 4.12-1) is currently pumped directly into a pipe on the site that connects to the four-inch City of Hollister wastewater line within John Smith Road that extends west to the City's wastewater treatment plant. The wastewater is generated from non-potable water sources that are either delivered to the site or derived from site operations. As identified in Table 4.12-1, an average of approximately 1.9 million gallons per year of wastewater is generated from the site's corrective action groundwater extraction program. This represents approximately 78 percent of the approximately 2.4 million gallons of wastewater currently discharged from the site on average per year. The remaining sources of wastewater generation in descending order include leachate, condensate, and domestic uses (scale house restrooms).

Groundwater from the extraction wells that is discharged to the City of Hollister wastewater treatment plant (Hollister WWTP) is monitored for compliance with MRP R3-2013-0047, Wastewater Discharge Permit 92-002 (City of Hollister), and the Monterey Bay Air Resources District (MBARD) Permit to Operate 14070 for contaminated water cleanup. MRP R3-2013-0047 requires weekly inspection and maintenance, monthly flow volume measurement, and annual sampling from each well as part of the corrective action groundwater extraction program. The Wastewater Discharge Permit indicates that quarterly monitoring is to be conducted at the end of the industrial process sewer line and prior to the mixing of diluting waters. The MBARD permit does not specify a monitoring frequency but states the concentration of vinyl chloride in the extracted water being sent to the wastewater plant must not exceed 59 micrograms per liter (ug/L). The volume of wastewater sent to the Hollister WWTP is less than three percent of the total annual volume of wastewater that the Hollister WWTP currently receives (approximately 949 million gallons/year or 2.6 million gallons per day). The Hollister WWTP has a capacity of approximately 3.6 million gallons per day (1,314 million gallons/year) (Benito Link 2021).

### Solid Waste

The San Benito County Integrated Waste Management (SBCIWM) Regional Agency oversees landfill operations and the San Benito County garbage and recycling services contract and is responsible for ensuring compliance with federal and state waste regulations. The agency also implements the countywide household hazardous waste program and hosts household hazardous waste collection events every month.

The John Smith Road Landfill is the only solid waste landfill in San Benito County. It is owned by the County of San Benito and managed by the SBCIWM. The SBCIWM contracts out landfill operations to the operator of record, Waste Solutions Group of San Benito, LLC, a wholly owned subsidiary of Waste Connections.

**Table 4.12-1**
**Current and Projected Wastewater Generation**

| Usage | Average Gallons per Year [1] | Average Gallons per Day[2] | Average Gallons per Minute[3] |
|---|---|---|---|
| **Current** | | | |
| Domestic Wastewater (Scale house Restrooms) | 89,352 | 245 | 0.17 |
| Leachate (2020) | 289,080 | 792 | 0.55 |
| Condensate (2020) | 147,168 | 403 | 0.28 |
| Groundwater Extraction (2020) | 1,881,648 | 5,155 | 3.58 |
| **Total** | **2,407,248** | **6,595** | **4.58** |
| **Proposed Project (at peak)** | | | |
| Domestic Wastewater (Scale house Restrooms) | 110,376 | 302 | 0.21 |
| Leachate | 2,323,152 | 6,365 | 4.42 |
| Condensate from Landfill Gas | 262,800 | 720 | 0.50 |
| Condensate from Renewable Natural Gas | 199,728 | 547 | 0.38 |
| Groundwater Extraction | 1,881,648 | 5,155 | 3.58 |
| **Total** | **4,777,704** | **13,090** | **9.09** |
| **Difference** | 2,370,456 | 6,495 | 4.51 |

Source: Appendix C and Design Basis Report (Lawrence & Associates 2021)

1. Based on average GPM from Design Basis Report x 365 days/year x 1440 minutes/day
2. Based on average gallons per minute from Design Basis Report x 1440 minutes/day
3. From Lawrence & Associates Design Basis Report 2021

## PUBLIC SERVICES

Public services include fire and police protection, schools, parks, and other public facilities.

### Fire Protection and Emergency Medical Services

Fire protection and emergency response services are provided to the project area by the Hollister Fire Department and the California Department of Forestry and Fire Protection (CAL FIRE) through a contract with San Benito County. The City of Hollister Fire Department began providing fire protection in unincorporated San Benito County after absorbing the San Benito County Fire Department in 2013. Other fire protection services in the County include the Aromas Tri-County Fire Department and the San Juan Bautista Volunteer Fire Department. The City of Hollister has two agreements with CAL FIRE, an automatic aid agreement that provides automatic fire protection services, and a mutual aid agreement that provides fire protection services upon radio request by the City of Hollister Fire Department (San Benito County 2017).

According to the Hollister Fire Department Scope of Services contract with San Benito County, the Hollister Fire Department maintains a force consisting of a total of 30 full-time staff (27 full-time fire professionals with the ranking of Fire Captain, Fire Engineer or Firefighter and 1 full time fire chief, fire training officer, and fire marshal) and 80 reserves (San Benito County 2017). The closest Hollister Fire Department fire station is Station 2 located at 2240 Valley View Road in Hollister, 3.6 miles from the project site.

The closest CAL FIRE station is located at 1979 Fairview Road, approximately 2.5 miles northwest of the project site. The station is staffed by two full-time firefighters and is supplemented by 25 on-call volunteer fire fighters (San Benito County 2012). The County contracts with private companies for paramedical services. Hazel Hawkins Memorial Hospital, located at 911 Sunset Drive in Hollister, is a designated paramedic base station. For acute trauma injuries, patients must be taken to hospitals outside the county for treatment.

Emergency medical services in San Benito County are coordinated by the County Emergency Services Department. San Benito County contracts with a private company called American Medical Response (AMR) for emergency medical services. AMR has two locations including one in the City of San Juan Bautista and one in the City of Hollister that serve the project site (San Benito County 2017).

#### Law Enforcement

Law enforcement services for the project area are provided by the San Benito County Sheriff's Department, which operates from its headquarters at 451 Fourth Street in Hollister, approximately five miles northwest of the project site. The Sheriff's Department provides law enforcement services throughout the County.

#### Schools

The Hollister School District (HSD) serves the City of Hollister and surrounding unincorporated area. HSD operates five elementary schools for grades K–5, one elementary school for grades K–8, two middle schools for grades 6–8, a dual language academy for grades K–6, and an accelerated achievement academy for grades 4–8 (Michael Baker International 2017). The San Benito High School District operates a single school, San Benito High School.

The nearest schools to the project site include Tres Pinos Union Elementary School, approximately 1.5 miles to the south of the existing landfill at 5635 Airline Highway, and Rancho Santana School, approximately 1.5 miles to the northwest of the landfill expansion property at 1454 Santana Ranch Drive.

#### Parks

The nearest public park is Cerra Vista School Park, approximately 2.4 miles to the west of the landfill (San Benito County 2012).

### ENERGY

Energy usage is typically quantified using the British thermal unit (BTU). Total energy usage in California was 7,967 trillion BTUs in 2018 (the most recent year for which this specific data is available), which equates to an average of 202 million BTUs per capita (EIA 2021). In 2019, California's energy consumption was second highest among the states, but its per capita energy consumption was less than all other states except for Rhode Island due in part to its mild climate and its energy efficiency programs. In 2021, California was the nation's top producer of electricity from solar, geothermal, and biomass energy, and the state was fourth in the nation in conventional hydroelectric power generation. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use (EIA 2021).

The electricity consumption attributable to residential land uses in San Benito County from 2007 to 2014 remained relatively constant, ranging from 114 to 119 million kilowatt-hours annually with no substantial increase, even as the population increased. The nonresidential demand was relatively constant from 2007 to 2011, averaging approximately 200 million kilowatt-hours annually. However, from 2012 to 2014, nonresidential electricity consumption increased to a peak of 240 million kilowatt-hours (Michael Baker International 2017).

Pacific Gas & Electric (PG&E) provides electrical supply to the project vicinity. Aboveground, pole-mounted electrical lines are located along the south side of John Smith Road. In 2010, PG&E completed a 3-phase power system upgrade for the landfill and the parcel south of John Smith Road (San Benito County 2012). The landfill operations currently use 432 megawatt hours of electricity annually (Appendix C).

## 4.12.2 REGULATORY SETTING

### FEDERAL REGULATIONS

#### Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government’s fuel economy standards. Compliance with the CAFE standards is determined based on each manufacturer’s average fuel economy for the portion of their vehicles produced for sale in the country. EPA calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, DOT is authorized to assess penalties for the Energy Independence and Security Act of 2007.

### STATE REGULATIONS

#### California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation (i.e., solid waste incineration) and land disposal, the State Legislature passed the California Integrated Waste Management Act (CIWMA) of 1989 (AB 939), effective January 1990. According to the CIWMA, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Each city is required to develop solid waste plans demonstrating integration of the CIWMA plan with the county plan. The plans must promote (in order of priority) source reduction, recycling and composting, and environmentally safe transformation and land disposal.

#### Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required the California Energy Commission (CEC) to: “conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety" (Public Resources Code Section 25301(a)). This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every two years and an update every other year. The 2019 IEPR is the most recent IEPR, which was adopted February 20, 2020. The 2019 IEPR provides a summary of priority energy issues currently facing the State, outlining strategies and recommendations to further the State's goal of ensuring reliable, affordable, and environmentally-responsible energy sources. The 2019 IEPR provides an analysis of electricity sector trends building decarbonization and energy efficiency, zero-emission vehicles, energy equity, climate change adaptation, electricity reliability in Southern California, natural gas assessment, and electricity, natural gas, and transportation energy demand forecasts (CEC 2020).

### Senate Bill 1078, 350 and 100: California Renewables Portfolio Standard Program

SB 1078 (Chapter 516, Statutes of 2002) establishes a renewable portfolio standard (RPS) for electricity supply. The RPS required that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. The program was accelerated in 2015 with SB 350, which mandated a 50 percent RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which again increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045.

### Senate Bill X1-2: California Renewable Energy Resources Act

SB X1-2 of 2011 required all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond.

### Energy Action Plan

The first Energy Action Plan (EAP) emerged in 2003 from a crisis atmosphere in California's energy markets. The State's three major energy policy agencies (CEC, California Public Utilities Commission, and the Consumer Power and Conservation Financing Authority [established under deregulation and now defunct]) came together to develop one high-level, coherent approach to meeting California's electricity and natural gas needs. It was the first time that energy policy agencies formally collaborated to define a common vision and set of strategies to address California's future energy needs and emphasize the importance of the impacts of energy policy on the California environment.

In the October 2005 Energy Action Plan II, CEC and the California Public Utilities Commission updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP, such as the emerging importance of climate change, transportation-related energy issues and research and development activities. CEC recently adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the State's ongoing actions in the context of global climate change.

### Assembly Bill 32, Senate Bill 32, and Climate Change Scoping Plan and Updates

Reducing GHG emissions in California has been the focus of the state government for approximately two decades. GHG emission targets established by the state legislature include reducing statewide GHG emissions to

1990 levels by 2020 (AB 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (SB 32 of 2016). Executive Order S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050.

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals." It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste). In 2018, electricity generation accounted for 15 percent of the State's GHG emissions. California plans to significantly reduce GHG emissions from the energy sector through the development of renewable electricity generation in the form of solar, wind, geothermal, hydraulic, and biomass generation. The State is on target to meet the SB X1-2-33 percent renewable energy target by 2020 and will continue to increase statewide renewable energy to 60 percent by 2030, as directed by SB 100. Additionally, the State will further its climate goals through improving the energy efficiency of residential and non-residential buildings by continual updates (i.e., every three years) to the Energy Code, which contains mandatory and prescriptive energy efficiency standards for all new construction.

On May 10, 2022, the 2022 Draft Scoping Plan was released by CARB (CARB 2022). As a draft document, it lays out how California can get to carbon neutrality by 2045 or earlier. Previous plans focused on specific GHG reduction targets for the industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic (i.e., human derived) sources of carbon pollution at the same time.

### Building Energy Efficiency Standards

The project would be required to comply with Title 24 of the California Code of Regulations regarding energy efficiency. Energy efficiency standards were developed in 2005, partly in response to the State's energy crisis, as well as Assembly Bill 970, which requires improving residential and nonresidential building energy efficiency, minimizing impacts to peak energy usage periods, and reducing impacts on overall state energy needs. These standards are updated every three years, with the last update occurring on January 1, 2020. Each update increases the required energy efficiency of buildings in California.

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics.

## Local Regulations

### San Benito County 2035 General Plan

The following goals and policies from the Public Facilities and Services Element of the San Benito County 2035 General Plan Public are applicable to the proposed project:

**Goal PFS-1:** To provide residents and businesses quality, cost-effective, and sustainable public facilities and services.

- **Policy PFS-1.1:** The County shall ensure that adequate public facilities and services essential for public health and safety are provided to all county residents and businesses and maintained at acceptable service levels. Where public facilities and services are provided by other agencies, the County shall encourage similar service level goals.

- **Policy PFS-1.2:** The County shall coordinate with other public facility and service providers, such as CAL FIRE and water districts, to identify and find solutions to key infrastructure deficiencies in the county.

- **Policy PFS-1.4:** The County shall preserve, improve, and replace public facilities as necessary to maintain adequate levels of service for existing and future development. Where public facilities and services are provided by other agencies, the County shall encourage similar service level goals.

- **Policy PFS-1.9:** The County shall evaluate facility capacity, levels of service, and/or funding needs during the development review process to ensure adequate levels of service and facilities are provided and maintained.

- **Policy PFS-1.10:** The County shall require new development projects to be designed and sited to use existing facilities and services to the extent practical and to the extent that such a design and site choice would be consistent with good design principles.

- **Policy PFS-1.11:** The County shall require new development to pay its fair share of public facility and service costs.

- **Policy PFS-1.12:** The County shall require new development, incompliance with local, State, and Federal law, to mitigate project impacts associated with public facilities and services, including, but not limited to, fire, law enforcement, water, wastewater, schools, infrastructure, roads, and pedestrian and bicycle facilities through the use of annexation fees, connection fees, facility construction/expansion requirements, or other appropriate methods.

- **Policy PFS-1.13:** The County shall notify the appropriate agencies (e.g., cities, special districts, school districts, emergency service providers) of new development applications within their service areas early in review process to allow sufficient time to assess impacts on facilities and services.

**Goal PFS-3:** To ensure reliable supplies of water for unincorporated areas to meet the needs of existing and future agriculture and development, while promoting water conservation and the use of sustainable water supply sources.

**Goal PFS-4:** To maintain an adequate level of service in the water systems serving unincorporated areas to meet the needs of existing and future agriculture and development, while improving water system efficiency.

- **Policy PFS-4.1:** The County shall ensure, through the development review process, that adequate water supply, treatment and delivery facilities are sufficient to serve new development, and are able to be expanded to meet capacity demands when needed. Such needs shall include capacities necessary to comply with water quality and public safety requirements.

- **Policy PFS-4.7:** The County, in coordination with public and private water purveyors and fire protection agencies, shall ensure consistent and adequate standards for fire flows and fire protection for new development, with the protection of human life and property as the primary objectives.

**Goal PFS-5:** To ensure wastewater treatment facilities and septic systems are available and adequate to collect, treat, store, and safely dispose of wastewater.

- **Policy PFS-5.1:** The County shall encourage public wastewater system operators to maintain and expand their systems to meet the development needs of the county.

- **Policy PFS-5.3:** The County shall ensure through the development review process that wastewater collection, treatment, and disposal facilities are sufficient to serve existing and new development, and are able to be expanded to meet capacity demands when needed.

- **Policy PFS-5.4:** The County shall require that new development meet all County requirements for adequate wastewater collection, treatment, and disposal prior to project approval.

**Goal PFS-7:** To provide solid waste facilities that meet or exceed State law requirements, and use innovative strategies for economical and efficient collection, transfer, recycling, storage, and disposal of solid waste.

- **Policy PFS-7.1:** The County shall ensure that there is adequate capacity within the solid waste system for the collection, transportation, processing, recycling, and disposal of solid waste to meet the needs of existing and projected development.

- **Policy PFS-7.4:** The County shall ensure that landfills and transfer stations are protected from encroachment by incompatible uses such as schools and homes.

- **Policy PFS-7.5:** The County shall require waste reduction, recycling, composting, and waste separation to reduce the volume and toxicity of solid wastes sent to landfill facilities and to meet or exceed State waste diversion requirements of 50 percent.

- **Policy PFS-7.6:** The County shall encourage recycling and reuse of construction waste, including recycling materials generated by the demolition of buildings, with the objective of diverting 50 percent to a certified recycling processor. The County shall encourage salvaged and recycled materials for use in new construction.

- **Policy PFS-7.7:** The County shall promote technologies, including biomass and biofuels, that use solid waste as an alternative energy source. The County shall support efforts to develop and install waste-to-energy projects in appropriate locations.

**Goal PFS-12:** To provide adequate law enforcement facilities and services to prevent crime, ensure the safety of residents and visitors, and protect private and public property.

- **Policy PFS-12.1:** The County shall encourage optimum staffing levels for both sworn Sheriff Deputies and civilian support staff in order to provide quality law enforcement services in the county.

- **Policy PFS-12.2:** The County shall strive to achieve and maintain appropriate Sheriff Department response times for all call priority levels to provide adequate law enforcement services for all County residents.

**Goal PFS-13:** To coordinate with fire protection and emergency service providers to ensure adequate fire facilities, equipment, and services are available to protect county residents and property from fire.

- **Policy PFS-13.1:** The County shall strive to maintain fire department staffing levels and response times consistent with National Fire Protection Association standards.

- **Policy PFS-13.3:** The County shall strive to expand fire protection and emergency service in underserved areas of the county.

- **Policy PFS-13.5:** The County shall require all development within unincorporated communities to have adequate water supply, pressure, and capacity for fire protection.

- **Policy PFS-13.7:** The County shall require new development to pay its fair share of fees for new fire station facilities, equipment, and staffing necessary to maintain the County's service standards in that area. New development may also be required to create or join a special assessment district or other funding mechanism, to pay the costs associated with the operation of a fire station.

- **Policy PFS-13.9:** The County shall ensure that all proposed developments are reviewed for compliance with the California Fire Code and other applicable State laws.

## 4.12.3 IMPACTS AND MITIGATION MEASURES

### METHOD OF ANALYSIS

Impacts on public services, utilities and energy that would result from the project were identified by comparing existing service capacity against future demand associated with project implementation. Evaluations of potential utilities and public service impacts are based on a review of documents pertaining to the proposed project area, including the San Benito County 2035 General Plan. Additional information was obtained through field review of the project site and surroundings. The analysis focused on determining whether any changes in demand would require the relocation or construction of new or expanded facilities, the construction or relocation of which would cause significant environmental effects.

### THRESHOLDS OF SIGNIFICANCE

Pursuant to State CEQA Guidelines Appendix G, a utilities impact is considered significant if implementation of the proposed project under consideration would do any of the following:

- 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;

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

- Result in the 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;

- 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; or

- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

A public service impact is considered significant if implementation of the proposed project under consideration would do any of the following:

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

  - fire protection,

- police protection,
- schools,
- parks, and
- other public facilities.

Appendices G and F of the State CEQA Guidelines provide advisory direction regarding the analysis of energy and appropriate thresholds for judging impacts, stating that a project would have a significant impact on energy resources if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

### Issues Not Discussed Further in this EIR

**Schools, Parks and Other Public Facilities –** The proposed project would not construct residential uses and it is anticipated that the majority of employees would be hired from the local and regional population base. Therefore, the project is not expected to result in substantial population growth that would increase the use of schools, parks and recreational facilities, libraries, or other public facilities; result in the need for new facilities; or increase the long-term demand for these services. As such, public service impacts related to schools, parks and recreational facilities, libraries, and other public facilities are not evaluated further in this Draft EIR.

For a discussion of the project's stormwater drainage infrastructure impacts, see Section 4.8, Hydrology and Water Quality.

## IMPACTS AND MITIGATION MEASURES

**IMPACT 4.12-1** **Water Supply and Demand.** *The proposed project would be served by water infrastructure to be constructed at the project site that has adequate capacity to meet the project's water demand during consecutive average rainfall years. In addition, two separate sources of importable water supply are available that would meet the project demands when the onsite water infrastructure is insufficient. The project would not require the relocation or construction of new water infrastructure that would cause significant environmental effects. In addition, it would be able to adapt to potentially reduced water supplies during normal, dry and multiple dry years. Therefore, this impact would be* ***less than significant****.*

With project implementation, the amount of water needed for dust control is projected to increase due to the increased length of haul roads on the site and the larger working face. This increase in water demand is expected to be partially offset by increasing the length of paved roads (per Figures 4.3-3 through 4.3-7) at the site, reducing the number of vehicles that travel from the entrance area to the working face by approximately 50 percent, and by constructing lined permanent and temporary stormwater basins within the analyzed project area. As part of the project, the adequacy of the onsite ponds for water supply will be evaluated during the design of each module and additional lined water storage ponds will be added as necessary.

Project operations are expected to increase the site's average daily water demand by 7,575 gallons or approximately 116 percent. The peak increase would occur during summer months when the average water demand would increase by approximately 15,200 gallons per day. The total annual operational water usage is projected to be approximately 5.26 million gallons. Detailed long-term water usage calculations are provided in Appendix D.

Module construction activities, which are estimated to occur every other year, are expected to increase the site's water demand associated with module construction during the construction years from approximately 1.9 million gallons per year (mgy – 5.8 acre feet/year [afy]) (between 2018 to 2021) to approximately 2.1 mgy (6.44 afy). Therefore, during construction years, total landfill water demand would increase from the current 4.3 mgy (13.2 afy) to 7.36 mgy (22.6 afy).

The project is also projected to increase the domestic water demand at the site by 20 percent, to 109,500 gallons per year (Lawrence & Associates 2021). This represents an increase in domestic water demand of approximately 60 gallons per day. This would represent an increase of less than 0.25 percent of the total existing water demand at the site, which would represent a negligible change in water demand.

The supply for domestic uses, dust control and module construction activities is proposed to be obtained from on-site stormwater basins and off-site sources. Both permanent and temporary stormwater basins are proposed to be installed throughout the site as they are needed over the life of the landfill operations. Temporary basins would be located within the landfill expansion footprint. These basins would be relocated, as necessary, as the landfill phases progress. During initial expansion of the landfill, stormwater basins 2 and 3 located near the southwest corner of the project site are projected to provide 31 acre-feet (about 10.1 million gallons) of storage and would collect stormwater throughout the life of the landfill. The stormwater basins would be operated to release water prior to major storm events so as to have adequate capacity for stormwater detention. The water would be tested prior to release in accordance with the site's Industrial General Permit (IGP) for stormwater. Water captured in these basins during storm events would be pumped through hoses that would be placed into the ponds to fill water trucks. The water trucks would apply water on the site's paved, graveled and unpaved roads to control dust.

The stormwater basins are proposed to be lined with geosynthetic liners to minimize water infiltrating into the underlying soil. The basins are not proposed to be covered. During consecutive average rainfall years (13 inches of rain), the volume of water collected in the basins would be sufficient for both operations and module construction activities. During drought years (5 to 7 inches of rain), insufficient water would be available in the basins to meet the site's demands and supplemental water would need to be imported. Various scenarios of construction years and drought years were analyzed to assess imported water needs and the results are provided in Appendix D.

Under a worst-case analysis of all operations water to be imported to the site in the unlikely event that the onsite stormwater basins failed to capture and hold any stormwater, approximately one additional truck-load per day of water would be required with the proposed project during the spring and fall months and four additional truck-loads per day would be required during the summer (compared to current conditions). No additional truck-loads of water would be required for the proposed project in the winter. Detailed water supply and demand analyses are provided in Appendix D.

During peak project demand, which would occur during the summer of a year that included module construction, if no on-site stormwater was available, an average of 15 trucks per day would haul an average of 55,040 gallons of water to the site. This represents an increase of four truck trips and approximately 15,200 gallons per day above current average water deliveries during the summer months. During the spring, fall and winter months, the increase in average water demand would range from approximately 2,100 to 6,500 gallons per day. The average increase in daily water delivery truck trips would be expected to be one (or less) during the spring, fall and winter months, when compared to current activities (Appendix D).

The project is also expected to include the application of leachate generated at the site for dust control on lined areas of the landfill. For the leachate use, three or more 10,300-gallon storage tanks would be installed within the site entrance area and leachate would be piped to these tanks from the landfill's leachate collection and recovery system. A truck-fill pad would be constructed adjacent to the leachate tanks. The truck-fill pad would include a sump pump to capture and return any leachate spilled during the truck filling process to the storage tanks. Leachate not required for operational uses would be piped to the WWTP.

The project's proposed shift to the use of captured stormwater and leachate to meet the landfill's operational and liner construction needs is expected to substantially reduce or eliminate potential use of use of Sunnyslope water supply during the majority of the years (see Imported Water Needs Memo in Appendix D). One truck load of potable water per week would be needed for non-potable water domestic water uses to provide sediment-free water. Alternatively, pond-water could be filtered to remove sediment.

To ensure redundant water supply sources are available for the proposed project, the project applicant has identified an additional source of water that could be imported to the site during drought years, which include a private well and water from Sunnyslope. For the private Shore Road well, a 12,000-gallon construction style "stand" tank or several 5,000-gallon plastic water storage tanks and a truck-filling stand or pump would likely be required to be installed adjacent to the well to fill the water trucks. This source is a groundwater well owned by a private landowner located at 1370 Shore Road, which is approximately 14 miles from the project site (Lawrence & Associates 2022c).

Two types of groundwater impacts could occur from use of this well: 1) the lack of groundwater availability and, 2) interference on neighboring wells could result from use of this well. These potential impacts are addressed in Chapter 4.8, Hydrology and Water Quality. In summary, the water supplied to the project site would represent less than 0.25 percent of the groundwater available in the vicinity of the well, which would not affect the sustained yield of the aquifer; and well interference would be less than 0.5 feet at the nearest well, which would not cause an adverse interference impact (e.g., neighboring wells would not lose the ability to pump water) (Lawrence & Associates 2022c). Therefore, as detailed in Chapter 4.8, indirect impacts from use of the well would be less than significant.

An additional potential water source would be from the Sunnyslope County Water District. Sunnyslope water would be trucked to the site from the existing infrastructure (i.e., the fire hydrant located 3 miles from the site). According to the Hollister Urban Area Urban Water Management Plan 2020 (p. 7-8), the District plans to supply approximately 700 acre-feet/year to municipal and industrial customers other than the City and Hollister. This additional M&I demand will be met during normal years, a single dry year, or the first year of a multiple year drought. In the event of a prolonged drought, the non-urban portion of this demand (400 AFY) may be unmet to provide the minimum human health and safety for urban residents. Therefore, it is not certain that Sunnyslope water would be available for the landfill's use in the multiple-drought-years scenario; in that case the landfill would then need to rely on the Shore Road well for its water supply.

In summary, the transition to using captured stormwater and leachate to meet the site's operational and liner construction water demands is estimated to eliminate the use of imported water during consecutive average rainfall years, and the project's current use of Sunnyslope water would be substantially reduced or eliminated. During drought years, nearly all of the site's water needs would be provided by delivered water, which would either be sourced from the Sunnyslope County Water District, the private Shore Road groundwater well, or a combination of both. These conditions would be expected to occur, on average, once every three to five years in a 12-year period.

If water in these drought years were sourced from Sunnyslope, it would represent a maximum increase in water demand for the District from the current construction-year maximum of 4.3 mgy to 7.3 mgy (13.2 to 22.4 acre-feet/year) compared to the landfill's existing use of Sunnyslope water. Non-construction year water demand would increase from 2.2 mgy to 5.26 mgy (about 6.8 acre-feet/year to about 16.1 acre-feet/year). This would be about 0.3% to 0.9% of Sunnyslope's total 2020 overall volume of water provided (2,593 acre-feet).

Because the proposed project would predominantly be served by water infrastructure to be constructed at the project site that has adequate capacity to meet the project's projected demand during consecutive average rainfall years, and because the project has two separate sources of water supply that would meet the demands during consecutive drought years, the project would not require the relocation or construction of new offsite water infrastructure. In addition, if water were not available from the Sunnyslope County Water District or the Shore

Road well, the project could install covers on the stormwater basins to ensure that sufficient water is available to serve the project during normal, dry and multiple dry years. If all of the lined stormwater basins are covered with a floating geosynthetic cover to reduce evaporation (by 95 percent) during a drought year (5 to 7 inches of rain), there would be sufficient water for operations and construction for the entire year without the need for imported water (see Appendix D, Lawrence & Associates 2022a). Therefore, the proposed project's water infrastructure and supply impacts would be considered **less than significant**.

#### Mitigation Measure 4.12-1 Water Supply and Demand

No mitigation measures would be necessary.

**IMPACT 4.12-2** **Wastewater Demand.** *Implementation of the project would increase the generation of wastewater from the project site. Existing wastewater facilities would be adequate to serve the project. This impact is considered* ***less than significant****.*

Wastewater generated at the site includes domestic wastewater, leachate, condensate, and extracted groundwater. As represented in Table 4.12-1, domestic wastewater would be expected to increase by approximately 24 percent with project implementation, generally consistent with the estimated increase in domestic water use at the site. Due to the substantial expansion of the number of landfill modules associated with the proposed project, the generation of leachate would be expected to substantially increase as project development progresses. No pre-treatment of the leachate occurs at the site before it is directed into the wastewater conveyance pipe within John Smith Road. In 2020, the landfill generated approximately 289,000 gallons of leachate per year (0.55 gpm) whereas at peak buildout, the proposed project would be expected to generate approximately 2.3 million gallons per year (4.38 gpm). A portion of this leachate is proposed to be applied to lined areas of the landfill for dust control and a portion is proposed to be reinjected into the waste to accelerate waste decomposition and improve the quality of the landfill gas for use within a renewable natural gas facility.

Condensate generated from the landfill gas system would increase by approximately 36 percent at peak conditions with project implementation. The condensate is formed as the landfill gas enters and flows through surface collection piping due to the high humidity of the gas. A renewable natural gas facility would be expected to generate approximately 200,000 gallons per year of additional condensate. The project proposes mixing condensate with leachate within the three 10,300-gallon storage tanks mentioned above and applying a portion to lined areas of the landfill for dust control and reinjecting a portion into the waste. Leachate not used for operational purposes would be piped to the WWTP.

The extraction of groundwater associated with the site's corrective action groundwater extraction program is not anticipated to substantially change with project implementation.

As a result of these changes, the proposed project would be expected to nearly double the amount of wastewater generated from the site, from 4.58 gpm to 9.09 gpm. This increase would be equivalent to the wastewater generated from approximately 26 residential homes (assuming three people per residence generating 83 gallons per day as identified in the San Benito County Code Section 23.31.081(A0(1)(b)) and would represent less than 0.65 percent of the City of Hollister wastewater treatment plant's available capacity. Leachate represents the largest component of this increase and its application within lined areas of the landfill or reinjecting it into the waste would substantially reduce the volume of wastewater annually directed into the City of Hollister's wastewater collection and treatment system. By minimizing the increase in leachate generation that would need to be treated offsite, the proposed project would have a negligible effect on the City's wastewater collection and treatment system. Therefore, the proposed project would not be expected to require the relocation or construction of new wastewater infrastructure that would cause significant environmental effects and the proposed project's wastewater infrastructure impacts would be considered **less than significant**.

### Mitigation Measure 4.12-2 Wastewater Demand

No mitigation measures are necessary.

**IMPACT 4.12-3** **Generation of Solid Waste.** *The proposed project would generate negligible solid waste on the site and would not affect the landfill's waste disposed capacity. Therefore, the project's impacts on solid waste disposal would be considered **less than significant**.*

The JSRL has a permitted gross airspace capacity of 9,354,000 cubic yards and a remaining effective capacity of approximately 1,613,000 cubic yards as of February 2021 (Lawrence & Associates 2021). "Gross" capacity includes the volume of waste, daily cover, intermediate cover, liner components, and closure cap. "Effective" airspace capacity includes only waste, daily cover, and intermediate cover, and is the useful capacity of the landfill.

Construction activities associated with the proposed project would generate construction and demolition debris that would be disposed of within the JSRL. In addition, solid waste would be generated by site employees during facility operations. However, the volume of solid waste generated from construction activities and from site employees would represent a negligible contribution to the site's remaining disposal capacity. The proposed project would not generate solid waste in excess of State or local standards, would not exceed the disposal capacity of the landfill, and would not impair the attainment of solid waste reduction goals. In addition, as a solid waste facility, the expanded JSRL would be required to comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Finally, the proposed project includes a substantial increase in the gross airspace capacity of the landfill to accommodate growth in the waste stream. The project proposes to increase the landfill's gross airspace capacity by 48,670,000 cubic yards for a total capacity of 58,024,000 cubic yards (Lawrence & Associates 2021). This increase in total capacity would substantially extend the operational life of the landfill. Because the proposed project would not generate waste in excess of State or local standards, would comply with applicable regulations, would generate a negligible amount of solid waste (particularly in light of the landfill's increased capacity if the project is approved), and would include a substantial expansion in landfill capacity (the impacts of which are analyzed throughout this EIR), this impact would be **less than significant**.

### Mitigation Measure 4.12-3 Generation of Solid Waste

No mitigation measures would be necessary.

**IMPACT 4.12-4** **Increased Demand for Fire Protection, Law Enforcement and Emergency Medical Services.** *Development of the proposed project would increase the demand for fire protection, law enforcement and emergency medical services due to the increase in waste tonnage accepted at the site. The proposed project would be required to be designed and constructed consistent with the Uniform Fire Code requirements and would not include any components that would impede response times or require the relocation or construction of new facilities. Therefore, this impact would be **less than significant**.*

Because the proposed project would increase the permitted tonnage of material that could be accepted at the site and would increase the landfill footprint, it would be expected to increase the number of people and vehicles typically at the site. In addition, the waste disposal operations at the scale house and working face would increase to accommodate the increased waste stream. These increases could increase the demand for fire protection, police protection and emergency medical services at the site. However, the site currently has a negligible demand for these services. As described in Section 4.10, Hazards, Hazardous Materials and Wildfires, the existing landfill operations have the equipment and supplies on the site to manage most fire situations without the assistance of CAL FIRE. Also, the waste disposal uses at the site do not typically generate demand for law enforcement or emergency medical services. Neither CAL FIRE nor the San Benito County Sheriff's Department have been called to the site for emergency response situations within the last five years (J. Pfister, pers. com. 2021).

The project applicant would be required to incorporate Uniform Fire Code requirements into the project's design and meet the requirements of the applicable Fire Department. This includes the provision of multiple emergency vehicle access points, water supply, the inclusion of fire extinguishers and other fire suppression equipment within individual buildings, and any other provisions required by the Uniform Fire Code.

The project would not include any components that would impede CAL FIRE's or the Sheriff's Department's current response times and would not be expected to include any unique uses that would substantially increase the demand for fire protection, law enforcement or emergency medical facilities or equipment. The project's inclusion of an emergency access road would ensure the site could be quickly accessed by emergency vehicles if needed due to congestion on the main entrance roadway. The proposed project would not include any uses that would alter service ratios, response times or other performance objectives for fire protection, law enforcement or emergency medical services. Because the proposed project would not require the provision of new or physically altered fire, police or emergency medical facilities, the project would not result in substantial adverse physical impacts associated with the provision of these facilities. For these reasons, the project's impacts on these services would be **less than significant**.

**Mitigation Measure 4.12-4 Increased Demand for Fire Protection, Law Enforcement and Emergency Medical Services**

No mitigation measures are necessary.

| | |
|---|---|
| **IMPACT 4.12-5** | **Increased Energy Demand.** *Project implementation would increase energy demand during both construction and operation of the proposed project. Construction and operation of the proposed buildings on the site would be required to comply with the energy efficiency standards included in Title 24 and with air quality and greenhouse gas mitigation measures identified in Section 4.3, Air Quality, and Section 4.4, Greenhouse Gas Emissions, which would reduce the project's energy demands. In addition, the project includes the installation of a renewable natural gas facility that would provide a net increase in energy supply that would offset the use of energy associated with the proposed project's solid waste operations. Out-of-County transportation energy impacts would be minimized by removal of recyclable and compostable materials prior to transport of the residuals to JSRL, and consolidation of loads into fuel-efficient transfer trucks designed for transporting loads to landfills. Therefore, the project would not be expected to cause the inefficient, wasteful or unnecessary consumption of energy and would not be expected to conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact is considered* ***less than significant****.* |

Project implementation would increase the consumption of energy within the County for the duration of the landfill's operations. The primary energy demands during construction would be associated with vehicle fueling over the duration of the construction period. Energy in the form of fuel and electricity would be consumed during this period by construction vehicles and equipment operating on the site, trucks delivering equipment and supplies to the site, and construction workers driving to and from the site. Following construction, the primary energy demand on the project site would be associated with heavy equipment use in the ongoing waste disposal operations at the working face. Energy would also be used for building heating and cooling requirements, to deliver water to the site during dry years, to provide hot water to meet restroom requirements, to meet the site's lighting requirements, and to meet other miscellaneous energy requirements associated with site operations.

Construction and operation of the proposed buildings on the site would be required to comply with the energy efficiency standards included in Title 24 of the California Code of Regulations. Title 24 identifies specific energy efficiency requirements for building construction and systems operations that are intended to ensure efficient energy usage over the long-term life of buildings. The compliance with the energy efficiency standards included in Title 24 in the construction and operation of any proposed buildings on the site and the implementation of the energy efficient design and operational components would help ensure that energy is efficiently used at the project site.

The landfill operations currently use 432 megawatt hours of electricity annually and the proposed project is estimated to use 863 megawatt hours of electricity annually (excluding the electrical demands associated with the renewable natural gas facility described below[1]). Based on PG&E's 3-phase power system upgrade for the landfill implemented in 2010, the existing electrical infrastructure has adequate capacity to meet the electrical demands associated with the proposed landfill operation (again, excluding the renewable natural gas facility). Therefore, the proposed site construction and operations would not be expected to cause the inefficient, wasteful or unnecessary consumption of energy.

Energy would be used both on and off the project site in vehicles delivering materials or providing services to the site, and landfill employees and customers driving to and from the site. The project includes out-of-County trips and local in-County trips. The out-of-County commercial trucks (transfer trucks) would use the most fuel because of the distance and the size of the transfer trucks (see Table 4.12-2). While the hauling transfer trucks would use substantial fuel on an annual basis, the transfer trucks are designed to consolidate loads from several route trucks before the trip to the landfill, thus reducing the number of out-of-County trips and fuel use, compared to less efficient garbage route trucks (packer trucks). Prior to loading the transfer trucks, recyclable and compostable materials would be removed from the residual wastes at a materials recovery facility or transfer station to further reduce the materials to be transported and the number of trips to JSRL. The long-term average load of transfer trucks has been approximately 20 tons per truck. The transportation is designed to be as fuel efficient as possible and not waste fuel in the delivery of the residual materials to JSRL.

As shown in Table 4.12-2, transportation fuel use for all vehicles would increase with implementation of the proposed project. The largest increase in fuel use would be from out-of-County commercial trucks, with lower increases from in-County residential and in-County commercial vehicles. The gasoline use increase that is from in-County vehicles would be 0.05 percent of the approximate 12 million gallons per year of gasoline use in 2020 in San Benito County (CEC, 2022). The total diesel increase that is from in-County and out-of-County would be 1.0 percent of the approximate 37,000,000 million gallons per year (2020) used in San Benito and Santa Clara Counties (CEC 2022).

**Table 4.12-2**
**Transportation Energy Use (Fuel)**

| | Fuel Type | Average Miles per Day | | | Annual Fuel Use (gallons) | | |
|---|---|---|---|---|---|---|---|
| | | Existing | Proposed Project | Increase | Existing | Proposed Project | Increase |
| In-County Residential | Gasoline | 3,140 | 3,624 | 484 | 56,677 | 65,413 | 8,736 |
| In-County Commercial -26% | CNG | 135 | 156 | 22 | 9,261 | 10,745 | 1,484 |
| In-County Commercial -74% | Diesel | 383 | 445 | 61 | 55,351 | 64,220 | 8,869 |
| Out-of-County Commercial | Diesel | 3,682 | 9,455 | 5,773 | 227,214 | 583,462 | 356,248 |
| **Total Diesel** | | | | | 282,565 | 647,682 | 365,117 |

Source: Mileages are from Appendix C, Table E-1 and E-2
Proposed Project trips represents average operations 2045
Fuel assumptions gasoline (20 mpg), In-County diesel (2.5 mpg), Out of County diesel (5.85 mpg)
In-County Commercial CNG (5.25 miles per diesel gallon equivalent)
361 operating days per year

[1] Electrical energy for the Renewable Natural Gas (RNG) facility would be delivered by PG&E and would be subject to PG&E requirements in the California Renewables Portfolio Standard Program. This PG&E power would have fewer GHG emissions than use of an on-site generator using landfill gas as the fuel. The amount of electrical energy needed for RNG operation would be dependent upon final design by the RNG facility vendor.

Best management practices (BMPs) are identified in Section 4.3, Air Quality that minimize air quality emissions associated with the project's operations including limiting vehicle idling and maintaining the vehicles according to the manufactures' specifications. In addition to reducing the project's air quality emissions, these BMPs would also reduce the project's overall energy consumption by ensuring vehicles are only running when they are in use and that they are operating efficiently.

The proposed project includes the installation of a renewable natural gas facility that would include the generation of renewable natural gas once sufficient landfill gas is being generated at the site to make the facility viable. The implementation of a renewable natural gas facility at the site would allow landfill gas, which is currently burned in a flare, to be converted to renewable energy. This energy source would potentially offset the use of fossil fuels and would substantially reduce the flaring (burning) of landfill gas at the site. The renewable natural gas generated from the facility would be transported to market either using tube trailers or via a pipeline (or a combination of the two options), as described in Chapter 3, Project Description, of this Draft EIR. The market for this supply could include a local vehicle fueling facility or injection into a natural gas pipeline.

In addition, mitigation measures included in Chapter 4.4, Greenhouse Gas Emissions, require the installation of a solar electric system or the purchase of 100 percent non-carbon energy from the electricity provider for landfill electricity and the installation of electric vehicle charging stations at the site to reduce greenhouse gas emissions. The implementation of these mitigation measures would offset the project's total energy demand.

PG&E provides electrical services to the site through electrical distribution lines located along John Smith Road. Minor increases in electrical demand would be associated with the proposed solid waste operations including additional leachate pumps that would be necessary as the landfill expands. The installation of the renewable natural gas facility would likely require upgrading the three-phase electrical service that was extended to the site by PG&E in July 2010. This would consist of rewiring the existing electrical lines along John Smith Road but would not require any changes on the ground. Therefore, no physical impacts associated with upgrading the existing electrical service provided to the site would be anticipated.

Because the proposed project would be required to comply with Title 24 energy efficiency standards and would include energy generation components (RNG facility and solar electric system or the purchase 100 percent non-carbon energy), the proposed project's operations would not cause the inefficient, wasteful or unnecessary consumption of energy. For these same reasons, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, this impact is considered **less than significant**.

#### Mitigation Measure 4.12-5 Increased Energy Demand

No mitigation measures are necessary.

## 4.12.4 REFERENCES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# 5 CUMULATIVE AND GROWTH INDUCING IMPACTS

This section includes a detailed analysis of the cumulative impacts that would be anticipated with the proposed project. In addition, this section includes a detailed discussion of the proposed project's growth-inducing impacts, and significant and irreversible commitment of resources.

## 5.1 CUMULATIVE IMPACTS OF THE PROPOSED PROJECT

This environmental impact report EIR provides an analysis of overall cumulative impacts of the project taken together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the California Environmental Quality Act Guidelines (State CEQA Guidelines). The goal of this analysis is to determine whether the John Smith Road Landfill Expansion Project would cause a "cumulatively considerable" (and thus significant) incremental contribution to impacts of other projects with overlapping impacts, such that those "impacts would be cumulatively significant, or would contribute in a "cumulatively considerable" manner to existing significant cumulative impacts from those other projects. (See State CEQA Guidelines Sections 15130(a)-(b), Section 15355(b), Section 15064(h), Section 15065(c).)

Pursuant to Section 15130 of the State CEQA Guidelines, "[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impacts to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact." The proposed project is considered to have a significant cumulative effect if:

1. The cumulative effects of development without the project are not significant and the project's additional impact is substantial enough, when added to the cumulative effects, to result in a significant impact; or

2. The cumulative effects of development without the project are already significant and the project contributes measurably to the effect. The term "measurably" is subject to interpretation. The standards used herein to determine measurability are that either the impact must be noticeable to a reasonable person, or must exceed an established threshold of significance.

Mitigation measures are to be developed to reduce the project's contribution to cumulative effects to a less-than-significant level or otherwise to the degree it is feasible to do so.

The State CEQA Guidelines Section 15130(b)(1) provides two approaches to analyzing cumulative impacts. The first is the list approach, which requires a listing of past, present, and reasonably anticipated future projects producing related or cumulative impacts. The second is the "plan" approach wherein the relevant projections contained in an adopted general plan or related planning document that is designed to evaluate regional or areawide conditions are summarized. For this EIR, the plan approach is used to consider development consistent with the adopted San Benito County 2035 General Plan, which includes growth assumed in the City of Hollister General Plan (City of Hollister 2005). The General Plan identifies population and job projections, which correlate to growth in urban development and associated services, such as solid waste management. However, as described below, this growth is expected to occur within and surrounding the City of Hollister. Urban growth is not anticipated within the vicinity of the project site, however growth is anticipated along some of the potential haul routes.

### 5.1.1 CUMULATIVE DEVELOPMENT ASSUMPTIONS

The San Benito County 2035 General Plan provides a long-term guide for the orderly growth and development of the County. In describing the potential effects of this long-term growth, the Draft Environmental Impact Report for the 2035 General Plan evaluated the influences on the County's historic population growth (EMC 2015a). Population growth within the County has historically been affected by employment trends in the four-county Economic Region, which consists of San Benito, Santa Cruz, Monterey, and Santa Clara Counties. Compared with other counties in California, San Benito County has one of the highest rates of workers who commute to other counties to work, particularly the other counties in the four-county Economic Region. Because employment trends in Monterey County, Santa Cruz County, and especially Santa Clara County affect the County's demographics, it is necessary to look at the four counties together to forecast the County's population.

The population of the four-county Economic Region grew steadily from 1980 to 2014, increasing by almost 825,000. During this period, the Economic Region's population increased at an average annual rate of 1.4 percent, growing from approximately 1.8 million to approximately 2.6 million. The population of the Economic Region is projected to experience modest growth through 2035, with an average annual growth rate of approximately 1.1 percent. The population of San Benito County is expected to grow from approximately 57,517 people to 94,731 by 2035. Employment in the unincorporated County is projected to increase by approximately 7,500 to 8,600 new jobs from 2010 to 2035, which reflects a job rate growth of between 4.0 and 4.4 percent (EMC 2015a).

AMBAG estimates that the City of Hollister's 2020 population of 40,646 would grow at a slower rate than the County overall. By 2035, the population in the City is estimated to grow to 44,421 people, or approximately 0.6 percent per year. Employment growth is expected to be slower than population growth. Employment within the City is projected to grow from 15,492 jobs in 2020 to 16,655 jobs in 2035, or an increase of approximately 0.5 percent per year (AMBAG 2020).

For all resource issues described below, the cumulative growth baseline was based on the general plan population growth estimates to the year 2035 and the anticipated geographic areas of growth, as reflected in the County's General Plan. The General Plan does not identify the area surrounding the project site as a potential growth area and cumulative population growth within the County would not be expected to result in new developments within the project vicinity based on the lack of infrastructure necessary to support urban growth and incompatible land use and zoning designations. The lands along the entire length of John Smith Road and surrounding the project site are designated either Agriculture (A), Rangeland (RG) or Public Quasi Public (PQP). Therefore, the cumulative growth baseline assumes that most of the development associated with population growth within the County would not occur in the project vicinity.

The area cumulatively affected by the individual project impacts varies depending upon the resource issue being evaluated. For example, nuisance impacts associated with dust generation during construction would be limited to areas directly surrounding the project site while the project's generation of regional pollutant air emissions would contribute cumulatively to the entire air basin. In considering the potential for localized cumulative impacts, potential developments within close proximity to the project site are typically considered specifically. However, no projects are currently proposed in the project vicinity that would contribute to localized cumulative impacts.

## 5.1.2 CUMULATIVE IMPACTS

### LAND USE, PLANNING AND AGRICULTURAL RESOURCES

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in the significant and unavoidable conversion of prime farmland, unique farmland, and farmland of statewide importance. The 2035 General Plan Final EIR concluded that all other land use impacts associated with 2035 General Plan implementation were less than significant.

As described in the Land Use, Planning and Agricultural Resources section of this Draft EIR, Section 4.1, the impacts of the project relative to environmental plans, policies, and regulations are less than significant. As also discussed, the project is located in the unincorporated portion of the County and would not physically divide an established community. The cumulative development within the region would result in a change in regional land uses and individual projects would need to be considered in the context of their contribution to this change. However, given that the project would not contribute to any significant impacts related to specific CEQA land use issues (e.g., division of a community, consistency with plans and policies adopted for the purpose of avoiding environmental impacts), the project would not contribute to cumulative land use impacts in the region.

The proposed project would not convert important farmlands to urban uses and would not conflict with lands zoned for agricultural uses. Although the project would convert grazing land to solid waste disposal uses, the majority of the grazing land within the County is located within areas that are not suitable for urban development due to a lack of necessary infrastructure or that are not designated in the San Benito County 2035 General Plan for urban uses. The proposed project would not contribute to the significant and unavoidable conversion of prime farmland, unique farmland, and farmland of statewide importance identified in the 2035 General Plan Final EIR. Therefore, the proposed project would not be expected to contribute considerably to the cumulative conversion of agricultural resources (i.e., grazing lands) within the County. The proposed project would result in **less-than-significant** cumulative land use, planning and agricultural resource impacts.

### TRAFFIC AND TRANSPORTATION

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in a significant and unavoidable conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system taking into account all modes of transportation. This conflict would result because implementation of the 2035 General Plan would cause roadway/intersection levels of service to exceed established significance thresholds. Specific roadway/intersection improvements were identified in the 2035 General Plan Final EIR to minimize this conflict. However, the 2035 General Plan Final EIR concluded that these level of service conflicts would remain significant and unavoidable even after implementation of the identified mitigation measures. All other transportation impacts associated with implementation of the 2035 General Plan were identified as less than significant. As described in detail in Section 4.2, Traffic and Transportation, levels of service are no longer a potentially significant impact under CEQA. Therefore, this discussion focuses on vehicle miles traveled (VMT) and safety.

The proposed project would be expected to increase VMT in the region as discussed in Section 4.2. However, truck traffic is not required to be addressed in the VMT analysis.[1] Out-of-County waste would not be delivered to the site by automobiles or light trucks. Therefore, for analysis purposes, the out-of-County waste vehicles would not contribute to project VMT. The primary non–truck trips associated with the landfill would be from workers and self-hauling of local wastes, which would increase along with population growth. VMT analysis is focused on a project's effects on automobile and light truck trips.

Although the project would provide a local disposal option that could minimize the increase in automobile VMT over time, the traffic analysis included in Section 4.2 concluded that the proposed project would increase automobile VMT, although that increase would be below State-identified significance screening levels. Population growth envisioned in the San Benito County 2035 General Plan also would be expected to increase cumulative automobile VMT. Transportation policies included in the General Plan and changes in the regional transportation infrastructure envisioned in the 2040 San Benito Regional Transportation Plan (Council of San Benito County Governments 2018) are intended to minimize increases in automobile VMT on a per capita basis. Based on these plans and their applicability to the County's land use decisions, future residential and commercial

[1] Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts In CEQA, April 2018, p. 4: "Proposed Section 15064.3, subdivision (a), states, 'For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project.' Here, the term 'automobile' refers to on-road passenger vehicles, specifically cars and light trucks."

developments would be expected to generate fewer VMT per capita than is currently generated. Therefore, on a per capita basis, a significant cumulative increase in automobile VMT would not be expected from the population growth envisioned in the General Plan, even with the additional VMT growth associated with the proposed project.

As described in Section 4.2, the project would slightly increase truck and light vehicle (cars and pickups) to and from the site, and the McCloskey Road/Fairview Road route would continue to experience urban development. However, the project's additional traffic (fewer than 50 trips/day) would not be cumulatively considerable and CEQA analyses for new developments accessing this route would identify any required roadway safety improvements needed for those developments. Therefore, the project would not result in a cumulatively considerable impact to safety on the proposed access route.

Therefore, the proposed project would result in **less-than-significant** cumulative traffic and transportation impacts.

### AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan conflicted with or obstructed implementation of the applicable air quality plan adopted for the purpose of reducing criteria air pollutants and greenhouse gas emissions and that this conflict represented a significant and unavoidable impact. It also concluded that the generation of greenhouse gas emissions associated with implementation of the 2035 General Plan had a significant and unavoidable impact. The 2035 General Plan Final EIR concluded that all other air quality impacts were less than significant.

The proposed project would increase the generation of criteria air pollutants and greenhouse gas emissions in the region consistent with expected growth in population and the associated waste stream, including out-of-County waste that would be imported for disposal at the proposed project. Individual projects are required to implement feasible mitigation measures for criteria air pollutants emissions if the project emissions exceed the thresholds of significance adopted by the Monterey Bay Air Resources District (MBARD). The proposed project includes mitigation measures to reduce long-term operational emissions of criteria air pollutants and precursors, and greenhouse gas emissions. The proposed project would also be subject to MBARD regulations as well as regulations promulgated by the State of California that are intended to reduce air quality emissions and specifically greenhouse gas emissions.

As part of these efforts, the State of California is aggressively pursuing greenhouse gas reduction goals including transitioning the vehicle fleet within the state to electric vehicles. However, although the regulations in place are designed to improve air quality over time and to result in a net reduction in air pollutants and greenhouse gas emissions, the proposed project would cumulatively contribute criteria air pollutants and greenhouse gas emissions to the air basin. These emissions would combine with the criteria air pollutant and greenhouse gas emissions associated with implementation of the 2035 General Plan, which could further obstruct implementation of the applicable air quality plan. For this reason, the proposed project's cumulative air quality and greenhouse gas emission impacts would be considered **significant and unavoidable.**

### NOISE

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in new noise-producing land uses and increases in traffic noise that could expose people to noise levels in excess of the County's noise thresholds. These noise level increases and their effect on people were identified as a significant and unavoidable impact. The 2035 General Plan Final EIR concluded that all other noise impacts were less than significant.

The proposed project's operations would increase noise in the local project vicinity but these impacts would be localized around the project site and along local haul routes to and from the facility. Because cumulative population growth within the County would not be expected to result in new developments within the landfill vicinity, as discussed above, the noise generated from the proposed project's operations at the landfill would not measurably combine with other projects to create localized cumulative noise impacts at locations adjacent to the landfill.

Cumulative vehicle trips on John Smith Road without the project would not be expected to grow substantially. This is due to the limited use of John Smith Road for anything other than accessing the current land uses along the roadway. On other roads used by waste hauling vehicles to access the project site, such as Fairview Road, McCloskey Road, and Shore Road, cumulative development would be expected to increase traffic volumes, and associated noise levels. The majority of the residential subdivisions located along these roadways already include sound walls. For new residential developments located in close proximity to these roadways, the project developers would be responsible for mitigating traffic noise impacts through the construction of noise walls, berms, or other noise-reducing measures.

As described in Section 4.5, Noise, implementation of the proposed project would have a negligible incremental effect on noise levels along project-area roadways. This impact of the proposed project was concluded to be less than significant. Noise modeling estimated the increases from the proposed project (above future cumulative no project levels) to be less than 1.0 dB, $L_{dn}$ along McCloskey, Fairview and Shore Roads (Table 4.5-7). The proposed project cumulative noise increase of less than 1.0 dB, $L_{dn}$ along the haul routes would not be a cumulatively considerable increase to the significant cumulative traffic noise increase identified in the 2035 General Plan Final EIR. Because the proposed project would not be expected to contribute substantially to cumulative traffic noise levels on local roads and because new residential developments along these roads would be required to include mitigation measures to minimize traffic noise impacts, the proposed project would have a less-than-significant contribution to the future traffic noise impact, that was determined to be significant in the 2035 General Plan Final EIR. Therefore, the proposed project would result in **less-than-significant** cumulative noise impacts.

### BIOLOGICAL RESOURCES

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in a substantial adverse effect on listed species and sensitive natural habitats. These biological resource impacts were identified as significant and unavoidable. The 2035 General Plan Final EIR concluded that all other applicable biological resource impacts would be reduced to less than significant with implementation of identified mitigation measures.

The proposed project would result in significant biological resource impacts related to the special-status species and wetlands subject to state regulations. With cumulative development in the region, the biological resources in the region may be diminished. However, all project impacts would be mitigated to less-than-significant levels and the agricultural land use designations for the lands surrounding the project site and the lack of necessary infrastructure would minimize the potential for adjacent urban development that could further increase habitat loss in the project area. Most new development would be in and adjacent to the City of Hollister, distant from the landfill. The only nearby parcel that may be subject to loss of habitat is the County-owned parcel across John Smith Road from the landfill, previously proposed by the County for a Resource Recovery Park. Approximately 70 acres of that site may be used for habitat mitigation as part of this project. If that site is not used for habitat mitigation, the mitigation measure requires 1:1 mitigation for habitat loss at a different suitable site. Therefore, the proposed project would not contribute to significant cumulative biological resource impacts within the project vicinity and the proposed project would result in a **less-than-significant** cumulative biological resource impact.

## CULTURAL AND TRIBAL CULTURAL RESOURCES

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in significant cultural resource impacts. However, with implementation of identified mitigation measures, the 2035 General Plan Final EIR concluded that these impacts were reduced to a less-than-significant level.

Due to the nature of cultural resources, adverse impacts are site-specific and need to be determined on a project-by-project basis. In addition, no cultural resources were found on the proposed project site in the project-specific assessment. However, with cumulative development in the region, the number of significant cultural resources in the region may be diminished. The loss of significant cultural resources that may be eligible for listing on the California Register of Historical Resources or the National Register of Historic Places would be considered a significant impact associated with cumulative development in the region. However, implementation of the proposed project would not be expected to adversely affect significant cultural resources. Because the proposed project would not be expected to substantially contribute to significant cumulative cultural resources impacts, the proposed project would result in a **less-than-significant** cumulative cultural resource impact.

## HYDROLOGY AND WATER QUALITY

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would expose people or structures to significant risk of loss, injury or death involving flooding. This flooding impact was identified as significant and unavoidable. The 2035 General Plan Final EIR concluded that all other applicable hydrology and water quality impacts were less than significant.

Due to the project's remote location, its hydrology and water quality impacts would not be expected to combine with other cumulative development to create significant impacts. The proposed project includes the installation of the stormwater drainage infrastructure that would be necessary to accommodate the changes in stormwater runoff expected with landfill expansion. Although cumulative development projects could contribute substantially to additional storm water runoff, resulting in increased erosion or flood hazards, these impacts would not be expected to occur within the project vicinity. Also, individual development projects would be required to control storm water discharge, consistent with the County's storm water management requirements. The proposed project's drainage system would capture peak stormwater flows on the site and would not discharge storm water volumes that exceed existing conditions. Therefore, the proposed project would not increase storm water discharge from the project site and would not be expected to contribute considerably to storm water discharges and downstream flooding associated with cumulative development in the region.

The project also could increase groundwater withdrawals if the offsite groundwater well water is used for dust control. However, the proposed well aquifer is not in overdraft and appears to be able to sustainably supply the project.

Cumulative development could degrade surface water quality in the region and the proposed project could contribute to this degradation. However, individual development projects would be required to manage discharge water quality consistent with National Pollutant Discharge Elimination System (NPDES) permit requirements. With the implementation of these permit requirements, significant water quality impacts would not be anticipated with cumulative development. The proposed project would be required to implement detailed water quality management measures to minimize the project's potential impacts on surface water quality, including specific NPDES permit requirements, as described in Section 4.8, Hydrology and Water Quality of this EIR. With the implementation of these measures, the project would not be anticipated to substantially contribute to local water quality degradation.

The existing, unlined portion of the landfill has affected groundwater quality locally through the migration of leachate and landfill gas to groundwater. The effects of this leakage are being controlled through groundwater extraction, which would continue during the expansion phase. Any expansion modules would be required to include Title 27-compliant liners and controls to ensure the migration of leachate and landfill gas from the expanded landfill would not occur. Because a groundwater extraction system is in place that controls the historic groundwater contamination, new modules would include liners and control systems, and no other cumulative development would be expected within the project vicinity, the proposed project would not combine with other projects to cumulatively degrade local groundwater supplies. Therefore, the proposed project would result in **less-than-significant** cumulative hydrology and water quality impacts.

### GEOLOGY, SOILS AND PALEONTOLOGY

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in less-than-significant geology, soils and paleontology impacts.

The proposed project would have localized impacts related to exposure of people and structures to seismic hazards, including ground shaking and subsidence or compression of unstable soils. However, these impacts would be reduced to a less-than-significant level with implementation of mitigation measures included in Section 4.9, Geology, Soils and Paleontology. Any residual impacts would be confined to the project site; they would not combine with any geotechnical effects associated with development in other areas. Similarly, development of cumulative projects would not be expected to result in geology and soils impacts at the individual development sites that could not be addressed by standard engineering practices. There is no evidence that the site contains paleontological resources or that project implementation would adversely affect such resources. Thus, the proposed project would result in **less-than-significant** cumulative geology, soils and paleontology impacts.

### HAZARDS, HAZARDOUS MATERIALS AND WILDFIRES

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in significant hazards, hazardous materials and wildfire impacts. However, with implementation of identified mitigation measures, the 2035 General Plan Final EIR concluded that these impacts were reduced to a less-than-significant level.

Cumulative commercial and industrial development could result in potential public health hazards associated with the transport, storage, use and sale of hazardous materials. However, existing state and federal regulations require pollution controls, release prevention plans, and accident response plans for commercial and industrial facilities to minimize the potential risk to the surrounding populations. With the implementation of these plans, the cumulative public health hazard impacts of development would be considered less than significant.

The proposed project would potentially receive hazardous materials at the site. However, the proposed project would continue the hazardous materials screening program in place at the existing landfill, as described in Section 4.10, Hazards, Hazardous Materials and Wildfires of this EIR. Also, the proposed project would continue to be subject to existing state and federal regulations requiring pollution controls, release prevention plans, and accident response plans to minimize the potential risk to the surrounding populations. Because compliance with these regulations is required, the implementation of the proposed project would not result in a substantial increase in the exposure of people to public health and safety events. Also, because of the project site's remote location and distance from any commercial or industrial uses that would produce hazardous emissions, the proposed project would not be expected to contribute cumulatively to health hazards in the project vicinity. Similarly, for wildfire risks, vector nuisances, increased landfill gas, and litter at the landfill, the remote location of the site and the lack of other cumulative development in the project vicinity would minimize any potential for the project to contribute cumulatively to these impacts. The litter pick-up program mitigation would minimize the potential for the proposed project to contribute cumulatively to increased litter along the designated local haul route to the landfill (Mitigation Measure 4.10-3). Thus, the proposed project would result in **less-than-significant** cumulative public health, hazards wildfire, vector nuisances, and increased litter impacts.

## AESTHETICS

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would create new sources of substantial light that would affect nighttime views in the County. These nighttime lighting impacts were identified as significant and unavoidable. The 2035 General Plan Final EIR concluded that all other aesthetic impacts were less than significant.

Cumulative development in the region would be expected to alter the visual character of the County. However, the majority of new development would occur within already urbanized areas or adjacent to these areas. Although the proposed project would be expected to alter the visual character of the project site, due to its remote location, it would not be expected to combine with other cumulative developments to create cumulative aesthetic impacts. No other large-scale projects are proposed within the general viewshed surrounding the project site. Also, because the redesigned entrance facilities are located within a canyon and would be elevated above the typical view of motorists on John Smith Road, they are generally not easily visible to the public. The project's proposed landscaping along the new entrance road would further reduce the entrance facility's visibility. The project does not include the introduction of new nighttime lighting sources other than minimal building security lighting. Facility operations would be limited to daylight hours. Therefore, the proposed project's contribution to the significant and unavoidable nighttime lighting impact identified in the 2035 General Plan Final EIR would not be cumulatively considerable. Thus, the proposed project would result in **less-than-significant** cumulative aesthetic impacts.

## PUBLIC SERVICES, UTILITIES AND ENERGY

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would result in less-than-significant public services, utilities and energy impacts.

Cumulative development would increase the demands on utilities and public services. However, the existing utility infrastructure and public service capabilities within the local area are adequate to meet the project's needs. The proposed project is not anticipated to contribute significantly to the demand for utilities or public services. The proposed project would predominantly be served by water infrastructure to be constructed at the project site that has adequate capacity to meet the project's water demand during all but drought years. In addition, two separate sources of importable water supply are available to meet the project's demands. Also, the applicant could apply covers to the stormwater basins to limit evaporation and increase onsite supply. Both of these approaches would result in sufficient water to meet the project demands during consecutive drought years. Therefore, the project would not require the relocation or construction of new water infrastructure that would cause significant environmental effects and would be able to adapt to potentially reduced water supplies during normal, dry and multiple dry years by importing water and/or by applying covers on the stormwater basins.

The proposed project would be expected to nearly double the amount of wastewater generated from the site, from 4.58 gpm to 9.09 gpm. This increase would be equivalent to the wastewater generated from approximately 26 residential homes (assuming three people per residence generating 83 gallons per day as identified in the San Benito County Code Section 23.31.081(A0(1)(b)). Leachate represents the largest component of this increase and its application within lined areas of the landfill or reinjecting it into the waste would substantially reduce the volume of wastewater annually directed into the City of Hollister's wastewater collection and treatment system. By minimizing the increase in leachate generation that would need to be treated offsite, the proposed project would have a negligible effect on the City's wastewater collection and treatment system. Therefore, the proposed project would not be expected to require the relocation or construction of new wastewater infrastructure that would cause significant environmental effects. The existing agricultural land use designations for the lands surrounding the project site and the lack of necessary infrastructure would minimize the potential for adjacent urban development that could further increase demands on utilities in the project vicinity. Most new development would be in and adjacent to the City of Hollister, distant from the landfill. Thus, the proposed project would result in **less-than-significant** cumulative utility impacts.

The demand for police, fire protection and emergency medical services would negligibly increase with project implementation. In addition, the site operator would be required to coordinate closely with local service providers to ensure adequate security and fire prevention measures are implemented at the site. As described above, development constraints in the project vicinity limit the potential for urban development that would increase the demands on police and fire services. Thus, the proposed project would result in **less-than-significant** cumulative public service impacts.

The proposed project would increase energy demand during both project construction and operation. Increased energy demands have the ability to contribute to environmental impacts associated with the development of new energy resources and expanded energy production. However, due to their relatively small scale, the project's cumulative energy demands would not be expected to substantially alter energy development or generation activities within the region. Also, the project includes the installation of a renewable natural gas facility that would be a source of renewable energy that could offset the use of other non-renewable energy sources. Because new development within California is required to comply with the energy efficiency standards outlined in Title 24 of the California Code of Regulations, the cumulative effects of development in San Benito County would not be expected to cause the inefficient, wasteful or unnecessary consumption of energy. Thus, the proposed project would result in **less-than-significant** cumulative energy impacts.

#### POPULATION AND HOUSING

The 2035 General Plan Final EIR concluded that implementation of the 2035 General Plan would induce substantial population growth. This population growth was identified as a significant and unavoidable impact. The 2035 General Plan Final EIR concluded that housing impacts were less than significant.

As described in the Growth Inducing Impacts discussion below, the proposed project would not be expected to substantially contribute to increases in population or housing demand. The number of new site employees necessary to accommodate the increased waste tonnage accepted at the site would be expected to be less than ten. Therefore, the proposed project's contribution to the significant and unavoidable population growth impact identified in the 2035 General Plan Final EIR would not be considered cumulatively considerable. Thus, the proposed project would result in **less-than-significant** cumulative population and housing impacts.

## 5.2 GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

In compliance with CEQA requirements, this section analyzes the growth-inducing impacts of the proposed project. It also evaluates the potential for the significant and irreversible commitment of resources associated with project implementation.

### 5.2.1 GROWTH-INDUCING IMPACTS

#### REQUIREMENTS FOR ANALYSIS OF GROWTH-INDUCING IMPACTS

According to Section 15126.2(e) of the State CEQA Guidelines, an EIR must discuss the growth-inducing impacts of the proposed project. Specifically, CEQA states that the EIR shall:

> Discuss ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring the construction of new facilities that could cause significant environmental effects. Also discuss characteristics of some projects that may encourage and facilitate other activities that could significantly affect the

environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises); or a construction effort with substantial short-term employment opportunities that indirectly stimulates the need for additional housing and services to support the new employment demand; and/or removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may lead to environmental effects. These environmental effects may include increased demand on other community and public services and infrastructure, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, or conversion of agricultural and open space land to urban uses.

### POSSIBILITY OF GROWTH INDUCEMENT WITH THE PROPOSED PROJECT

A project may induce growth by creating jobs that attract economic or population growth to the area, promoting the construction of homes that would bring new residents to the area, or removing an existing obstacle that impedes growth in the area. Project implementation would have a negligible effect on construction employment within the County, as the project would continue the solid waste operations that are already occurring at the site. Construction activities typically occur at the existing JSRL when a new waste disposal module is being excavated, when interim cover is being placed on a filled module, or when landfill monitoring and control systems are being expanded. These same typical construction activities would be expected to occur with project implementation. With higher permitted waste disposal limits, these construction activities would be expected to occur more frequently. However, the proposed project's construction activities would not be expected to substantially expand the population base or increase the demand for local housing. Construction workers serving the project would be expected to come from within the County and from nearby counties. Local construction workers that already have housing in the region would be expected to commute to the site while construction is ongoing. For construction workers that did come from outside of the region, the temporary nature of the work would typically discourage a permanent relocation. Therefore, the anticipated temporary increase in construction employment when needed at the site would not be expected to result in a significant demand for housing within the County, including the City of Hollister.

For the operational activities, the proposed project would be expected to extend the operational life of the landfill but would not be expected to substantially expand the number of site employees. The number of new site employees necessary to accommodate the increased waste tonnage accepted at the site would be expected to be less than ten. Therefore, the anticipated increase in site employment associated with ongoing operations would not be expected to result in a significant increased demand for housing within the County.

The proposed project is generally consistent with the County's General Plan and by extension, the employment, public facility development, and housing assumptions evaluated in the County's General Plan EIR. Implementation of the proposed project would generate a small number of jobs for current and future residents, consistent with the General Plan's goals and policies. Therefore, the proposed project would not be expected to induce substantial unplanned population growth or housing demand in the County and would not be expected to be growth inducing.

Residents and businesses within a community do not typically make decisions to locate within that community based on the cost for solid waste disposal. Although the fee for these services could change depending upon whether or not the proposed project is implemented, residents and businesses would be expected to continue to be served by existing solid waste collection services. Because these collection services would continue to be available, they would not represent a constraint to growth within the County. Therefore, project implementation would not be expected to remove an existing constraint to growth.

## 5.3 SIGNIFICANT AND IRREVERSIBLE COMMITMENT OF RESOURCES

CEQA (PRC Section 21100(b)(2)) provides that an EIR shall include a detailed statement setting forth "[i]n a separate section…[a]ny significant effect on the environment that would be irreversible if the project is implemented." State CEQA Guidelines Section 15126.2(c) provides the following guidelines for analyzing the significant irreversible environmental changes of a project:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irretrievable damage can result from environmental accidents associated with the project. Irretrievable commitment of resources should be evaluated to assure that such current consumption is justified.

The proposed project would use both renewable and nonrenewable natural resources for project construction and operation. The proposed project would use nonrenewable fossil fuels during construction and operation. Other nonrenewable and slowly-renewable resources would be consumed during project construction and operations.

The proposed project involves expansion of an existing landfill resulting in conversion of undeveloped land for solid waste disposal. This change in land use would represent a long-term commitment to the proposed use, as the landfill would not revert back to undeveloped land uses. The post closure land use is anticipated to include a grass-covered closed landfill. The landfill gas collection and leachate control and recovery systems would continue to be monitored and maintained for a minimum of 30 years following closure. The infrastructure within the entrance area would be removed and the site would be secured to minimize unauthorized access.

Lastly, the proposed project could result in irreversible damage from environmental accidents, such as an accidental spill or explosion of a hazardous material. During construction, equipment on the site would use various types of fuel. Operation of the proposed project would include the use of hazardous materials, primarily associated with heavy equipment operations, which could increase the risk of an accidental spill or release. However, these hazardous materials would be used in relatively small quantities and in California, the storage, use and sale of hazardous substances are strictly regulated and enforced by various local and regional agencies. The enforcement of these existing regulations would be expected to minimize the potential for irreversible damage associated with accidental spills or explosions on the project site.

## 5.4 REFERENCES

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# 6 ALTERNATIVES

## 6.1 INTRODUCTION

### 6.1.1 CEQA AUTHORITY FOR CONSIDERATION OF ALTERNATIVES

Section 15126.6(a) of the State CEQA Guidelines requires EIRs to describe:

> [A] range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

This section of the CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis, as follows:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The CEQA Guidelines further require that the alternatives be compared to the proposed project's environmental impacts and that the "no project" alternative be considered. (CEQA Guidelines Section 15126.6(d), (e).) Also, the CEQA Guidelines specify that the alternatives evaluated in the EIR should "feasibly attain most of the basic objectives of the project" while also avoiding or substantially lessening "any of the significant effects of the project." (CEQA Guidelines Section 15126.6(a).) Feasibility considerations may include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives. (CEQA Guidelines Section 15126.6(f)(1).)

Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, here the San Benito County Board of Supervisors. (Public Resources Code, Section 21081(a)(3), CEQA Guidelines Sections 15025(b), 15091(a), 15092.)

### 6.1.2 FACTORS CONSIDERED IN IDENTIFYING PROJECT ALTERNATIVES

The proposed project is unique in that it is proposed to be located adjacent to the only operating landfill within San Benito County, which is also the closest landfill to the County's population center. In identifying potentially feasible alternatives to the proposed project, the following project objectives were considered:

- Provide a minimum of 50 years of local waste disposal capacity for the benefit of County residents;

- Provide regional solid waste disposal capacity;
- Minimize any adverse environmental impacts of landfill operations;
- Maintain a stable and relatively predictable cost structure for solid waste disposal, for the benefit of the County and its residents;
- Provide net positive revenue to the County and to the applicant, from tipping fees and other possible sources, to defray cost of expansion and provide general fund revenues for solid waste diversion and other programs;
- Reduce or eliminate existing traffic hazards associated with queueing on John Smith Road;
- Minimize future public health risks and liabilities, and provide additional landfill disposal space by clean closing the existing Class I Area;
- Reduce greenhouse gas emissions by expanding conversion or reuse of landfill gas; and
- Support the County's compliance with evolving State requirements for recycling, waste recovery, and organics diversion.

Under CEQA Guidelines section 15126.6, as noted earlier, the alternatives to be discussed in detail in an EIR should be able to "feasibly attain most of the basic objectives of the project" while also avoiding or substantially lessening significant impacts. For this reason, the project objectives described above provide part of the framework for defining possible offsite alternative project locations. Based on these objectives, potentially feasible offsite alternatives were limited to sites within relatively close proximity to the City of Hollister, which is the source of the majority of the municipal solid waste generated within San Benito County. The siting and construction of a new, standalone landfill at an offsite location was not considered a feasible alternative to the proposed project due to the substantial regulatory complexity associated with siting new landfills in California, the lack of suitable sites that would meet the project objectives, and the fact that the applicant does not own or control suitable property within the County for a new landfill.

## 6.2 PROJECT ALTERNATIVES EVALUATED IN THIS EIR

### 6.2.1 DESCRIPTION OF ALTERNATIVES

Based on the requirements of State CEQA Guidelines §15126.6 and the project's objectives, the No Project Alternative and potentially feasible project alternatives were identified, as listed below:

#### LANDFILL ALTERNATIVES

- No Project Alternative
- Alternative 1A: 1,700 Tons-Per-Day Expansion Alternative with Same Footprint
- Alternative 1B: 1,700 Tons-Per-Day Expansion Alternative with Reduced Footprint
- Alternative 2A: 1,000 Tons-Per-Day Expansion Alternative with Same Footprint
- Alternative 2B: 1,000 Tons-Per-Day Expansion Alternative with Reduced Footprint
- Alternative 3: 300 Tons-Per-Day Expansion Alternative with Reduced Footprint
- Alternative 4: Southern Landfill Alternative
- Alternative 5: Transfer Station Alternative

The variations of Alternatives 1A/1B and 2A/2B are similar in that they evaluate a reduced tonnage for the Project. The distinction between the "A" and "B" variations for Alternatives 1 and 2 is how the effect of the reduced daily and annual tonnage is considered in relation to the life of the project. Under the "A" variation, it is assumed that the gross airspace capacity utilized, ultimate landfill footprint, and total waste buried would be approximately the same as the proposed project at landfill closure. This means the life of the project would be extended as compared to the proposed project because the capacity of the landfill would not be reached as soon as it would be under the proposed project due to the reduction in daily and annual tons accepted. Under the "B" variation, it is assumed that the life of the landfill will be substantially the same as the proposed project (approximately 65 years from project approval with the final 15-years accepting in-County waste only). Under this "B" variation, a reduced amount of total waste would be accepted at closure due to the reduced daily and annual tonnage that could be accepted over the same number of years as the proposed project. Under the "B" variations, the ultimate footprint of the landfill would be less than the ultimate footprint under the proposed project and the "A" variations. Given the substantially reduced tonnage of Alternative 3, only the "B" variation was considered for that alternative.

It is important to note that the Class I area would not be clean closed under Alternatives 1B, 2B, 3, 4 and 5 because the Class I area would not be utilized under those alternatives.

A comparative evaluation summary table of the project alternatives (Table 6-2) is provided at the end of this chapter.

### COMPONENT ALTERNATIVES

The following are alternatives to certain components of the project that could be added to landfill alternatives 1-4, or the proposed project:

- Alternative 6: South Fairview Road Haul Route Alternative
- Alternative 7: Best Road Haul Route Alternative
- Alternative 8: New Compost Facility Alternative

The alternative commercial vehicle haul routes are analyzed at a project-specific level of detail so that one of the alternative haul routes could be selected as the project haul route.

## 6.2.2 NO PROJECT ALTERNATIVE

State CEQA Guidelines Section 15126.6(e)(1) requires that the no project alternative be described and analyzed. The purpose of describing and analyzing the no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

As stated in CEQA Guidelines Section 15126.6(e)(2), "The 'no project' analysis shall discuss the existing conditions at the time the notice of preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

As further stated in Section 15126.6(e)(3)(B):

> If the project is ... a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build' wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis

should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

### DESCRIPTION

As indicated earlier, this project is unique in that the JSRL is the only landfill within San Benito County. The No Project Alternative assumes that the JSRL continues to accept only in-County waste for a period of approximately 15 years until the landfill reaches its capacity in 2037. At that time, solid waste disposal activities at the landfill would end. The tonnage of waste material received at the site in 2020 averaged 202 tons per day, which would be expected to increase as development continues in the County. The existing tonnage limit cap of 1,000 tons per day would remain in place. The County's recycling programs may remain at the landfill site or be relocated to another location. Solid waste generated within the County would need to be transported to an alternative regional landfill. This may or may not entail construction of a transfer station (see Transfer Station Alternative, discussed below). Potential existing out-of-County landfills that could accept San Benito County waste include:

- Monterey Peninsula (Marina) Landfill
- Johnson Canyon Landfill
- Buena Vista Landfill
- Billy Wright Landfill
- Fink Road Landfill
- Kirby Canyon Landfill
- Guadalupe Landfill
- American Avenue Landfill

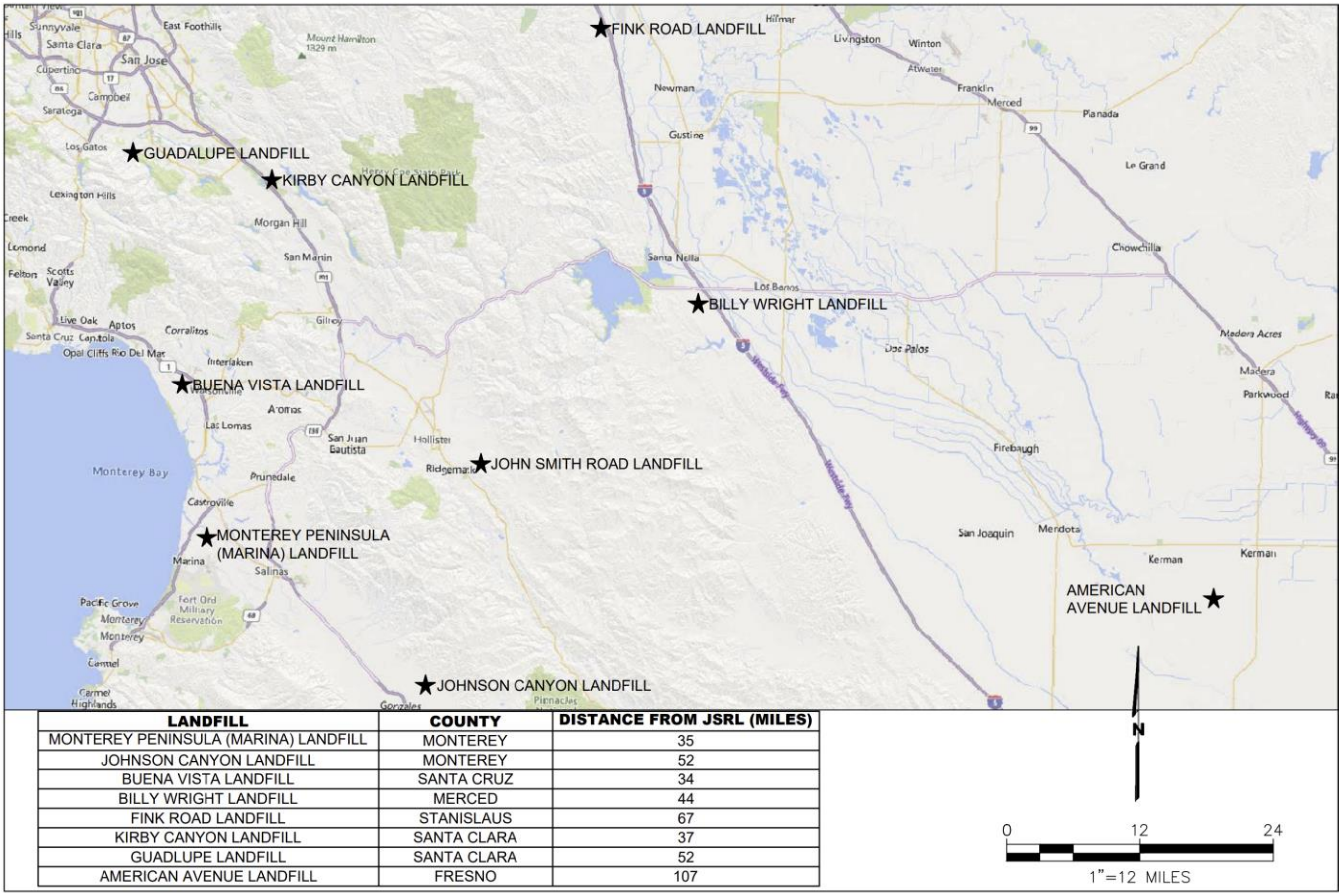
Figure 6-1 identifies these landfills in relation to the proposed project and their distance from the site.

### IMPACTS OF THE NO PROJECT ALTERNATIVE

With the implementation of the No Project Alternative, the adverse environmental impacts anticipated with the proposed project at the landfill site and along haul routes accessing the landfill would be substantially diminished, recognizing that some new off-site impacts associated with diverting the out-of-County waste and eventually the in-County waste to a disposal area outside of the County would be expected. Because the facility would accept only in-County wastes, the level of activity at the site and along haul routes to the landfill would be substantially less than anticipated with project implementation, and also would be substantially less than baseline conditions. Also, the landfill activities at the site and along haul routes would occur for a shorter duration than anticipated with project implementation (i.e., approximately 15 years versus approximately 65 years).

The No Project Alternative would completely avoid the direct impacts anticipated with expanding the landfill onto the 388.05-acre expansion property. This would include the impacts associated with direct land disturbance including on biological resources, geology and soils, hydrology and water quality, aesthetic resources, noise and agricultural resources. In addition, the air quality and greenhouse gas emissions associated with these activities would not be generated within the expansion area.

The No Project Alternative would avoid the additional vehicle miles traveled (VMT) associated with the increase in waste tonnage accepted at the site. However, while the existing landfill would continue to operate under its existing permitted tonnage limit, the waste currently received from outside of the County, and the additional waste that would be accommodated by the proposed project would be directed to another regional landfill. While it is unknown whether this would increase or decrease VMT compared with the proposed project, CEQA does not require analysis of heavy-duty truck VMT for transportation analysis, but does examine heavy-duty truck VMT for emissions. In addition, once the JSRL reached its capacity, all of the in-County waste that is accepted at JSRL would be directed to another regional landfill. Figure 6-1 shows regional landfills in the area along with their distances from the project site.




| LANDFILL | COUNTY | DISTANCE FROM JSRL (MILES) |
|---|---|---|
| MONTEREY PENINSULA (MARINA) LANDFILL | MONTEREY | 35 |
| JOHNSON CANYON LANDFILL | MONTEREY | 52 |
| BUENA VISTA LANDFILL | SANTA CRUZ | 34 |
| BILLY WRIGHT LANDFILL | MERCED | 44 |
| FINK ROAD LANDFILL | STANISLAUS | 67 |
| KIRBY CANYON LANDFILL | SANTA CLARA | 37 |
| GUADLUPE LANDFILL | SANTA CLARA | 52 |
| AMERICAN AVENUE LANDFILL | FRESNO | 107 |

Source: Lewis Engineering 2022

**Existing Landfills within Project Vicinity** **Figure 6-1**

Because it cannot be determined exactly where the waste would be diverted, it cannot be determined how total vehicle miles driven by waste vehicles would be affected. If a future transfer station were built in the Hollister area (as discussed in the Transfer Station Alternative below), the consolidation of waste generated in the county at this transfer station would reduce the distances that individual waste-haul vehicles would need to travel to dispose of waste but it is unknown how far the transfer trucks would need to travel to dispose of the waste. Still, the VMT for these heavy-duty transfer trucks would not be analyzed for purpose of CEQA transportation impacts, but would be considered for emissions.

If the capacity of the JSRL is not increased, this waste disposal capacity would eventually need to be accommodated at another landfill. This would result in the accelerated consumption of disposal capacity at another landfill, which could, along with other wastes received at that landfill, eventually require a vertical and/or horizontal expansion or, alternately, an earlier closure date at the receiving landfill or landfills. The specific physical impacts associated with accommodating this waste at another landfill cannot be predicted without knowing to which landfill wastes would be directed upon closure of the JSRL. Thus, it would be speculative to evaluate the impacts associated with expanding a specific landfill located outside of the County. Impacts unique to the project site, such as the project's potential impacts on specific sensitive species, may be avoided with expansion at another regional landfill. However, other impacts could be more severe, and other landfill sites may present their own project-specific impacts.

### CONCLUSIONS

The No Project Alternative would substantially reduce direct physical impacts of the project by avoiding the land disturbance that would occur on the proposed expansion site. However, after closure of the JSRL in approximately 15 years, this alternative may have out-of-County impacts that could be similar to or greater than the proposed project. Because these out-of-County impacts are difficult to predict and are speculative due to the lack of understanding regarding how future waste would be distributed and how the operations at other regional landfills would change in response, the No Project Alternative is assumed to have reduced impacts when compared to the proposed project. For this reason, the No Project Alternative would be considered environmentally superior to the proposed project.

The No Project Alternative would not achieve many of the project objectives including: providing a minimum of 50 years of solid waste disposal capacity for County residents, providing regional solid waste disposal capacity, maintaining local control of the disposal of solid waste generated within the County, maintaining a stable and relatively predictable cost structure for solid waste disposal, providing a net revenue increase to the County and the project applicant, clean closing the existing Class I Area, reducing greenhouse gas emissions by expanding conversion or reuse of landfill gas, and supporting the County’s compliance with evolving State requirements for recycling and waste recovery. This alternative would also not meet the requirements of San Benito County 2035 General Plan Policy PFS-7.1, which states that the County shall ensure that there is adequate capacity within the solid waste system for the collection, transportation, processing, recycling, and disposal of solid waste to meet the needs of existing and projected development.

## 6.2.3 ALTERNATIVES 1A AND 1B: 1,700 TONS-PER-DAY EXPANSION

### DESCRIPTION

The 1,700 Tons-Per-Day Expansion Alternative assumes that the increase in the waste acceptance tonnage associated with the proposed project would be reduced. The landfill is currently permitted to accept up to 1,000 tons of waste for burial per day, plus an unlimited quantity of recyclables and materials for beneficial reuse (such as soil, processed demolition debris for alternative daily cover and processed green waste for erosion control). On average, these materials add approximately 25% to the total tonnage of materials delivered to the site (although the percentage varies significantly from day to day). The proposed project would increase the landfill’s permitted daily tonnage limit up to 2,300 tons per day for waste to be buried. This alternative would instead establish a smaller permitted tonnage limit of 1,700 tons per day for waste to be buried. Similar to the proposed project, this alternative would not include any limit on the quantity of recyclables and materials for beneficial reuse delivered to the site.

Under Alternative 1A, it is assumed that the 388.05-acre expansion included in the proposed project would occur consistent with the project description included in Chapter 3 of this Draft EIR. Therefore, under Alternative 1A, the primary difference between this alternative and the proposed project would be the daily tonnage limit. As a result of the smaller daily waste deliveries, the operational life of the landfill would be extended with Alternative 1A. The final site life would vary significantly based on numerous variables including, but not limited to, the final waste acceptance, waste type, waste density, and final volume (if reduced for soil balance or to flatten slopes for slope stability). However, as a rough estimate, the reduced waste acceptance limit would likely extend the landfill life by approximately 30 percent, or approximately an additional 20 years beyond the estimated 2087 closure date for the proposed project.

Under Alternative 1B, it is assumed the landfill would operate for approximately the same life as the proposed project, which is 65 years with the final 15 years limited to in-County waste. The landfill waste footprint would be reduced and would consist of approximately Phases 2A, 2B, 3, and 5 of the currently proposed expansion project, or approximately 180 acres (in addition to the existing landfill) versus the approximately 195 acres associated with the proposed project (Figure 3-6 in Chapter 3 of this Draft EIR identifies the proposed landfill expansion phases). The final elevation of the fill area would be the same for Phases 2A, 2B, 3, and 5 as with the proposed project, or approximately 949 feet above mean sea level (msl).

Under Alternatives 1A and 1B, due to the slower pace of waste disposal and associated decomposition, this alternative would generate less landfill gas to support a renewable natural gas facility. While the RNG facility would still be feasible, due to the reduced waste disposal, it would be expected to reach the trigger of 550 cfm of collected landfill gas at a later date than the proposed project. This alternative is thus assumed to include a renewable natural gas facility with the same approximate size and capacity as the proposed project, but with implementation at a later date. This alternative (both 1A and 1B) also assumes the Class I Area would not be clean closed because Phase 4 of the proposed expansion, within which the Class 1 Area is located, would not be developed.

## IMPACTS OF THE 1,700 TONS-PER-DAY EXPANSION ALTERNATIVE

### Land Use, Planning and Agricultural Resources

Similar to the proposed project, this alternative would not conflict with the 2035 General Plan policies that were adopted for the purpose of avoiding or mitigating an environmental effect and would not physically divide an established community. The landfill development footprint would be the same size as the proposed project (Alternative 1A) or somewhat reduced (by approximately 15 acres with Alternative 1B) and landfill operations would not substantially differ. Therefore, the land use impacts of this alternative would not differ substantially from the proposed project.

Alternative 1A would disturb the same acreage of grazing land as the proposed project. Therefore, the impacts on agricultural resources from Alternative 1A would be the same as with the proposed project. Alternative 1B would disturb approximately 15 fewer acres of grazing land than the proposed project. Thus, the impacts on agricultural resources with Alternative 1B would be reduced.

### Transportation

This alternative would generate lower annual vehicle miles traveled (VMT) than would occur with the proposed project due to the reduction in waste deliveries to the site. The landfill would continue to receive both in-County and out-of-County waste under this alternative; however, the out-of-County waste portion would be reduced by approximately 30 percent, from 59 trips per day with the proposed project to 41 trips per day. However, CEQA does not require analysis of heavy-duty truck-related VMT. VMT associated with local self-haul waste disposal would be similar to the proposed project.

Annual waste haul vehicle trips on John Smith Road and Fairview Road would be reduced with this alternative when compared to the proposed project, slightly reducing road wear and potential for traffic conflicts. Therefore, this alternative (both 1A and 1B) would be expected to have reduced annual transportation impacts when compared to the proposed project.

### Air Quality

The air quality impacts associated with this alternative would be expected to be slightly reduced when compared to the proposed project due to fewer tons of waste being managed daily. With reduced waste volumes, the demands on on-site equipment and personnel would be reduced. Also, the reduction in total waste accepted at the site would be expected to reduce emissions associated with haul-truck traffic generated within the County. Therefore, the daily and annual air quality impacts associated with this alternative would be slightly less than with the proposed project, although the impacts would occur for a longer period under Alternative 1A.

## Greenhouse Gas Emissions

Similar to air quality, the greenhouse gas impacts generated at the project site associated with this alternative would be slightly reduced when compared to the proposed project due to fewer tons of waste being managed daily. However, under Alternative 1A, because the same total landfill capacity as the proposed project would be met, the greenhouse gas emissions associated with the generation of landfill gas over the life of the project would not differ substantially from the proposed project. The main difference is the landfill gas emissions with Alternative 1A would be reduced on an annual basis at the site but occur over a longer timeframe. Under Alternative 1B, the annual and overall GHG emissions at the site would be reduced as compared to the project.

Under Alternative 1A, greenhouse gas emissions generated at the site over the life of the project are not anticipated to be reduced and there could be unknown out-of-County GHG emissions from re-directed waste independent of the project and outside the control of the County. Under Alternative 1B, the total GHG emissions generated at the site would be reduced but there could also be unknown out-of-County GHG emissions from re-directed waste independent of the project and outside the control of the County.

Similar to the proposed project, both Alternative 1A and 1B include an RNG facility. The GHG reduction benefits of an RNG facility would, therefore, occur with both of these alternatives. However, because less waste would be accepted on a daily basis than with the proposed project, the installation of the facility would be delayed for a few years longer than anticipated with the proposed project until sufficient landfill gas is being generated to support the facility. Given the net zero threshold utilized for this EIR and the 1,700 tons per day of materials to be delivered to the landfill, the GHG emissions would remain significant and unavoidable with Alternatives 1A and 1B.

## Noise

This alternative would reduce the number of annual out-of-County waste delivery vehicles by approximately 30 percent when compared to the proposed project. This reduction in truck traffic would reduce noise levels along local haul routes when compared to the proposed project. However, because these noise levels are not expected to substantially increase with project implementation (generally less than 1 dBA), the traffic noise levels would not differ substantially between this alternative and the proposed project. Similarly, the noise generated from site operations would likely be slightly reduced associated with managing less waste tonnage. For Alternative 1A, the number of years with noise impacts would be greater than the proposed project or Alternative 1B. As with the proposed project, noise impacts would not be significant.

## Biological Resources

Implementation of Alternative 1A would have biological resource impacts similar to the proposed project, although the more gradual landfill fill rate under Alternative 1A would potentially delay when certain areas of the site, and associated biological resources, are disturbed. Alternative 1B would have reduced biological resource impacts than the proposed project because approximately 15 fewer acres of the project site would be disturbed.

## Cultural Resources

Implementation of this alternative would have cultural resource impacts similar to the proposed project, although the more gradual landfill fill rate would potentially delay when certain areas of the site are disturbed. Although no sensitive cultural resources were identified on the site, the development of this alternative has the same potential to disturb as yet undiscovered subsurface cultural resources. However, this is not likely. The geology of the proposed expansion site is such that cultural resources would likely be transported off-site by erosion, not buried.

### Hydrology and Water Quality

The hydrology and water quality impacts associated with Alternative 1A would be similar to the proposed project; Alternative 1B would have reduced runoff and water quality impacts because of its reduced footprint compared with the proposed project. The reduced daily tonnage limit under Alternative 1A and 1B would not be expected to substantially alter how stormwater is managed on the site.

### Geology and Soils

The geology and soil impacts associated with this alternative are expected to be similar to the proposed project, although they would be somewhat reduced under Alternative 1B due to its reduced footprint. The reduced daily tonnage limit would not be expected to substantially alter how soils are managed on the site or how waste fill modules are constructed and ultimately closed.

### Hazards, Hazardous Materials and Wildfires

The hazards, hazardous materials and wildfire impacts associated with this alternative are expected to be similar to the proposed project, although Alternative 1B may have reduced impacts associated with its reduced footprint. The reduced daily tonnage limit would not be expected to substantially alter how wastes are managed on the site or how hazards, hazardous materials and wildfire risks are controlled.

### Aesthetics

The visual resource impacts of Alternative 1A would be similar to the proposed project, although it would take longer for the landfill to be visible from sensitive viewpoints due to the more gradual landfill fill rate. Under Alternative 1B, the visual impacts are expected to be slightly decreased because 15 fewer acres of the project site would be disturbed. However, because this would represent a reduction of approximately 7.5 percent in the total area of waste placement when compared to the proposed project and because the final elevation would be the same as the proposed project, the visual impacts for both Alternative 1A and 1B would remain significant and unavoidable.

### Public Services, Utilities and Energy

The implementation of this alternative would have slightly reduced annual demands on public services and utilities such as electricity, water, wastewater, solid waste, fire protection, law enforcement and emergency medical services when compared to the proposed project. However, under Alternative 1A due to the longer landfill life, the demands on these services would be extended over a longer period when compared to the proposed project. Under Alternative 1B, the services and utilities demands, including water supply, would be reduced as compared to the proposed project and Alternative 1A.

Alternative 1A would include the same total landfill footprint and longer site life, which could slightly increase energy demands at the project site when compared to the proposed project. However, on a daily basis, the energy demands would be reduced with both Alternative 1A and 1B. Neither the proposed project nor Alternatives 1A or 1B would be expected to cause significant energy impacts.

## CONCLUSIONS

The 1,700 Ton-Per-Day Expansion Alternative would reduce the severity of impacts anticipated with the proposed project for several of the resource areas evaluated by reducing the volume of waste accepted and managed at the site each year. Although Alternative 1A would reduce the rate of waste filling within the landfill, it would not be expected to reduce the proposed project’s significant and unavoidable visual impacts because it would ultimately fill to the same height as the proposed project. Under Alternative 1B, the visual impacts would be slightly reduced because 15 fewer acres would be disturbed. However, similar to Alternative 1A, this alternative would not be expected to reduce the proposed project's significant and unavoidable visual impacts because it would ultimately fill to the same height as the proposed project. Similarly, under Alternative 1A, although annual GHG emissions would be reduced, greenhouse gas emissions over the life of the project are not anticipated to be reduced and there could be unknown out-of-County GHG emissions from re-directed waste independent of the project and outside the control of the County. Under Alternative 1B, the total GHG emissions would be reduced compared with the proposed project. Still, given the net zero threshold utilized for this EIR and the 1,700-tons/day of materials to be delivered to the landfill, the GHG emissions would remain significant and unavoidable with Alternatives 1A and 1B.

By reducing the site's permitted tonnage limit when compared to the proposed project, this alternative would be slightly less effective at achieving the project objectives of providing a net revenue increase to the County and to the applicant and minimizing future public health risks and liabilities and provide additional landfill disposal space by clean closing the existing Class I Area.

### 6.2.4 ALTERNATIVES 2A AND 2B: 1,000 TONS-PER-DAY EXPANSION

#### DESCRIPTION

The 1,000 Tons-Per-Day Expansion Alternative assumes two options. Under Alternative 2A, the waste acceptance tonnage associated with the current operations would remain unchanged. The landfill is currently permitted to accept up to 1,000 tons of waste for burial per day, plus an unlimited quantity of recyclables and materials for beneficial reuse (such as soil, processed demolition debris for alternative daily cover and processed green waste for erosion control) and this limit is assumed to remain in place with this alternative. This contrasts with the 2,300 ton-per-day permit limit associated with the proposed project. Similar to the proposed project, this alternative would not include any limit on the quantity of recyclables and materials for beneficial reuse delivered to the site.

Under Alternative 2A, it is assumed that the 388.05-acre expansion included in the proposed project would occur consistent with the project description included in Chapter 3 of this Draft EIR. Therefore, under Alternative 2A, the only difference between this alternative and the proposed project would be the daily tonnage limit. As a result of the smaller daily waste deliveries, the operational life of the landfill would be extended with Alternative 2A. The final site life would vary significantly based on numerous variables including, but not limited to, the final waste acceptance, waste type, waste density, and final volume (if reduced for soil balance or to flatten slopes for slope stability). As a rough estimate, the reduced waste acceptance limit would likely extend the landfill life by approximately 60 percent, or approximately an additional 40 years beyond the estimated 2087 closure date for the proposed project.

Under Alternative 2B, it is assumed the landfill would operate for approximately the same life as the proposed project, which is 65 years with the final 15 years limited to in-County waste. The landfill waste footprint would be reduced and would consist of approximately Phases 2A, 2B, and 5 of the currently proposed expansion project or approximately 103 acres (in addition to the existing landfill) versus the approximately 195 acres associated with the proposed project (Figure 3-6 in Chapter 3 of this Draft EIR identifies the proposed landfill expansion phases). The final elevation of the fill area for Phases 2A, 2B, and 5 would be the same as with the proposed project, or approximately 949 feet above mean sea level (msl).

Under Alternatives 2A and 2B, due to the substantially slower pace of waste disposal and associated decomposition when compared to the proposed project, this alternative would generate less landfill gas to support a renewable natural gas facility than the 1,700 Tons-Per-Day Alternative or the proposed project. Still, the RNG facility would be feasible, but would be expected to reach the trigger of 550 cfm of collected landfill gas at a later date than the proposed project and the 1,700 Tons-Per-Day Alternative. This alternative (both 2A and 2B) is thus assumed to include a renewable natural gas facility. This alternative (both 2A and 2B) also assumes the Class I

Area would not be clean closed because Phase 4 of the proposed expansion, within which the Class 1 Area is located, would not be developed.

## IMPACTS OF THE 1,000 TONS-PER-DAY EXPANSION ALTERNATIVE

### Land Use, Planning and Agricultural Resources

Similar to the proposed project, this alternative would not be expected to conflict with the 2035 General Plan policies that were adopted for the purpose of avoiding or mitigating an environmental effect and would not physically divide an established community.

Under Alternative 2A, the landfill development footprint would be the same size as the proposed project and the nature of landfill operations would not substantially differ, although the daily tonnage would be reduced. Therefore, the land use impacts of Alternative 2A would not differ substantially from the proposed project. Specifically, Alternative 2A would disturb the same acreage of grazing land as the proposed project. Therefore, the impacts on agricultural resources from Alternative 2A would be the same as with the proposed project. Alternative 2B would disturb approximately 92 fewer acres of grazing land than the proposed project, thus the impacts on agricultural resources with Alternative 2B would be reduced as compared to the proposed project.

### Transportation

This alternative would generate lower annual vehicle miles traveled (VMT) than would occur with the proposed project due to the reduction in waste deliveries to the site. The landfill would continue to receive both in-County and out-of-County waste under this alternative; however, the out-of-County waste portion would be reduced by approximately 60 percent, from 59 trips per day with the proposed project to 24 trips per day. However, CEQA does not require analysis of heavy-duty truck-related VMT. VMT associated with local self-haul waste disposal would be similar to the proposed project.

Daily and annual waste-haul vehicle trips on John Smith Road and Fairview Road would be reduced compared to the proposed project, reducing road wear and potential traffic hazards. This alternative generally represents a continuation of the existing landfill’s current trip generation on local roads, although some growth in project-related traffic would be expected until the landfill reaches its 1,000 tons-per-day permit limit. Therefore, this alternative (both 2A and 2B) would be expected to have reduced daily and annual transportation impacts when compared to the proposed project. Alternative 2A would have impacts over a longer period than the project or Alternative 2B.

### Air Quality

The annual air quality impacts associated with this alternative would be expected to be reduced when compared to the proposed project due to fewer tons of waste being managed daily (both 2A and 2B). With reduced waste volumes, the demands on on-site equipment and personnel would be reduced. Also, the reduction in total waste accepted at the site would be expected to reduce emissions associated with haul-truck travel generated within the County. This alternative (2A and 2B) generally represents a continuation of the existing landfill’s current operations, although some growth in the waste stream and associated air pollutant emissions would be expected until the site reaches its 1,000 tons-per-day permit limit. Therefore, the daily and annual air quality impacts associated with this alternative (2A and 2B) would be substantially less than with the proposed project, although the impacts would occur for a longer period under Alternative 2A.

### Greenhouse Gas Emissions

Similar to air quality, the greenhouse gas impacts associated with this alternative would be reduced when compared to the proposed project due to fewer tons of waste being managed daily. However, under Alternative 2A, because the same total landfill capacity as the proposed project would be met, the greenhouse gas emissions associated with the generation of landfill gas would not differ substantially over the life of the project from the proposed project. The main difference is the landfill gas emissions with Alternative 2A would occur over a longer timeframe. Under Alternative 2B, the overall GHG emissions would be reduced compared to the project.

Also, while the expanded landfill would continue to operate under this alternative's reduced permitted limit, the additional waste that would be accommodated by the proposed project would be directed to another regional landfill, generating greenhouse gas emissions from the haul trucks driving to other regional landfills and from the decomposition of diverted waste at other regional landfills. Because the County would have no control over the greenhouse gas emissions generated at an out-of-County landfill, they cannot assure that comparable mitigation measures would be implemented to reduce these emissions. Although the greenhouse gas emissions generated at the project site on a daily basis with this alternative would be expected to be less than with the proposed project, the project's cumulative significant and unavoidable greenhouse gas emission impacts would remain significant and unavoidable.

Similar to the proposed project, both Alternative 2A and 2B include an RNG facility. The GHG reduction benefits of an RNG facility would, therefore, occur with both of these alternatives. However, because less waste would be accepted on a daily basis than with the proposed project, the installation of the facility would be delayed for a few years longer than anticipated with the proposed project until sufficient landfill gas is being generated to support the facility. Also, less landfill gas would be available on a daily basis to be converted to RNG for both 2A and 2B, and less total RNG would be generated by Alternative 2B due to its reduced total capacity.

### Noise

This alternative would reduce the number of annual out-of-County waste delivery vehicles daily and annually by approximately 60 percent when compared to the proposed project. This reduction in truck traffic would reduce time-averaged noise levels along local haul routes when compared to the proposed project. However, because these time-averaged noise levels are not expected to substantially increase with project implementation (generally less than 1 dBA), the traffic noise would not differ substantially between this alternative and the proposed project. Similarly, the noise generated from site operations would likely be slightly reduced associated with managing less waste tonnage. For Alternative 2A, the number of years with noise impacts would be greater than the proposed project or Alternative 2B. As with the proposed project, noise impacts would not be significant.

### Biological Resources

Implementation of Alternative 2A would have biological resource impacts similar to the proposed project, although the more gradual landfill fill rate under Alternative 2A would potentially delay when certain areas of the site, and associated biological resources, are disturbed. Alternative 2B would have reduced biological resource impacts than the proposed project because 92 fewer acres of the project site would be disturbed.

### Cultural Resources

Implementation of this alternative would have cultural resource impacts similar to the proposed project, although the more gradual landfill fill rate would potentially delay when certain areas of the site are disturbed. Although no sensitive cultural resources were identified on the site, the development of this alternative has the same potential to disturb as yet undiscovered subsurface cultural resources. However, this is not likely. The geology of the proposed expansion site is such that cultural resources would likely be transported off-site by erosion, not buried.

### Hydrology and Water Quality

The hydrology and water quality impacts associated with this alternative are expected to be similar to the proposed project. The reduced daily tonnage limit under Alternative 2A and 2B would not be expected to substantially alter how stormwater is managed on the site, although the reduced footprint under Alternative 2B would slightly reduce runoff and water quality impacts compared with the proposed project.

### Geology and Soils

The geology and soils impacts associated with this alternative are expected to be similar to the proposed project, although the reduced footprint under Alternative 2B would slightly reduce soils and geologic impacts compared with the proposed project. The reduced daily tonnage limit would not be expected to substantially alter how soils are managed on the site or how waste fill modules are constructed and ultimately closed (although Alternative 2B may have fewer modules).

### Hazards, Hazardous Materials and Wildfires

The hazards, hazardous materials and wildfire impacts associated with this alternative are expected to be similar to the proposed project, although Alternative 2B may have reduced impacts associated with its reduced footprint. The reduced daily tonnage limit would not be expected to substantially alter how wastes are managed on the site or how hazards, hazardous materials and wildfire risks are controlled.

### Aesthetics

The visual resource impacts of Alternative 2A would be similar to the proposed project, although it would take longer for the landfill to be visible from sensitive viewpoints due to the more gradual landfill fill rate. Under Alternative 2B, the visual impacts are expected to be slightly decreased because 92 fewer acres of the project site would be disturbed. However, because the peak elevation of both Alternative 2A and 2B would be the same as the proposed project and because the development of both of these alternatives would result in a noticeable change in the visual character as viewed from public areas, albeit a reduced area, the visual resource impacts would remain significant and unavoidable.

### Public Services, Utilities and Energy

The implementation of this alternative would reduce daily and annual demands on public services and utilities such as electricity, water, wastewater, solid waste, fire protection, law enforcement and emergency medical services when compared to the proposed project. However, under Alternative 2A, due to the longer landfill life, the demands on these services would be extended over a longer period when compared to the proposed project. Neither the proposed project nor this alternative would be expected to cause significant energy impacts. Under Alternative 2B, the demands would be reduced compared to the proposed project and Alternative 2A.

## CONCLUSIONS

The 1,000 Ton-Per-Day Expansion Alternative would reduce the severity of air quality and noise impacts anticipated with the proposed project for several of the resource areas evaluated by reducing the volume of waste accepted and managed at the site on a daily and annual basis. Although Alternative 2A would reduce the rate of waste filling within the landfill, it would not be expected to reduce the proposed project's significant and unavoidable visual impacts because it would ultimately fill to the same height as the proposed project. Under Alternative 2B, the visual impacts would be reduced because approximately 92 fewer acres would be disturbed. However, because the peak elevation with Alternative 2B would be the same as the proposed project and because the development of this alternative would result in a noticeable change in the visual character as viewed from public areas, the visual resource impacts would remain significant and unavoidable.

Under Alternative 2A, greenhouse gas emissions over the life of the project are not anticipated to be reduced and there could be unknown out-of-County GHG emissions that could occur from re-directed waste. Under Alternative 2B, the total GHG emissions within the County would be reduced, but there could also be unknown out-of-County GHG emissions from redirected waste. Given the net zero threshold utilized in this EIR and the 1,000 tons-per-day of materials to be delivered to the landfill, this impact would remain significant and unavoidable with Alternatives 2A and 2B.

By maintaining the site's currently permitted tonnage limit, this alternative would be less effective at achieving the project objectives of providing a net revenue increase to the County and to the applicant and minimizing future public health risks and liabilities and provide additional landfill disposal space by clean closing the existing Class I Area.

### 6.2.5 Alternative 3: 300 Tons-Per-Day Expansion

#### Description

The 300 Tons-Per-Day Expansion Alternative assumes that the maximum daily tonnage of solid wastes accepted at the landfill would be reduced by 87 percent compared to the proposed project (2,300 tons per day). Similar to the proposed project, this alternative would not include any limit on the quantity of recyclables and materials for beneficial reuse delivered to the site. The 300 ton-per-day limit would effectively limit the project to in-County waste disposal and eliminate all out-of-County waste. In 2020, an average of 202 tons of in-County waste were accepted for burial; this would eventually ramp up to 300 tons per day under this alternative as the County continues to develop.

This alternative assumes partial landfill expansion on the proposed project's 388.05-acre expansion area. Similar to the proposed project, this alternative would expand into the Phase 2A portion of the 388.05-acre expansion area. The landfill waste footprint would consist of approximately Phase 2A of the currently proposed expansion project or about 50 acres (in addition to the existing landfill). The maximum elevation of Phase 2A would be approximately 949 feet msl (same as the proposed expansion maximum elevation).

Under Alternative 3, it is assumed the landfill would operate for approximately the same life of the proposed project, which is 65 years with the final 15 years limited to in-County waste.

However, this alternative assumes the landfill would stop receiving waste once the Phase 2A area reaches capacity and would not continue to expand into the Phase 2B, 3, 4, and 5 areas of the site, as identified on Figure 3-6 in Chapter 3, Project Description, of this EIR. The peak elevation of the landfill would be the same as with the proposed project. This alternative would accommodate the long-term waste disposal requirements of the County's residents and businesses while substantially reducing the existing daily level of activity at the site. As a result of the smaller daily waste deliveries, instead of reaching capacity in 2037, as identified for the No Project Alternative, the site life would likely be similar to the proposed project. Due to the slower pace of waste disposal and associated decomposition, this alternative would not generate sufficient landfill gas to support a renewable natural gas facility. In addition, this alternative would not include landfill development within the Class I Area. Therefore, it would not include the clean closure of the Class I Area.

#### Impacts of the 300 Tons-Per-Day Expansion Alternative

#### Land Use, Planning and Agricultural Resources

Similar to the proposed project, this alternative would not be expected to conflict with the 2035 General Plan policies that were adopted for the purpose of avoiding or mitigating an environmental effect and would not physically divide an established community. The landfill development footprint would be reduced for this alternative when compared to the proposed project and the landfill operations would be substantially reduced. However, the activities at the site would not substantially differ from those anticipated with project implementation. Therefore, the plan-conformance impacts of this alternative would not differ substantially from the proposed project.

This alternative would disturb approximately 145 fewer acres of grazing land than the proposed project. Therefore, the impacts on agricultural resources would be reduced when compared to the proposed project.

### Transportation

This alternative would generate similar vehicle miles traveled (VMT) as the proposed project because it would continue to accept in-County waste, which is the source of the light trucks that are counted when quantifying VMT. While the landfill would continue to receive in-County waste under this alternative, the out-of-County waste that would be accommodated by the proposed project would be directed to another regional landfill (See Figure 6-1 for locations and distances to other regional landfills). With the implementation of this alternative, waste haul vehicle trips on John Smith Road and Fairview Road would be reduced when compared to baseline conditions and the increase in out-of-County truck trips on local roads associated with the proposed project would not occur. As a result, road wear and potential for traffic conflicts in the County would be reduced. VMT associated with local self-haul waste disposal would be similar to the proposed project. Therefore, this alternative would be expected to have reduced transportation impacts when compared to the proposed project.

### Air Quality

The local air quality impacts associated with this alternative would be expected to be substantially reduced when compared to the proposed project due to substantially fewer tons of waste being managed daily. With reduced waste volumes, the demands on on-site equipment and personnel would be reduced. Also, the reduction in total waste accepted at the site would be expected to reduce emissions associated with vehicle trips generated in the County. Therefore, the air quality impacts associated with this alternative would be less than with the proposed project.

### Greenhouse Gas Emissions

Similar to air quality, the local greenhouse gas impacts associated with this alternative would be reduced when compared to the proposed project due to fewer tons of waste being managed daily. However, this alternative would not include the energy or greenhouse gas reduction benefits associated with the operation of a renewable natural gas facility. Also, while the expanded landfill would continue to operate under this alternative’s reduced permitted limit, much of the waste that is currently received at the site and the additional waste that would be accommodated by the proposed project would be directed to other regional landfills with this alternative, generating greenhouse gas emissions from haul trucks driving to the other regional landfills and from the decomposition of diverted waste at those landfills. Although the in-County greenhouse gas emissions with this alternative would be less than with the proposed project, unknown out-of-County GHG emissions would occur from disposal of out-of-County wastes no longer accepted at this landfill. Given the net zero threshold and the 300 tons per day of materials to be delivered to the landfill, this impact would remain significant and unavoidable with this alternative.

### Noise

This alternative would substantially reduce the vehicle trips generated by the proposed project, which would result in substantially fewer vehicle trips on local roadways. Because this alternative would include a tonnage limit of 300 tons per day, which is substantially below the existing permit limit of 1,000 tons per day, this alternative would generate fewer vehicle trips on local roads than are currently generated from the project site. This reduction in vehicle trips would reduce noise levels along local haul routes when compared to the proposed project and the No Project alternative (for the first 15 years of this alternative). As with the project, these noise levels would be less than significant. Similarly, the noise generated from site operations would be reduced associated with the much more gradual pace of waste filling. As with the proposed project, the operational noise impacts associated with this alternative would not be significant.

### Biological Resources

Implementation of this alternative would reduce biological resource impacts associated with the proposed project due to the substantially reduced landfill footprint. With the smaller landfill footprint, approximately 145 fewer acres of grassland habitat would be disturbed in the expansion area.

### Cultural Resources

Implementation of this alternative would reduce the total area of disturbance within the expansion area. However, because no sensitive cultural resources were identified on the site, the potential for this alternative to disturb as yet undiscovered subsurface cultural resources is unlikely, as with the proposed project. The geology of the proposed expansion site is such that cultural resources would likely be transported off-site by erosion, not buried.

### Hydrology and Water Quality

The hydrology and water quality impacts associated with this alternative would be reduced when compared to the proposed project due to the smaller landfill footprint. However, because this alternative would include expanding the landfill footprint onto undeveloped areas of the site, it would require hydrology and water quality mitigation measures similar to the proposed project.

### Geology and Soils

The geology and soils impacts associated with this alternative would be reduced when compared to the proposed project due to the smaller landfill footprint. However, because no significant geology or soils impacts would be anticipated with project implementation, the significance of geology and soils impacts associated with this alternative would not substantially differ from the proposed project.

### Hazards, Hazardous Materials and Wildfires

The hazards, hazardous materials and wildfire impacts associated with this alternative would be reduced when compared to the proposed project due to the reduced operational activities.

### Aesthetics

The visual resource impacts of this alternative would be reduced when compared to the proposed project due to the smaller landfill footprint. However, the development of Phase 2A would ultimately be visible from offsite locations. Although this alternative would reduce the rate of waste filling within the landfill and overall visual massing, the impacts would remain significant and unavoidable because the alternative would ultimately fill to the same height as the proposed project.

### Public Services, Utilities and Energy

The implementation of this alternative would have reduced demands on public services and utilities such as electricity, water, wastewater, solid waste, fire protection, law enforcement and emergency medical services when compared to the proposed project. This alternative would not include the renewable natural gas facility, which would reduce the site's electrical demands but would also eliminate a new renewable energy source associated with project implementation. Neither the proposed project nor this alternative would be expected to cause significant energy impacts.

## Conclusions

Overall, the 300 Tons-Per-Day Expansion Alternative would have substantially reduced impacts due to the substantially reduced activities at the project site and smaller landfill development footprint. However, the redirection of wastes from other counties under this alternative may have out-of-County impacts. The disposition of out-of-County wastes and associated impacts at receiving landfills are unknown and not under the County's control. This alternative is assumed to have reduced in-County impacts when compared to the proposed project. The aesthetics impacts would be reduced from those of the project due to reduced massing but would still be significant and unavoidable because the landfill would reach the same height as with the project in Phase 2A. In addition, the project's significant and unavoidable (over the net-zero threshold) cumulative greenhouse gas impacts would also be expected to occur with implementation of this alternative. This alternative would not include GHG reduction and energy supply associated with a renewable natural gas facility due to a lack of sufficient landfill gas generation on a daily basis to support such a facility. Also, this alternative would not include clean closing the Class 1 area.

This alternative would be less effective than the proposed project at achieving some of the project objectives including maintaining a stable and relatively predictable cost structure for solid waste disposal. In addition, this alternative would specifically not achieve the project objectives of providing regional solid waste disposal capacity, providing net positive revenue to the County and to the applicant, minimizing future public health risks and liabilities and providing additional landfill disposal space by clean closing the existing Class I Area, and reducing greenhouse gas emissions by expanding conversion or reuse of landfill gas.

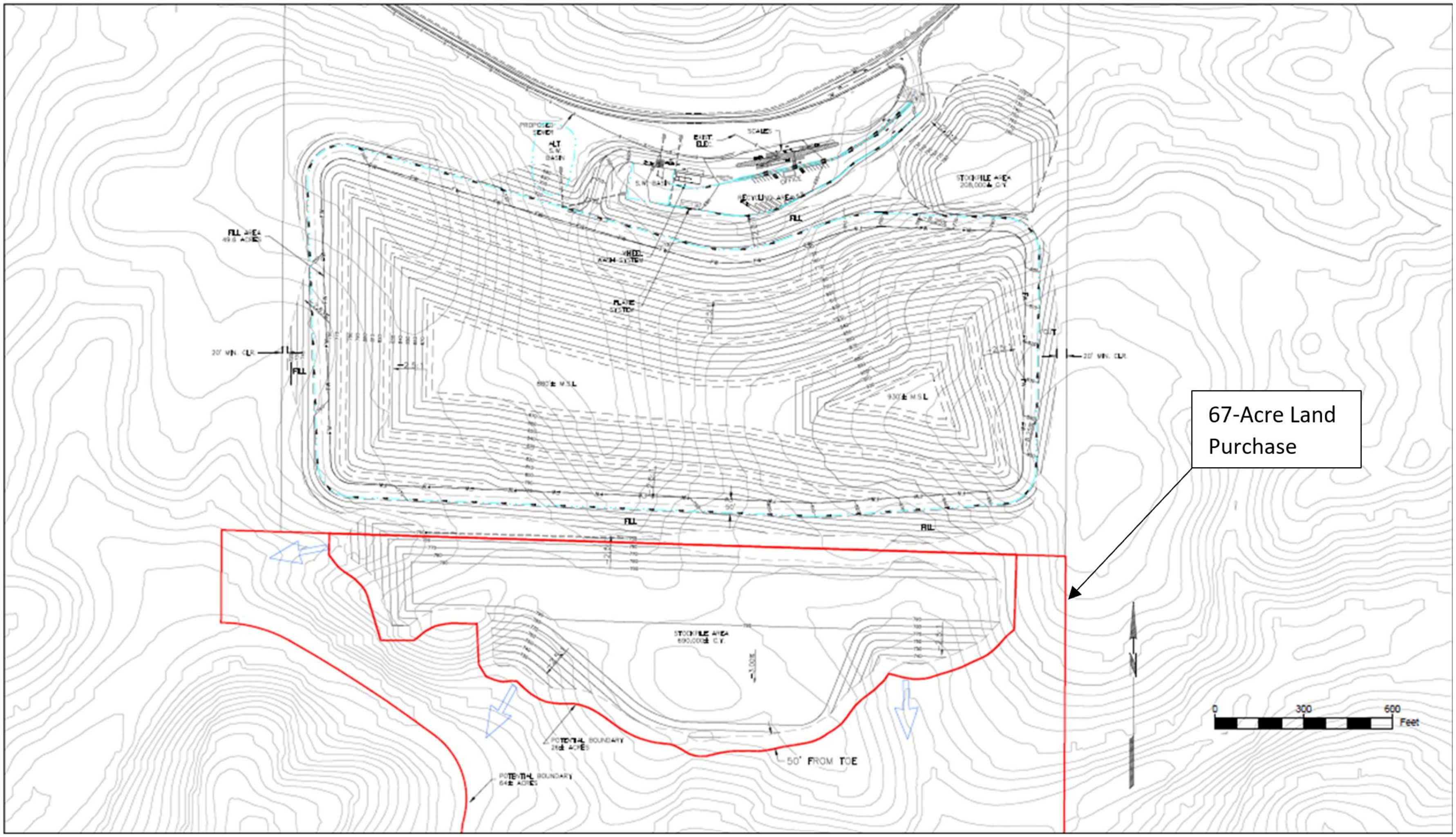
### 6.2.6 Alternative 4: Southern Landfill Alternative

#### Description

The Southern Landfill Alternative assumes that instead of expanding the JSRL to the north within the proposed 388.05-acre expansion area, a new landfill would be developed on the 101.3-acre County owned property located south of the JSRL (Figure 6-2). This new landfill would be adjacent to the JSRL but would be a separate landfill located across John Smith Road from the JSRL, which would still operate for an additional 15 years to accept in-County waste. Also, this alternative would involve the purchase of an additional 67 acres of land to the south to accommodate soil stockpile requirements. This expansion is proposed to have a peak height of 941 feet, or 21 feet above the existing permitted height and a total waste footprint of 49.6 acres. This expansion would result in an increase in effective landfill disposal capacity of 8,724,000 cubic yards. To accommodate this expansion, a total of approximately 3,162,000 cubic yards of soil excavation would be necessary and 611,000 cubic yards of fill would be required over the life of the expansion.

This alternative is projected to extend the site life for the existing JSRL by approximately 19 years (beyond the current 15-year in-County capacity) if 1,000 tons per day are received and by less than 10 years if 2,300 tons per day are received. In addition, this alternative would be less likely to include the renewable natural gas facility due to space limitations on the southern parcel (which may require the plant to be constructed at the existing landfill), decreased landfill gas from the decreased daily tonnage and reduced landfill life, and increased cost and potential constraints with an RNG facility processing landfill gas from different sides of John Smith Road. This alternative also would not include the clean closure of the Class I Area or use of that area for waste disposal.

To accommodate this expansion on the southern property, approximately 2,100 feet of John Smith Road would be widened adjacent to the southern property; this widening would be required because John Smith Road narrows as it extends east past the existing landfill entrance. In addition, the existing sewer force main in John Smith Road would be extended approximately 2,000 feet east to the landfill location. A 3,000-gallon water tank would be installed to support the site's operations. A stormwater retention area would be constructed and approximately two acres of the site would be paved to accommodate entry area facilities and vehicle movement. The site would include inbound and outbound scales and an office. A recycling area and household hazardous waste storage lockers would also be included, but the mercantile exchange (leave-one, take one) for used items would not be included.



Source: Lawrence & Associates 2021

**Southern Landfill Alternative**

**Figure 6-2**

## IMPACTS OF THE SOUTHERN LANDFILL ALTERNATIVE

### Land Use, Planning and Agricultural Resources

Because this alternative would develop a new landfill on adjoining property with a land use designation of Public Quasi Public (PQP), it would not require the amendment to the 2035 General Plan that would be required with the proposed project. The Resource Recovery Park (RRP) District zone currently prohibits landfilling in any form, thus this alternative would require a rezone or zoning code amendment to utilize the portion of the property with the RRP District zoning. (San Benito County Code section 5.17.105(A).) Similar to the proposed project, this alternative would generally be consistent with the relevant 2035 General Plan policies. This alternative would convert agricultural land to public uses. However, the converted land does not include Important Farmland; therefore, no Important Farmland would be converted.

In evaluating this alternative's consistency with the 2035 General Plan, the goals and policies of the General Plan were considered. The County seeks to balance the General Plan resource protection goals and policies with its goals and policies regarding economic development and providing necessary public facilities, by directing public facility uses to appropriate areas.

Similar to the proposed project, this alternative would not be expected to conflict with the 2035 General Plan policies that were adopted for the purpose of avoiding or mitigating an environmental effect and would not physically divide an established community. Therefore, the land use impacts of this alternative would not differ substantially from the proposed project.

This alternative would disturb less grazing land than the proposed project. Similar to the proposed project, this alternative would not be expected to impact any designated important farmland and would not result in significant agricultural resource impacts. Due to the smaller disturbance footprint, the agricultural resource impacts would be reduced with this alternative when compared to the proposed project.

### Transportation

The annual vehicle miles traveled with implementation of the Southern Landfill Alternative would generally be the same as those generated by the proposed project. However, due to the shorter operational life of the Southern Landfill Alternative, these transportation impacts would occur for a shorter duration. Therefore, the transportation impacts associated with this alternative would be less than with the proposed project.

### Air Quality

The air quality impacts associated with construction activities would be the same for the Southern Landfill Alternative as the proposed project with the exception of the activities being approximately 1,000-foot closer to residences to the southwest with this alternative. Both projects would require similar construction activities including the construction of landfill modules over the life of the landfill development. Air quality impacts associated with operations also would be similar between the Southern Landfill Alternative and the proposed project because they would accept similar tonnage levels on a daily basis and vehicle miles traveled would be similar because the site is adjacent to the project site. However, due to the shorter operational life of the Southern Landfill Alternative, these air quality impacts would occur for a shorter duration. Therefore, the air quality impacts associated with this alternative would be less than with the proposed project.

### Greenhouse Gas Emissions

Similar to air quality, the greenhouse gas impacts associated with construction and operational activities associated with the Southern Landfill Alternative would be similar to the proposed project. However, due to the shorter operational life of this alternative, these greenhouse gas impacts would occur for a shorter duration. Therefore, the greenhouse gas emissions generated at this alternative landfill site would be less than what would be generated at the proposed project site. Because this alternative may not include the construction of a renewable natural gas facility, it may not generate the greenhouse gas emission reductions associated with the operation of such a facility.

Also, while an expanded landfill would continue to operate under this alternative, the waste that would be accommodated by the proposed project would be directed to another regional landfill once this alternative landfill reaches its capacity, generating greenhouse gas emissions from the haul trucks driving to the other regional landfill and from the decomposition of diverted waste. Although the greenhouse gas emissions generated from the Southern Landfill Alternative site operations would peak and then substantially decrease once its capacity is reached and the final closure occurs, the total emissions generated would be reduced but would remain significant and unavoidable under the net-zero threshold.

### Noise

Similar to the proposed project, development of this alternative would generate construction noise associated with the use of heavy equipment for site grading and excavation, installation of utilities, paving, and other construction activities. This alternative would require the construction of all new entrance and scale house infrastructure on the southern property to accommodate site operations. However, the construction noise associated with this new infrastructure would likely not differ from the noise associated with expanding the proposed project's entrance infrastructure. This alternative would be expected to generate operation noise impacts similar to the proposed project because similar solid waste management operations would occur at this site. However, because this alternative would be located south of the JSRL rather than north, the noise impacts on the nearest residence to the west would be shifted to the residences to the southwest, and these residences would be about 1,000 feet closer than with the proposed project. As such, noise levels experienced by residences to the southwest and southeast would be expected to be slightly higher with this alternative. Therefore, the noise impacts would be generally greater for this alternative than the proposed project but would still be mitigated to a less-than-significant level.

### Biological Resources

Implementation of this alternative would disturb less area due to the smaller site footprint. However, the types of biological impacts would be similar due to the similarity in the habitat between the proposed expansion site and the southern property. Due to the smaller disturbance footprint, the biological impacts would be reduced with this alternative when compared to the proposed project.

### Cultural Resources

The potential impacts on cultural resources anticipated with this alternative would be relatively similar to the proposed project. No sensitive cultural resources were identified on the 101.3-acre County owned property, although there is the potential that as yet undiscovered subsurface cultural resources could be disturbed by site development and development of the additional 67 acres.

### Hydrology and Water Quality

Due to the small relative footprint of this alternative, the hydrology and water quality impacts are expected to be slightly reduced when compared to the proposed project. However, the extensive soil excavation and grading activities necessary to accommodate landfill development on the southern property would alter the site's hydraulic conditions and could result in adverse impacts not anticipated with the proposed project. For these reasons, this alternative would be expected to have either similar or slightly reduced hydrology and water quality impacts when compared to the proposed project.

### Geology and Soils

Due to the smaller relative footprint of this alternative, the geology and soil impacts are expected to be slightly reduced when compared to the proposed project. However, this alternative would require extensive soil excavation and grading activities to accommodate landfill development on the southern property. Also, the southern property may have its own unique geologic or soils conditions that could exacerbate anticipated impacts. For these reasons, this alternative would be expected to have either similar or slightly reduced geology and soils impacts when compared to the proposed project.

### Hazards, Hazardous Materials and Wildfires

The Southern Landfill Alternative would have hazards impacts similar to the proposed project, although they would occur for a shorter duration due to the reduced capacity associated with this alternative. The potential for this alternative to affect wildfire risks would be the same as the proposed project.

### Aesthetics

The visual resource impacts of this alternative would be reduced when compared to the proposed project due to the smaller total landfill footprint. Although views from some locations may be more adverse depending upon the viewpoint, the overall smaller landfill footprint would be expected to reduce this alternative's visual impacts when compared to the proposed project. However, the peak elevations would only be approximately 8 feet lower than the proposed project. Therefore, this impact would remain significant and unavoidable with this alternative.

### Public Services, Utilities and Energy

The implementation of this alternative would have similar or slightly reduced demands on public services and utilities such as electricity, water, wastewater, solid waste, fire protection, law enforcement and emergency medical services as the proposed project. Due to the shorter landfill life, the demands on these services would be eliminated sooner than with the proposed project. Therefore, the public service and utility impacts of this alternative would be slightly reduced when compared to the proposed project.

This alternative would include a smaller total landfill footprint and shorter site life, which would reduce energy demands at the project site when compared to the proposed project. Neither the proposed project nor this alternative would be expected to cause significant energy impacts.

## CONCLUSIONS

The Southern Landfill Alternative would reduce the severity of impacts anticipated with the proposed project for the majority of the resource areas evaluated. The primary reason this alternative would reduce these impacts is due to the smaller landfill size. However, this alternative would not reduce the significant and unavoidable visual and greenhouse gas emission impacts associated with the proposed project to less-than-significant levels.

By reducing the proposed landfill's size, this alternative would result in a shorter site life than would be anticipated with the proposed project. In addition, this alternative may not include the renewable natural gas facility due to space limitations and increased costs in connecting RNG facilities across John Smith Road and would not convert the Class I area into a Class III disposal area. Overall, this alternative would be less effective at achieving the project objectives including: providing a minimum of 50 years of solid waste disposal capacity for County residents, providing regional solid waste disposal capacity, maintaining a stable and relatively predictable cost structure for solid waste disposal, providing a net revenue increase to the County and the project applicant, clean closing the existing Class I Area, and may not reduce greenhouse gas emissions by expanding conversion or reuse of landfill gas.

## 6.2.7 ALTERNATIVE 5: TRANSFER STATION ALTERNATIVE

### DESCRIPTION

The Transfer Station Alternative assumes that the JSRL would accept only in-County waste for a period of 15 years until the landfill reaches its capacity in 2037. At that time, the landfill would be closed and waste generated within the county would need to be transported to an alternative regional landfill. To accommodate that transfer, this alternative assumes a transfer station would be constructed on industrially-zoned land in or near the City of Hollister. This alternative assumes that the Class I Area would not be clean closed and that a renewable natural gas facility would not be constructed at the landfill. A specific property has not been identified for the transfer station facility, although it would be expected to require approximately 10 to 15 acres.

The construction of a transfer station on a property in or near the City of Hollister would require a roughly 90- by 120-foot transfer station building, an office area, scale house, household hazardous waste storage lockers, a recycling area, parking areas for spare transfer trailers and employees/visitors, and an inert disposal area. The transfer station building would be designed to accept 200 to 300 tons per day with capacity to accommodate up to 400 tons per day during peak events. A loader would be needed to push waste and a material handler would be necessary for truck loading. A water tank ranging from 30,000 to over 100,000 gallons would need to be installed to support the transfer station's fire suppression and restroom requirements. A stormwater retention area would also be required and approximately two acres of the site would need to be paved to accommodate vehicle movement. This alternative would also require San Benito County to identify one or more out-of-County disposal sites to accommodate the transferred waste.

### IMPACTS OF THE TRANSFER STATION ALTERNATIVE

#### Land Use, Planning and Agricultural Resources

The construction of a transfer station is assumed to occur on land that is zoned for such uses. Therefore, this alternative is assumed to not require the amendment to the 2035 General Plan that would be required with the proposed project. Similar to the proposed project, this alternative would generally be consistent with the relevant 2035 General Plan policies. However, with implementation of this alternative, the County would not have adequate solid waste disposal capacity beyond the current 15 years, as required by General Plan Policy PFS-7.1.

Similar to the proposed project, this alternative would not be expected to conflict with the 2035 General Plan policies that were adopted for the purpose of avoiding or mitigating an environmental effect and would not physically divide an established community. This alternative would be expected to be developed on land zoned for industrial uses. Therefore, it would not be expected to result in the loss of agricultural land. The agricultural resource impacts associated with the proposed project would not occur with this alternative.

#### Transportation

This alternative would likely reduce the vehicle miles traveled when compared to the proposed project because most self-haul vehicles would likely travel shorter distances to access the transfer station than they would to access the project site.

#### Air Quality

The local air quality impacts associated with construction activities would be reduced when compared to the proposed project due to the substantially smaller level of construction necessary to build the transfer station. Also, the operational air quality emissions would be substantially less than for the proposed project due to the substantially reduced number of vehicles that would deliver waste to the site. Therefore, the air quality impacts within the County associated with this alternative would be less than with the proposed project.

## Greenhouse Gas Emissions

Similar to air quality, the in-County greenhouse gas impacts associated with construction activities would be reduced when compared to the proposed project due to the substantially smaller level of construction necessary to build the transfer station. Also, the onsite operational greenhouse gas emissions would be less than for the proposed project due to the reduced number of vehicles that would deliver waste to the transfer station. The additional waste that would be accommodated by the proposed project would be directed to other regional landfills with this alternative, generating greenhouse gas emissions from the haul trucks driving to the other regional landfill and from the decomposition of diverted waste at those landfills. Although the in-County greenhouse gas emissions generated at the Transfer Station Alternative site on a daily basis would be expected to be less than with the proposed project, the total regional GHG emissions would be similar over the long term, and the project impact would remain significant and unavoidable under the net-zero threshold.

## Noise

Similar to the proposed project, development of this alternative would generate construction noise associated with the use of heavy equipment for site grading and excavation, installation of utilities, paving, and other construction activities. This alternative would not include the ongoing construction projects that would be required of the proposed project including the regular construction of landfill modules. Further, noise from out-of-County haul trucks would be eliminated. Because a specific location for the transfer station has not been identified, it is unknown whether a selected site would have unique noise impacts. However, the transfer station is assumed to be constructed on a site within an industrially-zoned area. Therefore, noise generated from the transfer station would presumably be consistent with the surrounding land uses. Noise from transfer trucks would occur, however the total number of trucks would be less than with the project, resulting in substantially reduced haul truck noise compared with the project. Overall, the noise impacts associated with this alternative are expected to be less than with the proposed project.

## Biological Resources

Implementation of this alternative would disturb substantially less area due to the smaller site footprint. Because a specific location for the transfer station has not been identified, it is unknown whether a selected site would have unique biological resource impacts. However, the biological resource impacts associated with this alternative are assumed to be reduced when compared to the proposed project due to the substantially reduced size of the development compared to the project.

## Cultural Resources

The potential impacts on cultural resources anticipated with this alternative would likely be reduced when compared to those of the proposed project although this would ultimately depend on the selected site. No sensitive cultural resources were identified on the 388.05-acre expansion property, although there is the unlikely potential that as yet undiscovered subsurface cultural resources could be disturbed by site development. This alternative has a much smaller development footprint than the proposed project. Therefore, it would have a reduced potential to disturb as yet undiscovered subsurface cultural resources when compared to the proposed project.

## Hydrology and Water Quality

Due to the small relative footprint of the proposed transfer station when compared to the project's landfill expansion, this alternative would disturb a substantially smaller area than the proposed project. Because a specific location for the transfer station has not been identified, it is unknown whether a selected site would have unique hydrology and water quality impacts. However, the hydrology and water quality impacts associated with this alternative are assumed to be reduced when compared to the proposed project due to the reduced relative size of the development.

### Geology and Soils

Due to the small relative footprint of the proposed transfer station when compared to the project's landfill expansion, this alternative would disturb a substantially smaller area than the proposed project. Because a specific location for the transfer station has not been identified, it is unknown whether a selected site would have unique geology or soils impacts. However, the geology and soil impacts associated with this alternative would be reduced when compared to the proposed project due to the substantially reduced size of the development compared to the project.

### Hazards, Hazardous Materials and Wildfires

The operation of a transfer station would involve hazards and would include risks associated with the delivery of hazardous materials to the facility. However, due to the smaller total tonnage of waste accepted at the transfer station, the impacts would be reduced when compared to the proposed project. Also, due to the smaller development footprint, increased distance from wildfire hazard areas, and closer proximity to fire suppression services, the potential for this alternative to affect wildfire risks would be reduced compared to the proposed project.

### Aesthetics

Due to the small relative footprint of the proposed transfer station when compared to the project's landfill expansion, the aesthetic impacts of this alternative would be substantially reduced when compared to the proposed project. Depending upon where the transfer station is constructed, it could have significant new visual impacts. Because the scale of the transfer station would be substantially less than the proposed landfill expansion, development of the transfer station would not affect any ridgelines, and because it would be located in an industrial area, the visual impact associated with the proposed project would not be expected to be significant and unavoidable with this alternative.

### Public Services, Utilities and Energy

The implementation of this alternative would have reduced demands on public services and utilities such as electricity, water, wastewater, solid waste, fire protection, law enforcement and emergency medical services as the proposed project. Due to the shorter landfill life, the demands on these services at the landfill would be eliminated sooner than with the proposed project. Although these services would continue to be needed at the transfer station, the scale of the transfer station would be substantially smaller than the proposed project's landfill expansion. This alternative would eliminate the need for water supply for dust control after closure of the landfill. Therefore, the public service and utility impacts of this alternative would be reduced when compared to the proposed project.

This alternative would require substantially less energy demand than anticipated with the proposed project. However, neither the proposed project nor this alternative would be expected to cause significant energy impacts.

## CONCLUSIONS

The Transfer Station Alternative would eliminate many of the impacts anticipated to occur with implementation of the proposed project by avoiding the proposed landfill expansion on the project site. Specifically, the proposed project's significant and unavoidable visual impacts would be reduced to a less-than-significant level with the implementation of this alternative. However, similar to the No Project Alternative, because the proposed project does not control the volume of waste generation by the communities it serves, if the capacity of the JSRL is not increased, this waste disposal capacity would need to be accommodated at another landfill. This would result in the accelerated consumption of disposal capacity at another landfill (or landfills), which could ultimately require a vertical and/or horizontal expansion or earlier landfill closure. The physical impacts associated with accommodating this waste at other landfills cannot be predicted without understanding the circumstances of the other landfill. It would be speculative to evaluate the impacts associated with expanding a specific landfill located outside of the County. Impacts unique to the project site, such as the project's potential impacts on specific sensitive species, may be avoided with expansion at another regional landfill. However, other impacts could be more severe.

In summary, the implementation of the Transfer Station Alternative would be expected to have substantially fewer direct impacts within San Benito County than would be anticipated with the proposed project, although it may have impacts outside of the County. Other than the No Project Alternative, the Transfer Station Alternative would be considered the environmentally superior alternative because it would reduce the impacts of burying more wastes at the JSRL and those impacts would transfer to another permitted landfill with remaining capacity.

This alternative would not achieve many of the project objectives including providing a minimum of 50 years of solid waste disposal capacity for County residents, providing regional solid waste disposal capacity, maintaining a stable and relatively predictable cost structure for solid waste disposal, providing a net revenue increase to the County and the project applicant, and clean closing the existing Class I Area. This alternative would also not meet the requirements of San Benito County 2035 General Plan Policy PFS-7.1, which states that the County shall ensure that there is adequate capacity within the solid waste system for the collection, transportation, processing, recycling, and disposal of solid waste to meet the needs of existing and projected development.

### 6.2.8 ALTERNATIVE 6: SOUTH FAIRVIEW ROAD HAUL ROUTE

#### DESCRIPTION

This alternative can be applied to the proposed project, the 1,000 Ton Per Day Alternative, the 1,700 Ton Per Day Alternative, and the Southern Landfill Alternative. The analysis below assumes that it would be applied to the proposed project.

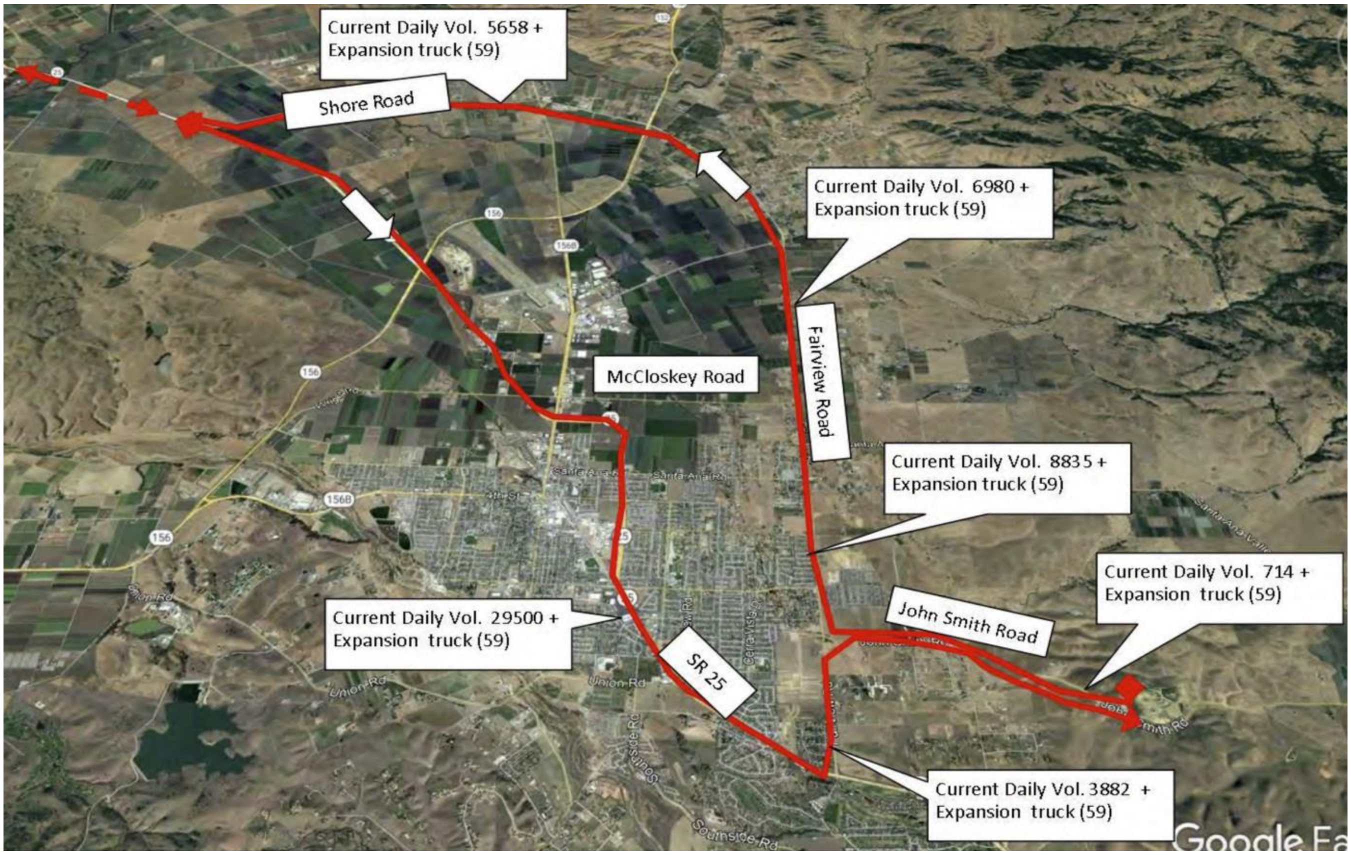
This Alternative assumes that instead of out-of-County commercial vehicles using the segment of Fairview Road north of John Smith Road to access the project site, these vehicles would instead use the segment of Fairview Road south of John Smith Road. Vehicles driving southbound on State Route 25 to the site would turn left on Fairview Road, and then turn right on John Smith Road to the JSRL entrance. The pavement condition for this segment of Fairview Road south of John Smith Road is very good.

Departing out-of-County commercial vehicles would travel the route as the proposed project, which is westbound on John Smith Road, would turn right on Fairview Road and would continue on Shore Road to access State Route 25 (Figure 6-3). For this departing route, the same improvements as the proposed route would be required, which include repaving parts of Fairview and Shore Roads.

This alternative haul route alternative effectively splits the out-of-County vehicle trips such that the fully-loaded vehicles would arrive from the south and would depart to the north, therefore minimizing the distance that fully loaded out-of-County commercial vehicles would travel on County roads when compared to the proposed project. The intersection at State Route 25 and Fairview Road is controlled by 4-way-stop signs with overhead stop signal heads at the State Route 25 approaches.

A constraint to using this route is that the northbound right-turn at the intersection of Fairview Road and John Smith Road is at a sharp angle that is difficult, if not impossible, for the out-of-County commercial vehicles to make the turn. The County previously had plans to relocate the intersection further north to align with St. Benedict Road to provide a four-way intersection with a traffic light; however, this project is no longer on the County's five-year Capital Improvement Program, which indicates that there are no plans to implement this project at this time. If this alternative was selected, the realignment project would need to be added to the Capital Improvement Program and an interim route would need to be selected until the realignment project was complete.

The purpose of this alternative route is to minimize out-of-County truck trip lengths on County roads. The current route for out-of-County commercial vehicles from State Route 25 to Shore Road to Fairview Road and to John Smith Road results in a round trip in excess of 30 miles on County roads. The project proposes to use Wright Road-McCloskey Road as the designated incoming route for out-of-County vehicles, which would shorten the round-trip distance to State Route 25 to approximately 22 miles. However, using the southern segment of Fairview Road would further shorten the round-trip distance on County roads between the project site and State Route 25 to approximately 15 miles. The roads for this alternative all have capacity to accommodate the haul trucks and there are no hazards/constraints other than the right turn from Fairview to John Smith Road.




Source: PHA 2022

**South Fairview Road Haul Route Alternative** **Figure 6-3**

Haul route conditions for the existing haul route, the proposed project haul route, this alternative haul route, and the Best Road Alternative are summarized in Table 6-1, after the Best Road Haul Route discussion.

### IMPACTS OF THE SOUTH FAIRVIEW ROAD HAUL ROUTE ALTERNATIVE

Because this alternative is limited to an alternative truck haul route for out-of-County waste delivery vehicles, the impact discussion below is limited to the resource topics that would be affected by this haul route. The Fairview Road/John Smith Road intersection improvement previously proposed by the County would need to be implemented prior to the project being able to use this alternative haul route. However, because this intersection improvement was previously evaluated in a Mitigated Negative Declaration in 2002 prepared by the County, the physical impacts associated with this realignment are not discussed below (July 22, 2002 Notice of Determination, State Clearinghouse Number 2002061036).

### Transportation

The use of the segment of Fairview Road south of John Smith Road as a haul route for incoming out-of-County commercial vehicles would be expected to increase vehicle traffic on this roadway segment by 95 one-way trips, or approximately 2.4 percent of the existing 3,882 average daily trips estimated on this roadway (PHA 2022). The distance traveled by these vehicles would be slightly increased (i.e., 29 roundtrip miles versus 28) when compared to the proposed project. Therefore, the total distance traveled would be slightly increased with this alternative. Because this haul route alternative would not direct any commercial vehicle trips to Wright Road/McCloskey Road, it would not impact these roadways and would not require any improvements. CEQA does not require assessment of heavy-duty truck VMT impacts; self-haul VMT under this alternative would be similar to with the proposed project.

Inbound route pavement conditions are very good, however outbound conditions are fair to poor, and would require mitigation, as with the project. Mitigation would occur through payment of the fair share fee toward roadway maintenance and pavement improvements along the haul route (Mitigation Measure 4.2-3).

### Air Quality and Greenhouse Gas Emissions

This alternative would not be expected to increase air quality and greenhouse gas emissions when compared to the proposed project because it would not alter the number of vehicle trips generated by the proposed project. Use of the segment of Fairview Road south of John Smith Road would not substantially alter the vehicle miles traveled by the out-of-County waste delivery vehicles. As such, the associated air and greenhouse gas emissions from these out-of-County vehicles would not substantially change. Therefore, the air quality and greenhouse gas impacts associated with this alternative would be similar to the proposed project.

### Noise

This alternative would not be expected to substantially increase vehicle noise for residents along Fairview Road. The proposed project is estimated to increase vehicle noise along Fairview Road north of John Smith Road by less than one decibel, which is undetectable by the average human (see Table 4.5-7 in Section 4.7, Noise, of this Draft EIR). Therefore, by splitting the incoming and outgoing commercial vehicle trips on Fairview Road with this alternative, the projected noise levels along the segment of Fairview Road north of John Smith Road would be slightly reduced when compared to the proposed project haul route and the projected increase in noise levels along the segment south of John Smith Road would be undetectable (i.e., less than 1 decibel). The traffic noise impacts along Fairview Road with implementation of this alternative would be less than significant, as with the proposed project.

## CONCLUSIONS

The South Fairview Road Haul Route Alternative would add commercial haul truck trips to the segment of Fairview Road south of John Smith Road. However, because the total number of commercial vehicles would not change and the total travel distance would be similar, and because self-haul trips would be the same as with the proposed project, the redirection of these vehicle trips would not substantially affect vehicle miles traveled when compared to the proposed project. Reconstruction of portions of the outbound route would be required, as with the proposed project. In addition, construction of a new intersection at Fairview and John Smith Road would be required.

For air quality and greenhouse gas emission impacts, this alternative would not substantially differ from the proposed project because it would not alter the number of vehicle trips generated by the proposed project or travel distances. By splitting the incoming and outgoing directions of the commercial vehicles, the noise impacts on the segment of Fairview Road north of John Smith Road anticipated with the proposed project would be slightly reduced when compared to the proposed project and noise levels would be slightly increased on the road segment south of John Smith Road. However, because these transportation noise impacts were determined to be less than significant, the traffic noise impacts along Fairview Road with implementation of this alternative would not differ substantially from those anticipated with implementation of the proposed project.

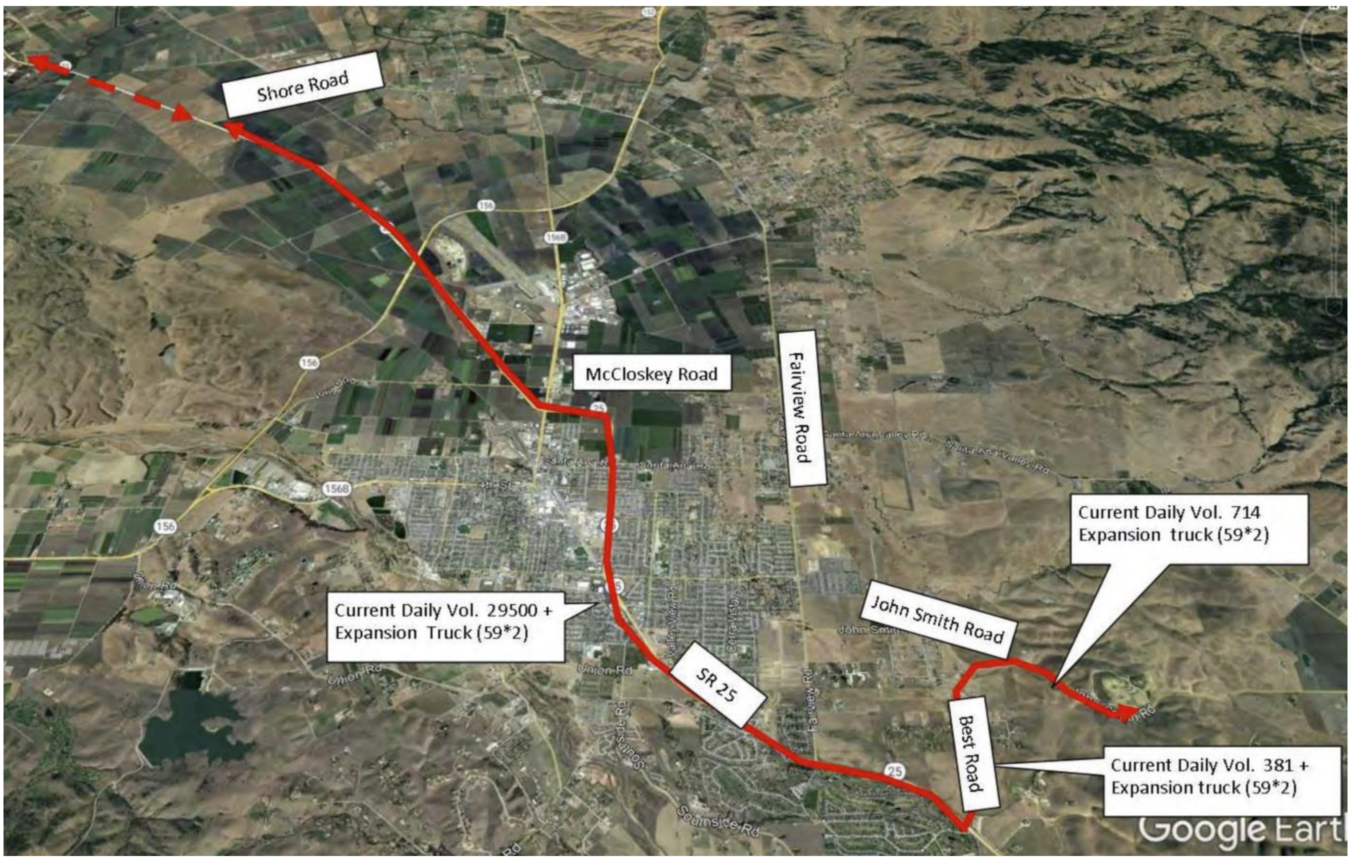
## 6.2.9 ALTERNATIVE 7: BEST ROAD HAUL ROUTE

### DESCRIPTION

This alternative can be applied to the proposed project, to the 1,000 Ton Per Day Alternative, and to the 1,700 Ton Per Day Alternative. The analysis below assumes that it would be applied to the proposed project.

The Best Road Haul Route Alternative assumes that instead of out-of-County commercial waste delivery vehicles using Fairview Road to connect to John Smith Road to access the project site, these vehicles would instead use State Route 25 to access the southern end of Best Road and would travel north on Best Road to its intersection with John Smith Road (Figure 6-4). The out-of-County commercial vehicles would turn right from Best Road onto John Smith Road to access the project site. Departing out-of-County commercial vehicles would use the same route in reverse to access State Route 25. Existing and future in-County residential and commercial vehicles are assumed to continue to access the site using Fairview Road to John Smith Road.

State Route 25 has paved shoulders and a 55 mile per hour (mph) posted speed limit in the vicinity of Best Road. The intersection at Best Road is controlled by two-way stop signs at Best Road and South Ridgemark Drive. John Smith Road makes up the remainder of this route. Best Road has one travel lane in each direction measuring about ten feet wide, which is about the same width as John Smith Road. It has a limited semi-paved shoulder on




Source: PHA 2022

**Best Road Haul Route Alternative** **Figure 6-4**

the east side of the road and a mostly grassy shoulder on the other side. There are no issues with turning capacity or geometries, and no need for any additional turn lanes. There is no posted speed limit sign on Best Road and the recorded speed is about 55 mph. The prima facie speed limit under state law on Best Road is 55 mph. The route has had 175 reported collisions between 2016 and 2020, representing an average of 35 collisions annually. Only one collision was reported on Best Road during the same five years because the remainder occurred on State Route 25. Traffic at the Best Road and John Smith Road intersection is controlled by a stop sign at the Best Road approach (PHA 2022). Roadway pavement conditions on all segments of this haul route are very good.

With this alternative, out-of-County commercial vehicles that currently travel on Fairview Road and the segment of John Smith Road between Fairview Road and Best Road would be diverted to Best Road. The average number of current out-of-County commercial vehicles is 36 per day and the proposed project is estimated to increase this number to up to 95 per day. This would represent a total of 190 one-way commercial vehicle trips per day traveling on this alternative haul route.

The purpose of this alternative route is to minimize out-of-County truck trip lengths on County roads. The current route for out-of-County truck trips from State Route 25 to Shore Road to Fairview Road and to John Smith Road results in a round trip in excess of 30 miles on County roads. The project proposes to use Wright Road-McCloskey Road as the designated incoming route for out-of-County vehicles, which would shorten the round-trip distance on County roads to approximately 22 miles. However, using the Best Road route would further shorten the round-trip distance on County roads between the project site and State Route 25 to approximately 4 miles. Therefore, it complies most fully with County Policy C-5.5, which states that the County shall encourage inter- and intra-regional truck traffic to use State and Federal highways, to maintain the primary role of County roads as serving local and agricultural traffic (PHA 2022).

Haul route conditions for the existing haul route, proposed project haul route, this alternative haul route, and the Fairview South Alternative are summarized in Table 6-1, at the end of this discussion.

### IMPACTS OF THE BEST ROAD HAUL ROUTE ALTERNATIVE

Because this alternative is limited to an alternative truck haul route for out-of-County waste delivery vehicles, the impact discussion below is limited to the resource topics that would be affected by this haul route.

### Transportation

The use of Best Road as a haul route by out-of-County waste delivery vehicles would be expected to increase vehicle traffic on Best Road by approximately 50 percent. Existing average daily trips are estimated to be 381 on this roadway and this alternative would add an average of 95 daily commercial vehicles or 190 one-way truck trips (PHA 2022). During a noise survey conducted at the site on July 21, 2021, no trucks were observed using Best Road (Rincon Consultants, Inc. 2021).

The use of Best Road would not alter the vehicle miles traveled by self-haul vehicles delivering waste to the project site. Therefore, the vehicle miles traveled impacts would be similar between this alternative and the proposed project (PHA 2022).

Of the haul routes evaluated, this alternative would have the lowest potential for future residential development that could increase vehicle trips along the haul route and potential conflicts with commercial vehicles. The existing route and the proposed Wright-McCloskey route each have substantial amounts of future residential development potential at 1.5 dwelling units per acre (Wright-McCloskey) and higher (Fairview Road), compared to the Best Road route, which has a maximum residential allowed residential development density of 1 dwelling units per 2.5 acres. Wright-McCloskey and Best Road each have about 50 percent Agricultural Rangeland designated uses abutting one side of the roads. According to data obtained from the County and field observation, there are several proposed and approved development projects along the Fairview Road corridor, and some of them are already under construction. Once these projects are completed and occupied, traffic along the Fairview Road corridor could increase substantially. This could result in increased congestion and the potential for traffic conflicts with project haul trucks (PHA 2022).

However, the San Benito High School District owns land on the west side of the southern end of Best Road that it is considering utilizing as a site for a future high school. If constructed, this high school would add additional vehicle trips to the SR 25/Best Road intersection that could increase vehicle trips along the haul route and potential conflicts with commercial vehicles.

With the exception of improvements at the landfill entrance, this alternative would not require the intersection improvements associated with the other two haul routes evaluated (proposed project haul route and Fairview South Haul Route) or the repaving of Wright-McCloskey Road or portions of Shore-Fairview Road. It also has the shortest distance on County roads and is therefore superior to the other routes in terms of compliance with County Policy C-5.5, which states that the County shall encourage inter- and intra-regional truck traffic to use State and Federal highways, to maintain the primary role of County roads as serving local and agricultural traffic (PHA 2022).

Best Road was recently repaved based on a TI = 8.0 with a pavement design life of 20 years, and the PCI for Best Road is 100 (PHA 2022). Unlike the proposed route, the Best Road Haul Route would not require reconstruction of pavement that is deficient under existing conditions. This alternative would still have impacts to the pavement over the life of the project, which would be mitigated through payment of the fair share fee toward roadway maintenance and pavement improvements along the haul route (Mitigation Measure 4.2-3).

### Air Quality and Greenhouse Gas Emissions

This alternative would not be expected to increase air quality and greenhouse gas emissions when compared to the proposed project because it would not alter the number of vehicle trips generated by the proposed project. Also, the use of Best Road would not substantially alter the vehicle miles traveled by the out-of-County waste delivery vehicles. As such, the associated air and greenhouse gas emissions from these out-of-County vehicles would not change. Therefore, the air quality and greenhouse gas impacts associated with this alternative would be similar to the proposed project.

### Noise

This alternative would be expected to substantially increase vehicle noise for residents along Best Road. Seven single family homes are located directly adjacent to Best Road and multiple other residences are located within the rural residential area to the east and west of Best Road. Existing noise levels were measured at 51 decibels using the A-weighted sound pressure level (dBA) (Rincon Consultants 2021). This noise level is representative of a relatively quiet rural roadway that does not include regular truck traffic. With implementation of this alternative, the noise levels experienced by the seven residences located directly adjacent to Best Road would increase by approximately 7 dBA once the landfill reaches its peak permitted tonnage limit. However, this noise increase to 58 dBA, $L_{dn}$ (existing 51 dBA, $L_{dn}$ increasing by 7 dBA to 58 dBA, $L_{dn}$) would not exceed the County's transportation noise threshold of 60 dBA, $L_{dn}$ for residential uses.

If eventually constructed, the potential new high school on Best Road also would be exposed to increased haul truck noise under this alternative. In addition, new vehicle trips associated with a potential new high school on the southern end of Best Road, if it is ever built, could incrementally contribute to these traffic-generated noise impacts.

## CONCLUSION

The Best Road Haul Route Alternative would substantially increase noise levels on Best Road when compared to the proposed project but would not be expected to substantially alter air quality and greenhouse gas impacts or to increase vehicle miles traveled. Although existing out-of-County waste delivery vehicle trips would be reduced on the western portion of John Smith Road and on Fairview Road north of John Smith Road, that traffic noise reduction would be offset by the increased noise experienced by residents along Best Road. Out-of-County commercial truck noise would move from Fairview Road to Best Road. There would be a greater noise level increase on Best Road (compared to Fairview Road that has substantially greater existing traffic noise). The

**Table 6-1**
**Comparison of Haul-Route Characteristics and Traffic Safety**

| Haul Routes | Travel Lanes | Paved Shoulder | Bike Lanes | Observed Speed (mph) | Travel Directions | Travel Time (min) | Pavement Condition | Traffic Collisions 2016-2020 | Potential Haul-Route Operational Hazards and Collisions |
|---|---|---|---|---|---|---|---|---|---|
| **Current Haul Route** | | | | | | | | | |
| Out-of-County Trucks Route length - 30 miles (State Route: 0 miles, County Road: 30 miles) | 2 | On SR 25 Segment only | No | >50 | Both | 41.2 | Varies- Generally Fair to Poor | 97 | Lack of southbound (SB) left-turn Lane at Fairview Rd. and John Smith Rd. intersection. |
| **Proposed Project Haul Route** | | | | | | | | | |
| Out-of-County Trucks Route length - 28 mi. (State Route: 6 miles, County Road: 22 miles | 2 | On SR 25 Segment only | No | >50 | Inbound Outbound (Split) | 20.2 19.4 | Varies- Generally Good to Poor | 121 | Lack of WB right-turn lane at the intersection of McCloskey/Fairview; Traffic signal and utility poles in the way at the SW corner of the intersection. Lack of SB left-turn Lane at Fairview Rd and John Smith Rd. intersection. |
| **South Fairview Road Alternative Haul Route** | | | | | | | | | |
| Out-of-County Trucks Route length - 29 miles. (State Route: 14 miles, County Road: 15 miles | 2 | On SR 25 Segment only | No | >50 | Inbound Outbound (Split) | 20 20 | Inbound is Very good Outbound is Fair to Poor | 273 | Sharp angle at NB right-turn from S. Fairview Road to John Smith Road |
| **Best Road Alternative Haul Route** | | | | | | | | | |
| Out-of-County Trucks Route length - 28 miles. (State Route: 24 miles, County Road: 4 miles) | 2 | On SR 25 Segment only | No | >50 | Both | 50.1 | Very Good | 175 | Narrow travel lanes < 12 feet wide, the same as John Smith Road |

In-County trucks and residential self-haul vehicles are not evaluated here as they do not have designated haul routes. Distance=Measured in both directions (round trip) for inbound and outbound. Travel time: Measured in minutes over 5 runs on a weekday in both directions from Google Maps. Each run includes a range of high and low travel times. Travel times are recorded from 8 am to 4 pm at 2-hour intervals. Collision: Total collisions of 5 years between 2016 and 2020 were obtained from the TIMS (Transportation Injuries Mapping System) website at UC Berkeley with data provided by CHP/SWITRS. Route lengths include inbound and outbound. The total reported traffic collisions for San Benito County were 14,66 between 2016 and 2020.

resulting noise using Best Road would be less than the future noise on Fairview Road (with the traffic from the proposed project), and the Best Road Alternative would affect fewer residences than the Fairview Road route, but because of the lower existing traffic and traffic noise on Best Road, the project increase on Best Road would be a much more noticeable and an obvious increase in noise compared to the existing noise levels from the limited traffic on Best Road. In addition, the potential new high school on Best Road, if constructed, may contribute to, and be affected by traffic and noise associated with this alternative.

## 6.2.10 ALTERNATIVE 8: NEW COMPOST FACILITY

### DESCRIPTION

This alternative can be applied to the proposed project, to the 1,000 Ton Per Day Alternative, and to the 1,700 Ton Per Day Alternative. The analysis below assumes that it would be applied to the proposed project.

The New Compost Facility Alternative assumes that a compost facility would be constructed on the 101.3-acre County-owned property located directly south of the JSRL as part of the expansion project, alternatively the compost facility could be sited in the landfill expansion area and periodically relocated.

In 2010, San Benito County prepared an Environmental Impact Report for a resource recovery park (RRP) on a 30-acre portion of this southern property (ESP 2011). The project reviewed in the EIR included a green and wood waste composting facility that would accept 10,200 tons of these feedstocks and then sell finished compost on 12 acres of the proposed 30-acre site (the specific location of the composting facility was not identified). However, the zoning overlay approved for the RRP site did not include a composting facility in the RRP District and prohibits such uses at the site. Therefore, rezoning would be required to permit this use within the RRP District. The RRP, of which the composting facility was part, would have required widening the portion of John Smith Road from the entrance to JSRL, approximately 3,300 feet to the new entrance with the RRP.

Common methods of composting include:

- Conventional Turned Windrow composting in which the processed feedstock is arranged in rows turned and watered periodically to provide aeration and moisture for composting.

- Aerated Static Pile (ASP) composting in which blower and piping are used to aerate the pile rather than turning. Air is supplied either using pressure or vacuum to push air into or pull air through the pile. The rate of air flow is managed to regulate the temperature in the pile. These methods typically require a biofilter to control odors. This method can accelerate the composting process and reduce the area needed for composting.

Composting is generally performed using the following steps:

Unloading and Processing: During the composting process, “feedstock” consisting of green waste (e.g., yard trimmings, grass clippings), food waste, and additives (such as manure), is unloaded on a paved or other low-permeability surface and then processed by chipping or grinding within 72 hours. Food waste can tend to be wet and sometimes odorous and is commonly placed on a bed of green waste and then covered with more green waste prior to processing. Once the food waste is processed with the green waste, the potential for odor is reduced.

Active Composting: The processed feedstock is wetted and placed in either windrows or piles for composting. As the feedstock decays, it generates heat (typically between 131- and 160-degrees F) and enters the “active” composting phase for at least 15 days during which the compost is turned at least 5 times (windrow composting) or aerated and watered for at least 21 days (aeriated static pile) to promote aerobic decomposition and reduce the potential for anaerobic decomposition and odors. During the active phase, the compost is maintained at no less than 131-degrees F for no less than 72 consecutive hours for pathogen reduction during which weed seeds are killed. Active composting is finished once the rows can no longer support a temperature over 121-degrees F under adequate aeration and appropriate moisture conditions. Temperature and moisture content are monitored frequently and in numerous locations during active composting to evaluate composting progress and minimum temperature. The composting phase typically takes three to six weeks.

Curing: Once the compost has gone through the pathogen reduction phase and can no longer sustain a composting temperature, it enters the "curing" phase. Typically, the composting windrows are disassembled, turned, watered, and moved into larger piles for curing. Compost typically cures at temperatures ranging from 120 to 140 degrees F for one to three months. Curing windrows may periodically be turned to enhance and shorten the curing process. Moisture may also be added to the windrows as needed to maintain suitable curing conditions.

Finished Compost Processing: After curing is completed, the compost is screened in a trommel (rotating drum screen), disc screen, or another method to create a product of a desired size. The compost may sometimes be amended with sand or gypsum to provide the attributes desired by the customer. The finished compost for sale must have less than 0.5% trash.

Storing, Loading, and Export: Compost is commonly consumed seasonally in the spring and fall, although some is consumed year-round. Depending on the marketing strategy, compost may be sold to farmers or landscapers in bulk or to the public in smaller quantities.

For a typical covered ASP facility, approximately 4 acres would be required for the active composting and curing areas. This area would drain into a 0.7-acre stormwater retention pond. Another 3.8 acres would be required for finished compost storage. For a typical windrow composting facility, approximately 5 acres would be required for active composting and curing that would drain into a 0.7-acre stormwater basin. Another 5 acres would be required for finished compost storage. The conceptual areas are designed for the projected tonnage of 40,349 tons per day and approximately 0.79 years of finished compost storage to allow seasonal variations in compost sales. The initial composting needs would likely be less than the design tonnage (Lawrence and Associates 2022).

### IMPACTS OF THE NEW COMPOST FACILITY ALTERNATIVE

#### Land Use, Planning and Agricultural Resources

This alternative component would not be expected to conflict with the 2035 General Plan policies that were adopted for the purpose of avoiding or mitigating an environmental effect and would not physically divide an established community. The southern property has a land use designation of Public Quasi Public, which would accommodate the composting operations. However, it would require rezoning of the RRP District site. A rezone would not be required if the compost facility was sited on the landfill expansion area, but the General Plan amendment proposed for the project would still be required. Therefore, the land use impacts of this alternative would not differ substantially from the proposed project.

If sited on the southern property, this alternative would disturb greater acreage of grazing land than the proposed project due to the development on the southern property. Therefore, the impacts on agricultural resources would be greater with this alternative than with the proposed project, if sited on the southern property. If sited in the landfill expansion area and relocated periodically, this alternative would have similar impacts on agricultural resources as the proposed project.

#### Transportation

Sixty-four percent of the projected feedstock is currently brought to the site and is accounted for in the projected traffic to the site as described in the Design Basis Report for the existing expansion project. If the feedstock currently taken to another site is re-routed to JSRL, the traffic would be expected to increase by four solid waste vehicle trips per day, with the number depending on how full the truck is, density of waste, and route orientation.

If food waste is accepted, another 5 loads per day would enter the site. It is anticipated that two to three employees would be needed to operate the facility, resulting in another two to three trips per day by passenger cars or light duty trucks. Compost sales would result in additional trips with the number of trips depending on the types of customers. Generally, the weight of the resulting compost is approximately half of the incoming feedstock. Assuming an average 118 tons per weekday inbound initially, approximately 59 tons per day on average would leave the facility. Assuming an average of 2 tons per load (mixture commercial and public), another 30 trips per day would be required to remove the compost on average, with peak trips being higher (although some customers would likely pick up compost after dropping off recyclables or waste). Overall, approximately 42 trips would be added to the projected project traffic initially and would grow to 55 trips over the life of the project (based on the ratio of beginning and ending [2087] tonnage). Therefore, this alternative would be expected to increase transportation impacts when compared to the proposed project.

### Air Quality

The air quality impacts associated with this alternative would be expected to be slightly greater than anticipated with the proposed project due to the additional emissions generated by the composting operations at the site. The composting process generates volatile organic compounds (VOCs) predominantly during the active composting phase. In 2022, the San Joaquin County Air Pollution Control District (SJCAPCD) updated their 2010 Compost Emissions Factor Report and established an emissions factor of 3.58 lbs. of VOC per ton of feedstock for organic materials composting. The SJCAPCD has the most relevant emission factors for composting facilities. At the design capacity of 40,349 tons per year, uncontrolled emissions would be 396 lbs. per day. VOC is an ozone precursor. Without any controls, the annual capacity would need to remain below 14,000 tons per year to remain below the 137 lb./day significance threshold (lower when combined with net emissions from the landfill) unless a covered ASP system is used. These systems can reduce VOC emissions by greater than 90 percent when a 12-inch thick biofilter cover is applied.

Also, VOC emissions from compost facilities potentially contain hazardous air pollutants as defined by the USEPA and/or toxic air contaminants as defined by the California Air Resources Board. These toxic air contaminants can cause adverse health effects at elevated levels. Because this alternative would introduce a new source of toxic air contaminants into the local environment, this alternative could have greater health risks than the proposed project.

This alternative would also increase the generation of criteria air pollutants when added to the proposed project due to the additional operational activities and the increase in vehicle trips to the project site.

In addition, compost facilities can  produce odors that can be offensive to residents and others within proximity to the compost operations, especially if best management practices are not implemented to reduce odors. The greatest potential for odors is when actively composting piles or wind rows are turned or otherwise disturbed. The application of moisture prior to and/or during the turning process helps reduce odors, as does the use of covered ASP systems.

Overall, the air quality impacts associated with this alternative would likely be slightly greater than with the proposed project.

### Greenhouse Gas Emissions

Compost currently transported to the South Valley Organics facility (average of 7,847 tons per year) would result in a reduction of GHG emission based on a reduction of travel distance between the current composting site and JSRL. Assuming most of the feedstock comes from the City of Hollister, and the center of the City of Hollister is assumed to be the centroid of the hauling area, the South Valley Organics site is 14.2 miles from City Hall via Highway 156B and JSRL is 5.7 miles via Hillcrest Road; a difference of 8.5 miles. Therefore, this alternative would have reduced GHG impacts when compared to the proposed project.

### Noise

The equipment used to process feedstock creates noise during daylight hours similar to the landfill operations. Much of the equipment is used discontinuously. If a covered ASP system is implemented, noise from the blowers would occur 24-hours per day. Due to the site's relatively remote location and distance from sensitive receptors, the noise impacts of this alternative would not differ substantially from those of the proposed project without this facility.

### Biological Resources

If sited on the southern property, the development of this alternative has a slightly greater potential to disturb biological resources due to the additional disturbance of grasslands. Still, implementation of this alternative would have biological resource impacts similar to the proposed project due to the similar habitat characteristics of the southern property. If sited on the landfill expansion project area and periodically relocated, the impacts would be the same as the proposed project.

### Cultural Resources

Implementation of this alternative would have cultural resource impacts similar to the proposed project due to the similar characteristics of the southern property. Although no sensitive cultural resources were identified on the project site, the development of this alternative has a slightly greater potential to disturb as yet undiscovered subsurface cultural resources because this alternative would disturb areas that are proposed to be preserved with project implementation, if sited on the southern property. If sited on the landfill expansion project area and periodically relocated, the impacts would be the same as the proposed project.

### Hydrology and Water Quality

If sited on the southern property, the hydrology and water quality impacts associated with this alternative are expected to be greater than with the proposed project due to the larger disturbance area. The compost facility would require the construction of a stormwater retention pond that would need to be designed to collect all of the water from the unloading, active composting and curing areas, while not contributing to an increase in stormwater runoff from these areas. Because finished compost tends to absorb rainfall, the finished compost storage areas would not be expected to increase the rate of surface water runoff. The expanded site development associated with this alternative could contribute to increased site erosion and associated water quality degradation in offsite water channels. If sited on the expansion area and moved periodically, impacts to hydrology and water quality would likely be the same as the proposed project.

### Geology and Soils

If sited on the southern property, the geology and soil impacts associated with this alternative are expected to be greater than with the proposed project due to the larger disturbance area. This would primarily be related to an increased potential for soil erosion. The composting operations would not be expected to adversely otherwise affect geology or soils. If sited on the expansion area and moved periodically, impacts to geology and soils would likely be the same as the proposed project.

### Hazards, Hazardous Materials and Wildfires

The hazards, hazardous materials and wildfire impacts associated with this alternative are expected to be slightly greater than the proposed project because it would add compost operations and the associated heavy equipment necessary for these operations to those associated with the proposed project's landfill operations. Also, with additional vehicle trips to the project site, there is an increased potential for hazardous materials spills. There is the potential for fires in the composting area, either triggered by a wildland fire, lightning, equipment malfunction or spontaneous combustion. Fires could range from a smoldering pile, which could be extinguished by site staff, to piles with open flames.  While slightly increased due to increased operations, the impacts to hazards, hazardous materials, and wildfires are likely to remain less than significant similar to the proposed project.

### Aesthetics

If sited on the southern parcel, the visual resource impacts of this alternative would be greater than for the proposed project because it would include a waste management activity on the southern property that may be preserved with project mitigation. However, due to the intervening topography surrounding the southern property, the composting operations would be expected to only be visible to travelers on John Smith Road near the project site. If sited on the expansion area and moved periodically, impacts to aesthetics would likely be the same as the proposed project.

### Public Services, Utilities and Energy

The implementation of this alternative would increase the demands on public services and utilities such as electricity, water, wastewater, solid waste, fire protection, law enforcement and emergency medical services when compared to the proposed project due to the associated expansion in solid waste operations. Water needs for composting have been estimated to range from 250 gallons per ton of feedstock for convention windrow composting and 117 gallons per ton of feed stock for covered ASP composting. A portion of the water needed for composting will be obtained from the stormwater retention pond but would typically only be used to wet the feedstock during processing and stacking and prior to the pathogen reduction phase. The remainder of the water would need to be imported. During an average rainfall year, approximately 29-acre feet of imported water would be required for windrow composting and 13-acre feet for covered ASP composting at the design capacity of 40,349 tons per year (Lawrence and Associates 2022). It is likely that a water tank would be needed to store imported water for site use and potentially for fire use, if sited on the southern parcel. The compost operation would nearly double the water needs at the project site when compared to the proposed project.

This alternative would also increase energy demands at the site when compared to the proposed project due to the addition of composting operations. Neither the proposed project nor this alternative would be expected to cause significant public service, utility or energy impacts.

## CONCLUSION

The New Compost Facility Alternative would increase the environmental impacts anticipated with the proposed project due to the additional area of disturbance and the expansion of solid waste operations. The primary difference would be the substantial additional water demand at the site, which would require annual water importation, and the potential additional odors generated from the processing and composting of food and green waste. By expanding solid waste operations and increasing the environmental impacts when compared to the proposed project, this alternative would be less effective at achieving the project objective of minimizing any adverse environmental impacts of landfill operations. However, it would be effective in achieving the objective of supporting the County’s compliance with SB 1383 and evolving State requirements for recycling, waste recovery, and organics diversion.

## 6.3 ALTERNATIVES COMPARATIVE EVALUATION SUMMARY

The relative impacts of the alternatives in comparison to the proposed project are identified in Table 6-2.

**Table 6-2**
**Alternatives Comparative Evaluation Summary**

| EIR Section | No Project | 1A | 1B | 2A | 2B | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use, Planning and Ag. Resources | L | E | L | E | L | L | L | L | E | E | G/E |
| Traffic and Transportation | L | L | L | L | L | L | L | L | E | E | G |
| Air Quality | L | L | L | L | L | L | L | L | E | E | G |
| Greenhouse Gas Emissions | L | E | L | E | L | L | L | L | E | L | L |
| Noise | L | L | L | L | L | L | G | L | L | G | E |
| Biological Resources | L | E | L | E | L | L | L | L | E | E | G/E |
| Cultural Resources | L | E | E | E | E | E | E | L | E | E | G/E |
| Hydrology and Water Quality | L | E | L | E | L | L | E | L | E | E | G/E |
| Geology, Soils and Paleontology | L | E | L | E | L | L | E | L | E | E | G/E |
| Hazards, Hazardous Materials and Wildfire | L | E | L | E | L | L | E | L | E | E | G |
| Aesthetics | L | E | L | E | L | L | L | L | E | E | G/E |
| Public Services, Utilities and Energy | L | E | L | E | L | L | L | L | E | E | G |

Key:
L = Less impact than the proposed project
E = Equal or similar impacts as the proposed project
G = Greater impact than the proposed project

Alternatives:
1A = 1,700 Tons Per Day Alternative with Same Footprint
1B = 1,700 Tons Per Day Alternative with Reduced Footprint
2A = 1,000 Tons Per Day Alternative with Same Footprint
2B = 1,000 Tons Per Day Alternative with Reduced Footprint
3 = 300 Tons Per Day Alternative with Reduced Footprint
4 = Southern Landfill Alternative
5 = Transfer Station Alternative
6 = South Fairview Road Haul Route Alternative
7 = Best Road Haul Route Alternative
8 = New Compost Facility Alternative (First conclusion if sited on southern property/second if sited within landfill expansion area)

## 6.4 ALTERNATIVES CONSIDERED BUT REJECTED AS INFEASIBLE

In addition to the alternatives described above, additional offsite alternatives within the County were considered for the proposed project. In order to meet the basic project objective of providing solid waste disposal capacity for County residents, the potential additional offsite landfill alternative was assumed to be constructed along a transportation corridor that could accommodate waste haul traffic and is within an unincorporated area of San Benito County to ensure sufficient proximity to the primary source of waste generation. A range of areas within the County that could accommodate a new landfill were explored but no sites were identified that could achieve the basic objectives of the proposed project while also reducing project impacts. Furthermore, the project applicant does not own other property within the County that could accommodate a new landfill and the regulatory challenges in siting a new landfill are substantial. Therefore, an additional offsite landfill alternative within the County was considered as a project alternative but was eliminated from further analysis because its development would not have been feasible and it would not have attained most of the basic objectives of the proposed project.

In addition, alternatives that could reduce the volume of waste requiring landfill disposal were also considered. These technologies include incineration, pyrolysis and gasification. These technologies allow waste volumes to be substantially reduced before they are disposed of, reducing the need for landfill expansion.

The incineration of waste relies on the combustion of the organic fraction of the solid waste stream to reduce the volume and weight of waste and convert municipal solid waste into energy. Pyrolysis is the thermal processing of the organic fraction of the waste stream in the absence of oxygen. The waste is subjected to temperatures (1,400 degrees Fahrenheit) and the process relies on an external heat source. Combustion does not occur and the organic waste is thermally reduced to products including solid carbon and a gas consisting of hydrogen, methane, carbon monoxide, carbon dioxide and other gases. The byproducts of pyrolysis are used to generate energy. The gasification process includes partial combustion of a carbon rich fuel to produce a combustible fuel rich in carbon monoxide, hydrogen and methane. The resultant gas can be combusted in an internal combustion engine or boiler.

Due to the controversial nature and potential concerns regarding the toxicity of the combustion emissions, the use of these facilities in the United States is very limited. These alternative waste management technologies are difficult to site. Also, the capital cost for such facilities can make them economically infeasible. These alternative waste management technologies are difficult to site. Also, the capital cost for such facilities can make them economically infeasible. The use of pyrolysis and gasification plants for processing municipal solid waste remains an unproven technology in the United States. Because of the potential toxicity of combustion emissions from these facilities and the potential increase in air quality impacts, the implementation of these alternative technologies at the JSRL would not be considered feasible.

Finally, the use of aggressive waste diversion was considered as a way to avoid the need for a landfill expansion. Aggressive waste diversion requires waste generators, including residents and businesses, to recycle, compost, and reuse the majority of the waste materials that are currently directed to landfill disposal. Because it can be difficult to change established community waste management and disposal patterns, and because increased waste diversion puts more of the time and cost burden of waste management on residents and businesses, it can take years to achieve relatively minor improvements in waste diversion rates within communities. In addition, it would be difficult to substantially increase waste reduction beyond that already occurring from ongoing and expanding waste reduction programs. Waste diversion will also be implemented through state regulations (SB 1383). Therefore, establishing additional aggressive waste diversion as a way to avoid the need for additional landfill disposal capacity was not considered feasible.

## 6.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project Alternative would substantially reduce direct physical impacts of the project by avoiding the land disturbance that would occur on the proposed expansion site. However, this alternative may have out-of-County impacts that could be similar to or greater than the proposed project. Because these out-of-County impacts are difficult to predict and are speculative due to the lack of understanding regarding how future waste would be distributed and how the operations at other regional landfills would change in response, the No Project Alternative is assumed to have reduced impacts when compared to the proposed project. For this reason, the No Project Alternative would be considered environmentally superior to the proposed project.

Implementation of the Transfer Station Alternative would be expected to have substantially fewer direct impacts within San Benito County than would be anticipated with the proposed project, although it may have impacts outside of the County. Other than the No Project Alternative, the Transfer Station Alternative would be considered the environmentally superior alternative because it would reduce the impacts of burying more wastes at the JSRL and those impacts would transfer to another permitted landfill with remaining capacity.

## 6.6 REFERENCES


Lawrence and Associates. 2022 (June 15). *Technical Memo, John Smith Road Landfill Composting Alternative*.

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