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Purisima Creek Redwoods Comprehensive Use and Management Plan IS/Proposed MND

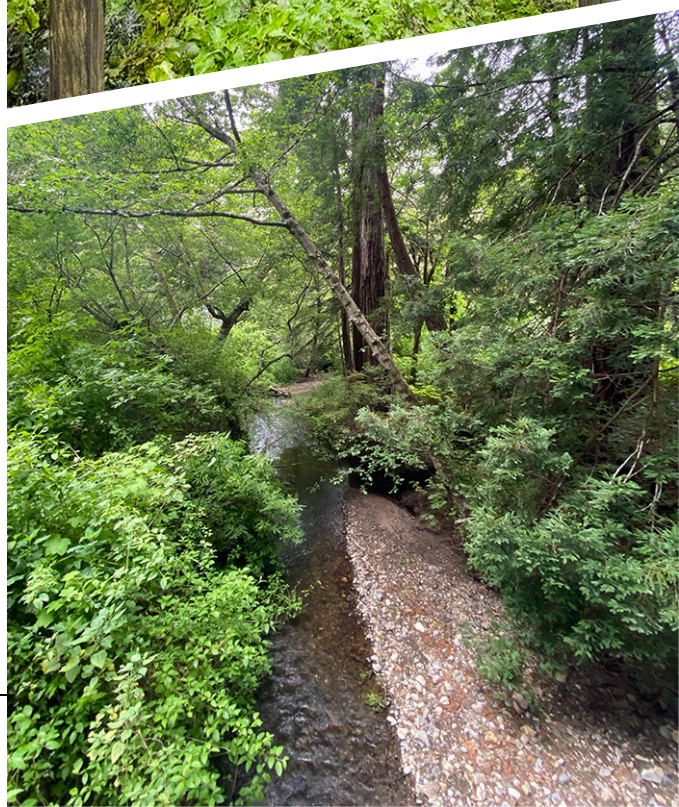
Prepared for:

Midpeninsula Regional Open Space District

OCTOBER 2026







DRAFT

Purisima Creek Redwoods Comprehensive Use and Management Plan Initial Study and Proposed Mitigation Declaration

Prepared for:

Midpeninsula Regional Open Space District
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October 2026

20230185.01

PROPOSED MITIGATED NEGATIVE DECLARATION

PROJECT: PURISIMA CREEK REDWOODS COMPREHENSIVE USE AND MANAGEMENT PLAN

LEAD AGENCY: MIDPENINSULA REGIONAL OPEN SPACE DISTRICT

The Midpeninsula Regional Open Space District (District or Midpen) is the lead agency, pursuant to the California Environmental Quality Act (CEQA), for the proposed Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan (Plan) Initial Study and Proposed Negative Declaration (IS/MND).

PROJECT DESCRIPTION SUMMARY

Midpen has prepared the Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan, which would serve as the overarching guiding document for ecologically sensitive public access, restoration, and land management for the Preserve. Midpen developed the Plan and integrated existing District-wide policies and planning frameworks into a comprehensive planning document for Purisima. The Plan provides long-term management guidance pertaining to natural resources; historic, cultural, and tribal cultural resources; aesthetic resources; public access; and operations and maintenance.

The proposed Plan would be implemented through a series of future projects led by Midpen and/or through partnerships and agreements with other organizations. The Plan identifies six specific near term projects to be implemented over the next five years that are anticipated to enhance public access and recreation opportunities while improving ecosystem health within the Preserve. The six near-term projects are listed below:

- The Highway 35 Multi-use Trail Crossing and Parking Expansion Project at the existing North Ridge parking lot would improve safety and expand access for hikers, bikers, and equestrians;
- The Purisima-to-the-Sea Trail Project would provide an approximately 7-mile connector between the California Coastal Trail and Bay Area Ridge Trail, and would be supported by the Verde Road Parking Area Project, which would consist of a new parking area and trailhead;
- The Verde Road Parking Area Project would construct a new parking area and trailhead location between Verde Road and SR 1, and add two trail crossings of Verde Road, to support the Purisima-to-the-Sea Trail, enhance public access to the Preserve, reduce congestion at existing trailheads, and facilitate multimodal connectivity;
- The North Trail Project would add a new trail connection referred to as the North Trail, and a new trail crossing at SR 1 to improve public access and connectivity;
- The Purisima Multimodal Access Implementation Project would promote sustainable transit options, manage visitation, and guide future access improvements; and
- The Irish Ridge Habitat Restoration Project would provide ecological stewardship within the Preserve with the primary goal of increasing fire resiliency and carbon sequestration by removing invasive plant species from the Irish Ridge area to restore native habitat and improve biodiversity. This restoration project would act as an area to help mitigate impacts that occur as a result of the proposed near-term projects.

FINDINGS

An Initial Study (IS) has been prepared to assess the project's potential effects on the environment and the significance of those effects. Based on the IS, it has been determined that the project would not have any significant effects on the environment once mitigation measures are implemented. With the inclusion of revisions to the project directed by the mitigation measures, all potentially significant effects on the environment would be clearly reduced to a less-than-significant level. The conclusion is supported by the following findings:

1) The project would have no impact on population and housing.

2) The project would have a less-than-significant impact on aesthetics, agriculture and forest resources, air quality, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, public services, recreation, transportation, utilities and service systems, and wildfire.

3) Mitigation is required to reduce potentially significant impacts on biological resources, cultural resources, geology and soils (on paleontological resources), and tribal cultural resources to less-than-significant levels.

Biological Resources Mitigation Measures

Mitigation Measure 3.4-1: Conduct Special-Status Plan Surveys, and Implement Avoidance Measures and Mitigation

The following requirements apply to all ground-disturbing activities (e.g., grading, vegetation removal) associated with the near-term project activities, with the exception of the Purisima Multimodal Access Implementation Project, which does not include new ground disturbance.

- Before implementation of project construction or vegetation removal activities, and during the blooming period for the special-status plant species with potential to occur on the project site, a District approved qualified botanist shall conduct protocol-level surveys for special-status plants in the project areas following survey methods from CDFW's Protocols for Surveying and Evaluating Impacts on Special-Status Native Plant Populations and Natural Communities (CDFW 2018 or most recent version). The qualified botanist shall (1) be knowledgeable about plant taxonomy; (2) be familiar with plants of San Mateo County, including special-status plants and sensitive natural communities; (3) have experience conducting floristic botanical field surveys as described in CDFW's protocol document; (4) be familiar with the California Manual of Vegetation (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/); and (5) be familiar with federal and state statutes and regulations related to plants and plant collecting. Surveys shall be conducted within 5 years prior to vegetation disturbance.
- If special-status plants are not found, the botanist shall document the findings in a report, and no further mitigation shall be required.
- If special-status plants are found during special-status plant surveys and cannot be avoided, the District shall, in coordination/consultation with CDFW or USFWS, and as appropriate depending on species status, develop and implement a site-specific mitigation strategy to compensate for loss of occupied habitat or individuals. Mitigation measures shall include, at a minimum, preserving existing populations to the greatest extent possible to avoid/reduce impacts, recreating populations through seed collection or transplantation from the site that is to be affected, and/or restoring or creating habitat in sufficient quantities to offset loss of occupied habitat or individuals. Potential mitigation sites could include suitable locations within or outside the project site. Habitat and individual plants lost shall be mitigated at a minimum 1:1 ratio, considering acreage as well as function and value, and may include enhancement of occupied habitat at a minimum 1:1 ratio, or of potentially occupied habitat at a minimum 1:3 ratio. All compensatory mitigation projects shall include a mitigation plan outlining the strategy, and the plan must be approved by CDFW, including identification of the success thresholds established depending on the population and site conditions. If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other similar off-site conservation measures, the details of these measures shall be included in the mitigation plan, including designating responsible parties for long-term

management, conservation easement holders, long-term management requirements and duration, success criteria, including at a minimum, those listed above and other details, as determined appropriate by a District approved qualified biologist to target the preservation of long-term viable populations.

Mitigation Measure 3.4-2: Conduct Focused Surveys for Crotch's Bumble Bee and Implement Avoidance Measures

- Initial ground-disturbing work (e.g., grading, vegetation removal, staging) shall take place between August 15 and March 15, if feasible, to avoid impacts on nesting Crotch's bumble bees.
- Regardless of the feasibility of the above limited operating period, a District approved qualified biologist familiar with bumble bees of California and experienced using survey methods for bumble bees shall conduct a habitat assessment and focused survey for Crotch's bumble bee, in suitable habitats and where there is reasonable potential to occur, before the start of ground-disturbing activities. Surveys shall be conducted when Crotch's bumble bee is most likely to be identified, typically April through August (e.g., the colony active period) when floral resources and ideal weather conditions are present. The methodology in Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species (CDFW 2023) should be referenced and applied, as applicable. Surveys shall be conducted during the colony active period closest to the start of planned construction activities. Survey results shall be submitted to Midpen no fewer than 7 days before construction begins.
- If no Crotch's bumble bees are detected during the surveys, the biologist shall prepare a survey report summarizing the survey results and submit the report to Midpen, and further mitigation shall not be required.
- If Crotch's bumble bees are detected during the focused survey, Midpen shall notify CDFW and submit a survey report to CDFW after survey completion. Midpen's Special Status Pollinator Guide and Best Management Practices (Midpen n.d.) should be referenced, and mitigation measures should be implemented as applicable based on findings and potential for species occurrence. Avoidance measures shall include, but not be limited to, the following:
  - Protective buffers shall be implemented around active nest colonies until these sites are no longer active. A qualified biologist, in coordination with CDFW, shall determine the appropriate buffer size to protect nesting colonies; however, the buffer shall be a minimum of 50 feet.
  - If impacts on Crotch's bumble bees cannot be avoided, Midpen shall consult with regulatory agencies to ensure requisite permit coverage and follow associated avoidance measure.
- If a final determination on the candidacy of Crotch's bumble bee prior to project implementation, Midpen shall adhere to all updated guidance as provided by CDFW, which may expand or replace the above mitigation.
- If CDFW determines that listing of Crotch's bumble bee under CESA is not warranted, or the species is not listed prior to project completion, then the above measures related to consultation with CDFW would not be applicable.

Mitigation Measure 3.4-3a: Avoid Monarch Butterfly Wintering Habitat

- Prior to any project activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a District approved qualified biologist or biological monitor working under a District approved qualified biologist will survey the grove for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol (Xerces Society 2024). At least three surveys shall be conducted during the overwintering season (October through March) including at least one survey during each of the early-, mid-, and late-season.
- Each survey will be conducted by two surveyors to provide multiple independent estimates of monarch numbers.
- Surveys will be conducted in the morning while temperatures are below 55 degrees Fahrenheit (13 degrees Celsius) when monarchs are more likely to be clustered.
- Surveys will not be conducted during rain or strong winds due to poor visibility and the chance that individual monarchs would be scattered on the ground.
- If no monarch overwintering aggregations are observed, project activities may proceed as long as they occur prior to November 1. If project activities are delayed beyond November 1, then the grove will be re-surveyed.

- If a monarch overwintering aggregation of any size is detected, then no project activities may take place inside the tree canopy within 200 feet of the aggregation, when present. Activities outside of the canopy line but within 200 feet may proceed (e.g., treatment of low-growing vegetation outside of the tree grove) if a District approved qualified biologist or monitor determines that the activity does not pose a threat to the monarch aggregation.
- If monarch overwintering aggregations are detected in eucalyptus removal areas, then a long-term tree planting strategy is necessary (see Protecting California's Butterfly Groves [Xerces Society 2017]). A long-term tree planting strategy will also be used for those stands which have historically been used as monarch overwintering habitat.
- Native tree species suitable for monarchs must be planted many years prior to eucalyptus removal with the understanding that they may not reach functional heights to provide wind protection and suitable dappled lighting for 15-30 years. Planting of nonnative or non-local trees including eucalyptus will be prohibited. Removal of eucalyptus may proceed once native replacement trees have reached sufficient size to provide wind protection from the grove.
- Standing dead trees may be removed within the grove between April 1 and August 31, outside of the overwintering period, as determined appropriate by a District approved qualified biologist or monitor. Sites where invasive dead trees have been removed may create opportunities for native tree planting within the interior of the grove.
- If a eucalyptus grove where a monarch overwintering aggregation was previously detected is re-surveyed using the Western Monarch Count Protocol (Xerces Society 2025) and found to be unoccupied for five consecutive years, then the grove may be removed before native replacement trees have reached full size.

Mitigation Measure 3.4-3b: Avoid Monarch Butterfly Host Plants

- For all project activities that only have incidental vegetation removal further than 5 miles from the coast (Xerces Society 2025), Midpen will conduct a pre-construction worker training to identify milkweeds (Asclepias spp.), the host plant for monarch butterflies, and survey for eggs/larvae. Following the training, workers will survey the site for milkweed.
- For project activities that have more than incidental vegetation removal, a District qualified biologist or biological monitor working under a District approved qualified biologist will conduct pre-construction surveys for milkweed.
- Host plants containing eggs, larvae, or pupae of monarch butterflies will be avoided, and will be protected with an appropriately sized buffer, as determined by a District approved qualified biologist, taking into account the characteristics of the plant species and the nature of the proposed project activity.
- Project activities may proceed if a District approved qualified biologist determines that the host plants are not occupied by monarchs.

Mitigation Measure 3.4-4: Implement Aquatic Habitat Setbacks for Water Quality Protection

The following shall apply to all near-term projects prior to implementation of project activities.

- Where feasible, setbacks from streams and other jurisdictional waters shall be a minimum of 30 feet for trails and 50 feet for staging areas and other ground-disturbing project activities.

Mitigation Measure 3.4-5: Consult with NOAA Fisheries for In-Water Project Activities

No new construction of in-stream infrastructure (e.g., bridges, culverts) or activities requiring dewatering shall be undertaken in waterways where special-status salmonids may be present, including downstream of the project site unless 1,000 feet or more upstream of discharge points into such drainages. If such activities are required to implement near-term projects, the District shall consult with NOAA Fisheries to determine the need to obtain a permit for in-water activities and shall abide by the conditions of the permit.

Mitigation Measure 3.4-6: Implement Seasonal Work Periods within Federally Designated Salmonid Critical Habitat

Prior to conducting any project activities in an area that is federally designated critical habitat for central California coast coho salmon or central California coast steelhead (portions of the Purisima-to-the-Sea Trail Project and Irish Ridge Restoration Project), or within near-term project sites with jurisdictional waters that may discharge into designated critical habitat, the District shall implement the following:

- Seasonal Work Period for Salmonids: Work within and adjacent to NOAA designated critical habitat for steelhead and Coho salmon streams that provide habitat for salmonids shall be limited to June 15 to October 31.
- Alternative Seasonal Work Period: Work within and around creeks that do not provide habitat for salmonids and reaches that are 1,000 feet or more upstream of discharge points which do not discharge directly into such drainages will be limited to April 15 to October 31, or is permissible from November 1 to April 14 under the following conditions:
  - Work will not occur until the site has received no rainfall for a period of 10 days and there is no rain in the forecast for a period of 7 or more days.
  - Work started during this period must reach a winterization ready condition, defined as completing at least 50 percent of the planned disturbance or achieving a level of progress that allows full stabilization within 24 hours within 2.5 days of beginning work.
  - Winterization materials must be on hand and ready to be installed if unanticipated rainfall begins (defined as 0.5 inches of rain in a 24-hour period).
- Corrective Actions: Corrective actions are allowable year-round (including within the seasonal work period) within and adjacent to designated critical habitat for steelhead and Coho salmon and within and around creeks that do not provide habitat for salmonids for the following situations:
  - To correct improperly installed and/or unauthorized work on Midpen lands that occurred during the same calendar year that result in sediment delivery.
  - To correct damage from winer storms that threatens homes, ponds, water systems, and other critical infrastructure or sensitive habitat.

Mitigation Measure 3.4-7: Conduct Pre-Construction Surveys for Santa Cruz Black Salamander and California Giant Salamander and Implement Avoidance

- No more than 14 days prior to any ground-disturbing activities (e.g., grading, vegetation removal) in areas of habitat suitable for Santa Cruz black salamander and/or California giant salamander (e.g., riparian areas, upland habitat with small mammal burrows, talus rocks, woody debris), a District approved qualified biologist familiar with the life history and ecology of Santa Cruz black salamanders and California tiger salamanders shall conduct pre-construction surveys for the species.
- In areas of suitable habitat where Santa Cruz black salamander and/or California giant salamander are known to occur:
  - A biological awareness training provided by a District approved qualified biologist or biological monitor shall be provided prior to starting work.
  - A District approved qualified biologist and biological monitor will be available and on-call for the duration of the project.
  - A biological monitor will be present onsite when working within or immediately adjacent to wetted areas including stream channels, seeps, and springs.
  - For Santa Cruz black salamander only, a biological monitor shall also be required in areas of talus slopes or areas having human stacked rocks and other suitable materials acting as talus.
  - The biologist and/or biological monitor shall have the authority to stop work at any time.

- Dismantling of talus and human-stacked rocks and other suitable materials acting as artificial talus shall be avoided and minimized wherever possible. If removal is required to meet project objectives, these materials will be dismantled by hand whenever possible.
- When possible individual Santa Cruz black salamanders and California giant salamanders shall be allowed to leave the area on their own.
- Individual Santa Cruz black salamanders and California giant salamanders (i.e., those without eggs) that aren't in harm's way or do not leave the work site on their own may be relocated by a District approved qualified biologist or biological monitor with requisite permit to predetermined sites located outside of the work area but within the same watershed.
- Work in wetted areas, talus slopes, or human stacked rocks and other suitable materials acting as artificial talus should be completed prior to July to avoid displacement of Santa Cruz black salamander females laying eggs and attending to clutches.
- If heavy equipment is required to remove talus, human stacked rocks, or other suitable materials acting as artificial talus, this shall be done in the presence of a District approved qualified biological monitor.
- If at any time Santa Cruz black salamander or California giant salamander eggs are found, the area shall be flagged for avoidance. If the area cannot be avoided to meet project objectives, Midpen will coordinate with CDFW to determine the best course of action.

- In all other areas of suitable habitat for Santa Cruz black salamander and California giant salamander:
  - A pre-survey of the project site is required immediately prior to starting work. If no Santa Cruz black salamanders or California giant salamanders are observed, work may proceed.
  - If an individual Santa Cruz black salamanders or California giant salamanders are observed at any time, all project work shall stop and the biologist and/or biological monitor will be notified and the above measures shall be implemented.

Mitigation Measure 3.4-8: Implement General California Red-Legged Frog Survey and Avoidance Measures

General California Red-Legged Frog Protection Measures

The District shall implement the following general California red-legged frog protection measures for all near-term projects:

- Biological awareness training shall be provided to all project personnel prior to beginning work.
- During all work, project personnel will contact a District approved qualified biologist or biological monitor immediately if a California red-legged frog, or an individual frog that could potentially be a California red-legged frog, is observed. All work that may harm the frog shall stop until the animal is confirmed to have left on its own, unless it is determined by the qualified biologist that the benefits of relocation outweigh potential impacts to the individual frog (e.g., the individual is at immediate risk or isolated from safe, suitable habitat).

Higher Density/Higher Likelihood of Occurrence Protection Measures

For near-term project activities occurring in areas with a higher density/higher frequency of occurrence of California red-legged frogs, (the Purisima-to-the-Sea Trail, Verde Road Parking Area, North Trail, and Irish Ridge Restoration projects), the District shall implement the following additional measures:

- Prior to implementation of near-term project activities (i.e., construction and vegetation treatment/removal), Midpen will identify streams, waterbodies, riparian habitats, and other features that support perennial water within the work area and a surrounding buffer of 100 feet, as well as refugia for California red-legged frogs (e.g., woody debris, burrows) in the work area. Areas within 100 feet of perennial water will be identified as areas where California red-legged frogs are most likely to occur during the dry season.

- If the near-term project activity is not located within 100 feet of perennial water, or the activity is located within 100 feet of perennial water but is not likely to result in take of California red-legged frogs (e.g., activity consists of hand work or is located entirely in a developed area where vegetation cover for California red-legged frogs is not present), no additional mitigation shall be necessary.
- If the near-term project activity is located in wet areas or riparian areas, or in upland areas within 100 feet of these areas, and/or refugia for California red-legged frogs are present in the work area, and/or take of California red-legged frog individuals may occur due to the proposed activities, the District shall additionally implement the following:
  - Prior to and within 48 hours of the planned start of project activities, a focused survey for California red-legged frogs using an agency-approved protocol will be conducted by a District approved qualified biologist or biological monitor to determine if frogs are present in the project area. In work areas containing emergent vegetation (e.g., tules, cattails), vegetation will additionally be inspected for California red-legged frog egg masses prior to the start of project activities.
  - If egg masses are found in during focused surveys, work will be postponed until eggs are no longer present in the project area. If work cannot be postponed, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found.
  - A District approved qualified biologist or biological monitor shall be present onsite for all initial ground disturbing activities (e.g., grading, vegetation removal).
  - Any vehicle parked onsite for more than 15 minutes shall be inspected by the District approved qualified biologist, biological monitor, and/or individuals who have received the requisite environmental awareness training before it is moved to ensure that a California red-legged frog has not moved under the vehicle. Any parking areas must be checked in advance by the District approved qualified biologist or biological monitor.
  - For vegetation removal within or adjacent to wetted/perennial aquatic sites where California red-legged frog are not found during focused surveys, if vegetation is too tall or dense to allow adequate detection of frogs, vegetation shall be cut to 3 to 6 inches above the ground surface to facilitate surveying, and an additional survey shall be conducted.
  - If vegetation is short or sparse enough that any frogs present can be detected by the District approved qualified biologist or biological monitor without the need for removal of vegetation by hand tools, mowing may proceed after the biologist/monitor has thoroughly surveyed the areas to be mown.
  - Vegetation removed shall be placed directly into a disposal vehicle and removed from the site. Vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or District approved qualified biologist, unless the vegetation is going to remain on site for erosion control or slash and not be moved or disturbed.
- Soil shall not be stockpiled on the ground unless it is on a paved surface or staging area where no burrows are present.

Exclusion Fencing

- If a District approved qualified biologist determines that the benefits of installing wildlife exclusion fencing around a work area (i.e., in terms of reducing the potential for take of individuals) outweigh any impacts on habitat, exclusion fencing will be installed around the work area prior to the initiation of maintenance. USFWS and CDFW approved exclusion fencing shall be installed around sediment removal sites, staging areas, and any areas where fill may be dumped. After installation of the fence barrier, the District approved qualified biologist shall inspect the fenced area daily prior to the commencement of activities. If the qualified biologist determines that California red-legged frogs are not within the work area, equipment or materials may be moved into the work area and project activities may commence under observation of the qualified biologist.

Handling and Relocation

- If a District approved qualified biologist determines that the benefits of relocation of a California red-legged frog outweigh the potential impacts to the individual, handling and relocation shall be conducted as follows:
- Handling of California red-legged frogs shall be conducted by a District approved qualified biologist, with the requisite permits, in an expedient manner with minimal harm to the individuals being handled. Handling shall be done with wet hands. The hands and arms of all workers handling California red-legged frogs shall be free of lotions, creams, sunscreen, oils, ointment, insect repellent, or any other materials that may harm the frogs. Larval California red-legged frogs will not be handled out of the water for longer than 30 seconds unless rewetted, and will not be retained for longer than 5 minutes. If captured California red-legged frogs exhibit signs of distress (e.g., erratic behavior or lack of response to stimuli) they will be immediately released at the point of capture. All captured California red-legged frogs will be released at the point of capture unless that location puts them in imminent danger, in which case they will be placed in a nearby refugium sufficient to protect them. Amplexing pairs of California red-legged frog will not be captured, handled, or disturbed. Following handling and relocation, field gear will be disinfected to minimize the spread of pathogens as follows:
  - Field gear will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another.
  - All organic matter will be removed from nets, traps, boots, vehicle tires, and all other surfaces that have come into contact with water or potentially contaminated sediment. These items will then be rinsed with clean water before leaving each work area.
  - Boots, nets, traps, hands, etc. that may come in contact with California red-legged frogs shall be scrubbed with a bleach solution of 0.5 to 1.0 cup per 1.0 gallon of water, Quat-128™ (1:60 solution), or a 3 to 6 percent sodium hypochlorite solution, or other methods approved by the District's IPM Program, and thoroughly rinsed with clean water between work areas. Other field equipment will be rinsed with water between work areas. Cleaning in the vicinity of aquatic habitats will be avoided by at least 100 ft. Care shall be taken so that all traces of the disinfectant are removed before entering the next work area.
  - Used cleaning materials will be disposed of safely, and if necessary taken outside of the work area for proper disposal. Used disposable gloves shall be retained for safe disposal outside of the work area in sealed bags.
  - California red-legged frogs shall not be removed from the wild and held in captivity for any reason unless prior written approval is acquired by the appropriate USFWS Office or unless severe injury to a California red-legged frog obviates immediate care. Frogs shall be transported according to accepted methods of the requisite permit, in most cloth bags or in terrariums with moisture gel or non-cellulose sponges to minimize desiccation.

Agency Consultation

- Prior to implementation of project activities in areas identified as having higher density/higher likelihood of occurrence, Midpen shall initiate consultation with USFWS. If it is determined, in consultation with USFWS, that take of California red-legged frog could occur after implementation of the conservation measures described above, then Midpen may be required to obtain incidental take authorization through Section 7 consultation or a Section 10 permit pursuant to ESA. Incidental take authorization may be obtained through a programmatic biological opinion (PBO) if the project qualifies for use of the PBO. Some projects may also qualify for the use of Midpen's existing permit coverage (e.g., USFWS Midpen's 10(a)(1)(A) recovery permit). Additional conservation measures may be recommended by CDFW or USFWS during the consultation process and these measures shall be implemented by the project applicant.

Mitigation Measure 3.4-9: Conduct Pre-Construction Surveys for Northwestern Pond Turtle, Implement Avoidance Measures, and Relocate Individuals

- Prior to and within 48 hours of the planned start of project activities commencement of ground-disturbing activities and any dewatering activities, a District approved qualified biologist familiar with the life history of northwestern pond turtle and experienced in performing surveys for northwestern pond turtle shall conduct a

focused survey of aquatic and upland habitat suitable for the species on the project site. The qualified biologist shall inspect the project site for western pond turtles, as well as suitable terrestrial nesting or overwintering habitat (i.e., burrows).

- If a northwestern pond turtle nest is observed within a near-term project site during the pre-construction survey, the nest shall be fenced off and avoided until the eggs hatch or the nest is no longer active, as determined by a District approved qualified biologist. The fenced area shall be open on one side with the opening facing the nearest aquatic habitat so that hatchling turtles can freely travel from the nest to the aquatic habitat. A District approved qualified biologist shall monitor the nest area to ensure that hatchlings do not disperse into the construction area. Monitoring shall occur until the qualified biologist determines that the nest is no longer active. If any hatchlings are observed on the project site, relocation of hatchlings shall occur as described in the encounter protocol below.
- A District approved qualified biologist shall be present during all dewatering activities and initial ground-disturbing activities to monitor these activities. If a northwestern pond turtle is encountered, work shall be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, a District approved qualified biologist shall notify CDFW to determine the appropriate procedures related to relocation, which shall include, but not be limited to, obtaining a valid and applicable CDFW Scientific Collecting Permit or working under an existing CDFW Scientific Collecting Permit. Any worker who inadvertently injures or kills a northwestern pond turtle or who finds a northwestern pond turtle dead, injured, or entrapped must immediately report the incident to the District, who must immediately notify CDFW. Entrapped northwestern pond turtles shall be relocated by a District approved qualified biologist under a valid and applicable CDFW scientific collecting permit if approved by CDFW.
- Because northwestern pond turtle is proposed for listing under ESA, if the species is listed before the completion of near-term project construction activities that could result in injury to or mortality of turtles (i.e., dewatering, ground disturbance, grading), then Midpen may be required to consult with USFWS under Section 7 or Section 10 of ESA. If it is determined, in consultation with USFWS, that take of this species could occur after implementation of the measures described above, then Midpen may be required to obtain incidental take authorization through Section 7 consultation or a Section 10 permit pursuant to ESA. In this case, the project shall not proceed until a Biological Opinion is issued by USFWS.
    - Any conservation measures developed in coordination with USFWS during the course of formal or informal consultation under Section 7 or during Section 10 consultation would supersede the measures listed here.
    - Such conservation measures could include, but would not be limited to, seasonal work restrictions for initial ground disturbance, preconstruction surveys by a District approved qualified biologist, installation of wildlife exclusion fencing, biological monitoring, and worker environmental awareness training. Additional measures could include preservation, restoration, or enhancement of habitat on or offsite; purchase of habitat credits from an agency-approved mitigation/conservation bank; work with a local land trust to preserve land; or any other method acceptable to USFWS.
- If a final determination on the candidacy of northwestern pond turtle is made prior to project implementation, Midpen shall adhere to all updated guidance as provided by USFWS, which may expand or replace the above mitigation.
- If USFWS determines that listing of northwestern pond turtle under ESA is not warranted, or the species is not listed prior to project completion, then the above measures related to consultation with USFWS would not be applicable.

Mitigation Measure 3.4-10: Conduct Pre-construction Surveys for Overwintering Burrowing Owls and Implement Protective Buffers

- District lands do not currently support breeding burrowing owls. The following Mitigation Measures are described for over wintering burrowing owls only. Required pre-work nesting bird surveys (Mitigation Measure 3.4-12) are sufficient to detect the potential presence of burrowing owl during the breeding season.

- A District approved qualified biologist familiar with burrowing owls shall conduct surveys in areas of suitable over wintering habitat on and within 1,640 feet (500 meters) of the near-term project sites prior to implementation of project activities. Inaccessible areas (e.g., adjacent private property, steep slopes) will not be surveyed directly, but the biologist may use binoculars or a spotting scope to survey these areas. A survey for non-breeding burrowing owl shall be conducted no more than 14 days before initiating ground disturbance activities to verify that take of burrowing owl would not occur.
  - If no burrowing owls are found, the qualified biologist shall submit a report documenting the survey methods and results to Midpen, and no further mitigation shall be required.
  - If a burrow occupied by an over wintering burrowing owl is found during the surveys, Midpen shall establish and maintain a buffer around the occupied burrow to prevent damage to important habitat features.
    - During the non-breeding season (September 1 through January 31), the minimum buffer distance shall be 164 feet (50 meters).
    - The buffer may be adjusted if, in consultation with CDFW, a District approved qualified biologist determines that an alternative buffer shall not result in disturbance to burrowing owls because of particular site features (e.g., topography, natural line-of-sight barriers), level of project disturbance, or other considerations. If the buffer is reduced, a District approved qualified biologist shall monitor the behavior of the burrowing owls during all project activities within 164 feet of the burrow. If the owls are disturbed or show signs of agitation (e.g., vocalizations, bill snaps, fluffing feathers to increase body size appearance, drooping wings and rotating them forward, crouching and weaving back and forth) by the project activities, the biologist shall have the authority to halt the activities and reestablish the 164-footbuffer until the agitated behavior ceases and normal behavior resumes.
    - The buffer shall remain in place around the occupied burrow until a District approved qualified biologist has determined through noninvasive methods that the burrows are no longer occupied by burrowing owls. A previously occupied burrow will be considered unoccupied if surveys demonstrate that no owls have used the burrow for seven consecutive days.
    - Locations of burrowing owls detected during surveys shall be reported to the CNDDB.

Mitigation Measure 3.4-11: Implement Marbled Murrelet Nest Protection Measures

- Prior to ground-disturbing or noise generating near-term project activities within the proximity of marbled murrelet habitat, as identified in the Midpen 2007 maps and/or updated habitat assessment information (Midpen 2026a), Midpen shall conduct a survey of habitats suitable for marbled murrelets with 0.25 miles of the near-term project sites for trees that meet the Pacific Seabird Group definition of potential marbled murrelet nesting trees found in *A Revised Protocol for Surveying Marbled Murrelets in Forests* (Pacific Seabird Group 2024). If such trees are present within 300 feet of a near-term project site or if a marbled murrelet nest is detected, Midpen will coordinate with CDFW and USFWS before proceeding. If habitat trees are present beyond 300 feet from the work area and within 0.25 miles of a near-term project site, Midpen will implement the following conditions:
- Work within the project site shall be confined to the period of September 16 to March 23. If project activities cannot be conducted during the seasonal work period, Midpen will coordinate with CDFW and USFWS and implement the following conditions:
  - If construction activities occur during the marbled murrelet breeding season (March 24 to September 15), seasonal disturbance minimization buffers as identified in the October 28, 2020 document *Revised Transmittal of Guidance: Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (USFWS 2020) shall be followed. Midpen shall conduct a sound level monitoring study to determine the level of ambient and construction activity noise anticipated during construction activities to calculate seasonal disturbance minimization buffer widths. Disturbance distances shall apply to noise generating activities that are not within 2 hours of sunrise or sunset, and project generated noise impacts shall be calculated accordingly. Midpen shall provide a description of

methods and results of the study to USFWS and CDFW to coordinate site-specific avoidance measures 30 days prior to commencement of near-term project activities at the applicable location(s). To alert work crews to their presence, marbled murrelet seasonal disturbance buffers, as determined by the sound study and USFWS 2020, shall be flagged in the field where they enter the project sites. If Midpen does not conduct the sound study, no project activities shall occur within 0.25 miles of potential nest trees during the marbled murrelet breeding season (March 24 to September 15).

- If noise generating construction activity takes place during the breeding season (March 24 to September 15) within suitable redwood and redwood/Douglas-fir forests, construction activities will be restricted to 2 hours after sunrise to 2 hours before sunset to minimize disturbance of potential nesting marbled murrelets using forest habitat as a travel corridor between inland nesting and coastal foraging habitat.
- Midpen or its contractor(s) shall not conduct near-term project activities within a visual line-of-sight distance of approximately 130 feet (40 meters) or less from a suitable nest tree, as designated by a District approved qualified biologist or biological monitor. Additionally, Midpen or its contractor(s) will not conduct near-term project activities within a visual line-of-site distance of approximately 330 feet (100 meters) or less from a known or active nest tree confirmed by a District approved qualified biologist.
- If marbled murrelet protocol-level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelets, the seasonal and distance work restrictions may be lifted with approval from CDFW and USFWS.
- If Midpen conducts protocol-level surveys, Midpen will coordinate with CDFW and USFWS regarding the survey stations to ensure all contiguous suitable habitat is covered and good visuals of the sky and nearby flyways, if present, are provided. If marbled murrelet protocol level surveys are conducted, Midpen will submit the report to CDFW and USFWS consistent with *A Revised Protocol for Surveying Marbled Murrelets in Forests* (Marbled Murrelet Technical Committee, Pacific Seabird Group 2024), or an updated protocol as approved by CDFW and USFWS.

Mitigation Measure 3.4-12: Conduct Focused Surveys for Other Special-Status Birds, Nesting Raptors, and Other Native Nesting Birds, and Implement Protective Buffers

- To avoid potential impacts to tree or shrub-nesting birds, any trimming or pruning of trees or shrubs will be conducted during the time period of September 1 to February 14 unless a preconstruction nesting bird survey has been conducted by a qualified biologist or biological monitor. Work will be done during the non-breeding season whenever possible. The bird nesting seasons are defined as follows: March 15 to August 30 for smaller bird species such as passerines; February 15 to August 30 for raptors.
- If project-related activities are scheduled during the nesting season of raptors and/or migratory birds, a focused survey for active nests of such birds will be conducted by a District approved qualified biologist or biological monitor within 15 days prior to the beginning of project-related activities. Surveys will be conducted in all suitable habitat located at project sites and in staging and storage areas. The minimum survey radii surrounding the work area shall be the following: 250 feet for passerines; 500 feet for other small raptors such as accipiters; 1,000 feet for larger raptors such as buteos and eagles.
- If an active nest is found and work cannot be postponed, the District approved biologist or biological monitor will designate active nest sites as "Ecologically Sensitive Areas" and protected (while occupied) during Program activities with the establishment of flagging or a fence barrier surrounding the nest site. No trees or shrubs that contain active bird nests will be disturbed until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults, and have completely left the nest site). No habitat removal or modification shall occur within the Ecologically Sensitive Area fenced nest zone even if the nest continues to be active beyond the typical nesting season for the species, until the young have fully fledged and will no longer be adversely affected by the project. The minimum distances of the protective buffers surrounding each identified nest site will be the following, with some considerations depending on nest location and substrate: 500 feet for large raptors such as buteos; 250 feet for small raptors such as accipiters and passerines; and 1,000 feet for eagles.

- A District approved qualified biologist or biological monitor will monitor the behavior of the birds (adults and young, when present) at the nest site to ensure that they are not disturbed by project-related activities. Nest monitoring will continue during project-related construction work until the young have fully fledged, are no longer being fed by the parents and have left the nest site and surrounding area, as determined by a biological monitor. If a protective buffer must be modified, the District will coordinate with CDFW and/or the USFWS as appropriate prior to resumption of project-related activities.
- If a lapse in project-related work of 15 days or longer occurs, another focused survey will be conducted before project work is reinitiated.
- Activities unlikely to affect nesting birds (such as minimal work with hand tools) do not require a nesting bird survey.
- Pre-work nesting bird surveys may be waived or survey and nest buffers may be reduced to 100 feet, without coordination with CDFW, in areas where wildlife have acclimated to ambient disturbance (e.g., residential structures, parking areas, trail heads) or for low impact work unlikely to affect nesting birds, as long as a physical nest or building structure that a nest is attached to will not be damaged or removed.

Mitigation Measure 3.4-13: Avoid the Ringtail Maternity Season, Conduct Surveys, and Implement Avoidance Measures

- Within seven days prior to the removal of trees or snags with a DBH of 12 inches or greater during the ringtail maternity season (April 15 to June 30), a District approved qualified biologist shall conduct a survey for ringtail dens. No mitigation is required for project activities outside of the ringtail maternity season, or for activities during the maternity season which would not remove trees with a DBH of 12 inches or greater.
- If active ringtail dens are detected during project activities or during pre-activity surveys, a no-disturbance buffer of at least 1,000 feet shall be established around the den, and Midpen will consult with CDFW to determine whether additional protective measures would be necessary.

Mitigation Measure 3.4-14: Conduct Mountain Lion Awareness Training and Pre-Activity Surveys, and Establish Protective Buffers

- Biological awareness training shall be provided to all project personnel prior to beginning work.
- Within 14 days before commencement of project activities, a District approved qualified biologist familiar with mountain lions shall conduct focused surveys of habitat suitable for denning mountain lions on the project site and identify any active dens. If no dens are found, no further mitigation is required.
- If an active den or evidence of an active den is found during focused surveys, impacts on mountain lions shall be avoided by establishing exclusion zones around the den, the size of which shall be determined by the District approved qualified biologist, and shall be a minimum of 2,000 feet. No project activities (e.g., vegetation removal, ground disturbance, staging) shall occur within the exclusion zone until 10 weeks have passed, or until the den is no longer used, as confirmed by the District approved qualified biologist. When the den is no longer occupied or 10 weeks have passed, project activities within the exclusion zone may occur.

Mitigation Measure 3.4-15: Conduct Focused American Badger Surveys, and Establish Protective Buffers

- Within 14 days before commencement of ground-disturbing activities or vegetation removal, a District approved qualified wildlife biologist familiar with American badger and experienced using survey methods for the species shall conduct focused surveys of habitat suitable for the species on the project site to identify any American badger dens/burrows. The District's Avoidance and Minimization Measures and Best Management Practices for American Badger (Midpen 2025c) shall be referenced and applied, as applicable, to the specific project area.
- If occupied dens/burrows are not found, the qualified biologist shall submit a report summarizing the results of the survey to Midpen, and further mitigation shall not be required.
- If occupied dens/burrows are found, impacts on badgers shall be avoided by establishing exclusion zones around all active badger dens/burrows, the size of which shall be determined by the qualified biologist, but shall be a

minimum of 100 feet. Additionally, a 100-foot no-work pathway of suitable habitat shall be established around the work area to ensure safe passage of breeding badgers to and from the active den. No project activities (e.g., vegetation removal, ground disturbance, staging) shall occur within the exclusion zone until denning activities are complete or the den/burrow is no longer used, as confirmed by a District approved qualified biologist. Special care should be taken during the badger pupping season (February through July). The qualified biologist shall monitor each den/burrow once per week to track the status of the den and to determine when it is no longer occupied. When it is no longer occupied, project activities within the exclusion zone may occur.

Documentation of compliance with this mitigation measure shall be provided to Midpen before commencement of any near-term project ground-disturbance or vegetation removal activities.

Mitigation Measure 3.4-16 Conduct Focused Bat Surveys, and Implement Avoidance Measures

- Avoid removal of structures or trees greater than sixteen inches dbh during the April through August maternity roosting season as well as between the November 16 through February 15 winter torpor season whenever possible.
- If removal of structures or trees greater than sixteen inches dbh during the nursery season cannot be avoided, within 14 days before any tree removal (all near-term projects), or removal of the restroom associated with the Highway 35 Parking Project, a District approved qualified biologist familiar with bats and bat ecology, and experienced in conducting bat surveys, shall conduct surveys for bat roosts in suitable habitat (e.g., large trees, crevices, cavities, exfoliating bark, foliage, buildings) on and adjacent to the project site. Surveys will consist of daytime pedestrian surveys to look for visual signs of bats (e.g., guano), and if determined to be necessary, evening emergence surveys to note the presence or absence of bats.
- If no evidence of bat roosts is found, the qualified biologist shall submit a report summarizing the results of the survey to Midpen, and no further study shall be required.
- If evidence of bat maternity roosts or hibernacula is observed, the species and number of bats using the roost shall be determined by a District approved qualified biologist using noninvasive methods. Bat detectors (i.e., acoustic monitoring), infrared detectors, and/or evening emergence surveys can be used to supplement survey efforts by the qualified biologist but are not required.
- A no-disturbance buffer of 150 feet shall be established around active pallid bat, Townsend's big-eared bat, or western red bat maternity roosts or hibernacula, as well as substantial maternity roosts or hibernacula of other bat species considered to be a wildlife nursery by the qualified biologist, for any work beyond non-mechanical handwork that would produce substantial noise. Project activities shall not occur within this buffer until after the roosts are unoccupied as determined by a District approved qualified biologist.
- If roosts of pallid bat, Townsend's big-eared bat, or western red bat are determined to be present and must be removed, the bats shall be excluded from the roosting site before the structure or tree is removed. A program addressing compensation, exclusion methods, and roost removal procedures shall be developed in coordination with CDFW before implementation. Exclusion methods may include use of one-way doors at roost entrances (bats may leave but not reenter) or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). The loss of each roost (if any) resulting from the project shall be replaced in coordination with CDFW and may require construction and installation of bat boxes suitable to the bat species and colony size excluded from the original roosting site. If determined necessary during coordination with CDFW, replacement roosts shall be implemented before bats are excluded from the original roost sites. After the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site by a District approved qualified biologist, the roost tree or structure may be removed. For roost trees, a two-step tree removal process supervised by a District approved qualified biologist shall be implemented, including removal of all branches that do not provide roosting habitat on the first day, and removal of the remaining portion of the tree on the following day.

Mitigation Measure 3.4-17: Conduct Protocol-Level Surveys for Sensitive Natural Communities and Riparian Habitat and Implement Avoidance Measures

The following measures shall be implemented before implementation of all ground disturbing near-term project activities:

- A District approved qualified botanist will perform a protocol-level survey of the project site for sensitive natural communities and sensitive habitats (including riparian habitat) following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018). Sensitive natural communities will be identified using the best available and current data, including keying them out using the most current edition of *A Manual of California Vegetation* (including updated natural communities data at http://vegetation.cnps.org/), or referring to relevant reports (e.g., reports found on the VegCAMP website).
- Before implementation of all ground disturbing near-term project activities, development setbacks will be established around all sensitive habitats identified during surveys, and these setbacks will be flagged or fenced with brightly visible construction flagging and/or fencing under the direction of the qualified biologist and no project activities (e.g., vegetation removal, ground disturbance, staging) will occur within these areas. Setback distances will be dependent on various factors (e.g., presence of special-status wildlife or plant species) and determined by a District approved qualified biologist, but will generally be at minimum of 30 feet. Foot traffic by personnel will also be limited in these areas to prevent the introduction of invasive or weedy species or inadvertent crushing of plants. Periodic inspections during construction will be conducted by the monitoring biologist to maintain the integrity of exclusion fencing/flagging throughout the period of construction involving ground disturbance.
- If near-term project implementation cannot avoid and thus may adversely affect the bed, bank, channel, or associated riparian habitat subject to CDFW jurisdiction under California Fish and Game Code Section 1602, Mitigation Measure 3.4-18 shall apply.
- If sensitive natural communities are identified within a project site that cannot be avoided, Mitigation Measure 3.4-19 shall apply.

Mitigation Measure 3.4-18: Avoid or Compensate for Loss of Riparian Habitat

The following measures shall be implemented before vegetation removal or ground-disturbing activities in riparian habitat:

- If project implementation cannot avoid and thus may adversely affect riparian habitat subject to CDFW jurisdiction under California Fish and Game Code Section 1602, the following measures shall apply.
- A Streambed Alteration Notification shall be submitted to CDFW, pursuant to Section 1602 of the California Fish and Game Code. If proposed project activities are determined to be subject to CDFW jurisdiction, the applicant shall abide by the measures to protect fish and wildlife resources required by any executed agreement before any vegetation removal or activity that may affect the resource.
- The District shall compensate for the loss of riparian habitat such that no net loss of habitat function and values occurs by:
  - Restoring and preserving degraded riparian habitat outside the project site or on the project site (at least 1:1);
  - purchasing riparian habitat credits at a CDFW-approved mitigation bank (at least 1:1); or
  - preserving existing riparian habitat of equal or better value to the affected riparian habitat through a conservation easement or designating a conservation management unit (an internal District designation that restricts activities in ecologically sensitive areas) at a ratio sufficient to offset the loss of riparian habitat function (at least 1:1), as approved by CDFW.
- The District shall prepare and implement a Compensatory Mitigation Plan that includes the following elements:

- For preserving existing riparian habitat outside near-term project sites in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The District shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.
- For restoring or enhancing riparian habitat outside the project site, the Compensatory Mitigation Plan shall, at a minimum, include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.
- Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the applicant (e.g., Lake and Streambed Alteration Agreement), if these requirements are equally or more effective than the mitigation identified above.

Mitigation Measure 3.4-19: Avoid or Compensate for Loss of Sensitive Natural Communities

The following measures shall be implemented before vegetation removal or ground-disturbing activities in sensitive natural communities:

- The District shall compensate for unavoidable loss of sensitive natural communities on the near-term project sites such that no net loss of habitat function occurs by:
  - restoring degraded communities outside the project site or on the project site at a ratio sufficient to offset the loss of habitat function (at least 1:1) or
  - preserving existing sensitive natural communities of equal or better value to the sensitive natural community affected through a conservation easement or designating a conservation management unit at a ratio sufficient to offset the loss of habitat function (at least 1:1), as approved by CDFW.
- Prepare and implement a Compensatory Mitigation Plan that includes the following elements:
  - For preserving existing habitat outside the project sites in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement, or CDFW approved conservation management unit), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The applicant shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.
  - For restoring or enhancing habitat outside the project sites, the Compensatory Mitigation Plan shall include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function (below) has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.
- The following success criteria shall be required to maintain habitat function for preserved and compensatory populations:
  - The extent of occupied area and density of plants associated with the sensitive natural community (number of plants per unit area) in compensatory habitats shall be equal to or greater than the affected occupied habitat.
  - Compensatory and preserved sensitive natural communities shall be self-producing. Populations would be considered self-producing when:
    - plants associated with sensitive natural communities reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding, and

- reestablished and preserved habitats contain an occupied area and density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

Mitigation Measure 3.4-20: Delineate State and Federally Protected Wetlands, Avoid Wetlands, or Obtain Permits for Impacts on Wetlands

- Midpen would design all near-term project alignments to avoid impacts to state or federally protected wetlands and other waters. If a formal delineation of a near-term project area has not already been conducted, Midpen would retain a District approved qualified biologist, hydrologist, or wetland ecologist to prepare a formal delineation of the boundaries of potential state or federally protected wetlands within the development area according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and the Arid West regional supplement (USACE 2008), as well as the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2021). The qualified biologist would also delineate the boundaries of wetlands that may not meet the definition of waters of the United States, but would qualify as waters of the state, according to the state wetland procedures (SWRCB 2021). If the project could not be designed to avoid state or federally protected wetlands and other waters, the delineation report would be submitted by the applicant to USACE and a preliminary jurisdictional determination would be requested.
- If state or federally protected wetlands are determined to be present within the development area that can be avoided, the qualified biologist would establish a buffer around wetlands and mark the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). The buffer would be a minimum width of 25 feet but may be larger if deemed necessary. The appropriate size and shape of the buffer zone would be determined in coordination with the qualified biologist and would depend on the type of wetland present (e.g., stream, fresh emergent wetland), the timing of project construction activities (e.g., wet or dry time of year), environmental conditions and terrain, and the project activity being implemented.

Project construction activities (e.g., ground disturbance, vegetation removal, staging) would be limited within the established buffer. The qualified biologist would periodically inspect the materials demarcating the buffer to confirm that they are intact and visible, and wetland impacts are being avoided.

- If it is determined that fill of waters of the United States would result from project implementation, authorization for fill of waters of the United States shall be secured from USACE and the RWQCB through the permitting processes for Clean Water Act Sections 401 and 404. In association with Section 404 and before the issuance of any grading permit, Section 401 Water Quality Certification from the San Francisco Bay RWQCB shall be obtained. For impacts on waters of the state that are not also waters of the United States and are therefore not covered by the 401 Water Quality Certification, the applicant shall apply to the RWQCB for Waste Discharge Requirements following the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). Any waters of the United States or waters of the state that are affected by the project shall be replaced on a no-net-loss basis in accordance with the applicable USACE and State Water Resources Control Board mitigation standards in place at the time of construction.
- Before commencing activity that may divert the natural flow or otherwise alter the bed or bank of any lake or stream on the project site or off-site improvement areas, the applicant shall notify CDFW, through issuance of a Lake and Streambed Alteration Notification (notification). If CDFW determines, based on the notification, that project activities trigger the need for a Lake and Streambed Alteration Agreement, Midpen shall obtain an agreement from CDFW before the activity commences. The applicant shall conduct project construction activities in accordance with the agreement, including implementing reasonable measures in the agreement necessary to protect fish and wildlife resources, when working within the bed or bank of waterways or in riparian habitats associated with those waterways. These measures may include, but not be limited to, demarcation of the construction area, biological monitoring, environmental awareness training for construction crews, and compensatory measures (e.g., restoration, long-term habitat management).

Mitigation Measure 3.4-21: Establish Tree Protection Zones Around Heritage and/or Significant Trees

- The District shall establish Tree Protection Zones (TPZs) around all Heritage and/or Significant Trees present on or with driplines (i.e., the area underneath the outermost branches) extending into near-term project sites that are not proposed for removal.
- The TPZs shall consist of a substantial construction fence (e.g., non-moveable fence) and extend 1 foot beyond the dripline of the Heritage and/or Significant Tree. A laminated sign noting the TPZ and provided contact info for a Midpen point-of-contact shall be placed on the fence.
- No vehicles, construction equipment, materials, debris, paint or paint product, chemicals, contaminated water, or other foreign materials shall be placed, poured, or stored within the TPZ of any tree.

Cultural Resource Mitigation Measures

Mitigation Measure 3.5-1 Halt Ground Disturbance Upon Discovery Archaeological or Paleontological Features

If archaeological materials (e.g., locally darkened soils [i.e., midden], stone tools, chipped stone, baked clay, or concentrations of shell, bone, charcoal, glass, metal, or ceramics) or paleontological materials are inadvertently discovered during ground-disturbing activities, the contractor shall cease all work within 100 feet (30.5 meters) of the find and Midpen shall immediately retain the services of a qualified professional archaeologist. At that time, Midpen shall coordinate any necessary investigation of the site with the archaeologist (or paleontologist) as needed to evaluate the significance of the resource per PRC Sections 5024.1 and 21083.2(g) and provide proper management recommendations. Possible management recommendations for significant resources could include resource avoidance or data recovery excavations. If the qualified archaeologist determines the archaeological material to be Native American in nature, Midpen shall contact the appropriate Native American tribe(s) for their input on the preferred treatment of the find. Midpen shall implement any measures deemed necessary by the archeologist and/or tribe for the protection of the cultural resources, with preservation in place being the preferred treatment. The archaeologist shall instruct the contractor to not resume work in the area of the discovery until directed to do so.

Geology and Soils Mitigation Measures

Mitigation Measure CUL-1: Halt Ground Disturbance Upon Discovery Archaeological or Paleontological Features

Tribal Cultural Resources Mitigation Measures

Mitigation Measure 3.18-1: Cultural Resources Awareness and Sensitivity Training

Before construction, all maintenance personnel will participate in an educational training session conducted by a qualified cultural resources specialist. This training will include instruction on how to identify historic and precontact resources that may be encountered and will describe the appropriate protocol to be followed if resources are discovered during construction.

Mitigation Measure 3.18-2: Unanticipated Discovery of Tribal Cultural Resources

If any suspected tribal cultural resources have been identified by Midpen's qualified archaeologist pursuant to Mitigation Measure 3.5-1, Midpen will consult on the significance of the suspected tribal cultural resource with the qualified archeologist and geographically affiliated Tribe(s) that have requested consultation. Based on this consultation, Midpen will implement measures to mitigate or avoid a significant effect to a tribal cultural resource, with preservation in place being the preferred treatment. Vegetation removal using hand tools for cutting, clearing, or pruning may occur within the vicinity of a tribal cultural resource, as these activities do not interfere with preservation in place. The contractor shall not resume work in the area of the discovery until directed to do so by Midpen.

Pursuant to Section 21082.1 of the California Environmental Quality Act, Midpen has independently reviewed and analyzed the IS/MND for the project and finds that the IS/ MND reflects the independent judgment of the District. The District further finds that the project mitigation measures shall be implemented as stated in the MND.

I hereby approve this project:

_____

Ana Ruiz, General Manager
Midpeninsula Regional Open Space District
(to be signed upon approval of the project after the public review period is complete)

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LIST OF ABBREVIATIONS

°F	Fahrenheit
AB	Assembly Bill
ADA	Americans with Disabilities Act
BAAD	Bay Area Air District
BMP	best management practice
C/CAG	City/County Association of Governments of San Mateo County
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CA-MUTCD	*California Manual on Uniform Traffic Control Devices*
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCA	California Coastal Act
CCAP	community climate action plan
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CMU	Conservation Management Unit
CO	carbon monoxide
CO_2	carbon dioxide
CRPR	California Rare Plant Rank
CUMP	comprehensive use and management plan
CUPAs	Certified Unified Program Agencies
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibels
DBH	diameter at breast height
District	Midpeninsula Regional Open Space District

DOC	California Department of Conservation
DOC	California Department of Conservation
DPS	distinct population segment
DTSC	California Department of Toxic Substances Control
EIR	environmental impact report
EMS	emergency medical services
EOP	San Mateo County Emergency Operations Plan
EPA	US Environmental Protection Agency
ESA	federal Endangered Species Act
ESHA	environmentally sensitive habitat area
ESU	evolutionarily significant unit
EV	electrical vehicle
FEMA	Federal Emergency Management Agency
FHSZ	fire hazard severity zone
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	geographic information system
HAWK	high-intensity activated crosswalk
Highway 35 Parking Project	Highway 35 Multi-Use Trail Crossing and Parking Expansion Project
HOV	high occupancy vehicle
in/sec	inches per second
IPM	integrated pest management
IS/MND	initial study/mitigated negative declaration
lb/day	pounds per day
LCI	Governor's Office of Land Use and Climate Innovation
LCP	San Mateo County Local Coastal Program
L_{eq}	equivalent continuous sound level
LOS	level of service
LSAA	Lake and Streamed Alteration Agreement
LSAA	Lake or Streambed Alteration Agreement
LUST	leaking underground storage tank
L_X	percentile-exceeded sound level
MBTA	Migratory Bird Treaty Act
MGD	million gallons per day

Midpen	Midpeninsula Regional Open Space District
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MRP	*California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit*
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	natural community conservation plan
NOAA Fisheries	National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NOI	Notice of Intent
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
OSMRP	open space maintenance and restoration plan
PAD	Planned Agricultural District
PBO	Programmatic Biological Opinion
PM_{10}	respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with an aerodynamic resistance diameter of 10 micrometers or less
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1970
POST	Peninsula Open Space Trust
PPV	peak particle velocity
PUMP	preliminary use and management plan
RMP	rangeland management plan
RMS	root-mean-square
ROG	reactive organic gases
ROW	right-of-way
RWQCB	regional water quality control board
SamTrans	San Mateo County Transit District
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SMCEM	San Mateo County Department of Emergency Management
SMCFD	San Mateo County Fire Department
SPL	sound pressure level

Spur Trail	a trail crossing of SR 35 and an approximately 400-foot-long new spur trail segment
SR	State Route
SRA	State Responsibility Area
SVCW	Silicon Valley Clean Water
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminate
TDM	transportation demand management
TDM	transportation demand management
the Highway 35 Spur Trail	a trail crossing of SR 35 and an approximately 400-foot-long new spur trail segment
TMDL	total maximum daily load
tpy	tons per year
USACE	US Army Corps of Engineers
USACE	US Army Corps of Engineers
USFWS	US Fish and Wildlife Service
UST	underground storage tank
VdB	vibration decibels
VMT	vehicle miles travelled
VOC	volatile organic compound
WFRP	wildland fire resiliency plan
WQOs	Water Quality Objectives

1 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This initial study/mitigated negative declaration (IS/MND) has been prepared by the Midpeninsula Regional Open Space District (District or Midpen) to evaluate potential environmental effects resulting from the Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan. Section 2 "Project Description" presents the detailed project information.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). An initial study is prepared by a lead agency to determine if a project may have a significant effect on the environment (State CEQA Guidelines Section 15063[a]), and thus to determine the appropriate environmental document. In accordance with State CEQA Guidelines Section 15070, a "public agency shall prepare…a proposed negative declaration or mitigated negative declaration…when: (a) The Initial Study shows that there is no substantial evidence…that the project may have a significant impact on the environment, or (b) The Initial Study identifies potentially significant effects but revisions to the project plans or proposal are agreed to by the applicant and such revisions would reduce potentially significant effects to a less-than-significant level." In this circumstance, the lead agency prepares a written statement describing its reasons for concluding that the project would not have a significant effect on the environment and, therefore, does not require the preparation of an environmental impact report (EIR). By contrast, an EIR is required when the project may have a significant environmental impact that cannot clearly be reduced to a less-than-significant effect by adoption of mitigation or by revisions in the project design.

1.2 WHY THIS DOCUMENT?

As described in the environmental checklist (Chapter 3), the project would not result in any unmitigated significant environmental impacts. Therefore, an IS/MND is the appropriate document for compliance with the requirements of CEQA. This IS/MND conforms to these requirements and to the content requirements of State CEQA Guidelines Section 15071.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of the project. Midpeninsula Regional Open Space District is the CEQA lead agency because they are responsible for the Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan. The purpose of this document is to present to decision-makers and the public information about the environmental consequences of implementing the project. This disclosure document is being made available to the public for review and comment. This IS/MND will be available for a 30-day public review period from October 9, 2026 to November 9, 2026.

Supporting documentation referenced in this document is available for review at:

Midpeninsula Regional Open Space District
5050 El Camino Real
Los Altos, CA 94022-1530

Comments should be addressed to:

Midpeninsula Regional Open Space District

ATTN: Brittany Wheatman, Planner II
5050 El Camino Real
Los Altos, CA 94022-1530

E-mail comments may be sent to: PurisimaCEQA@openspace.org

If you have questions regarding the IS/MND, please call Brittany Wheatman at: (650) 772-3646. If you wish to send written comments (including via e-mail), they must be electronically submitted or postmarked by November 9, 2026.

After comments are received from the public and reviewing agencies, the Midpeninsula Regional Open Space District may (1) adopt the MND and approve the project; (2) undertake additional environmental studies; or (3) abandon the project. If the project is approved and funded, the project proponent may proceed with the project.

1.3 SUMMARY OF FINDINGS

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the project.

Based on the issues evaluated in that chapter, it was determined that the project would have either no impact or a less-than-significant impact related to most of the issue areas identified in the Environmental Checklist, included as Appendix G of the State CEQA Guidelines. These include the following issue areas:

- aesthetics,
- agricultural resources,
- air quality,
- energy,
- geology and soils,
- greenhouse gas emissions,
- hazards and hazardous materials,
- hydrology and water quality
- land use,
- mineral resources,
- noise,
- population and housing,
- public services,
- recreation,
- transportation,
- utilities,
- wildfire, and
- mandatory findings of significance.

Potentially significant impacts were identified for biological resources, cultural resources, geology and soils (on paleontological resources), and tribal cultural resources; however, mitigation measures included in the IS/MND would reduce all impacts to a less-than-significant level.

1.4 ENVIRONMENTAL PERMITS

In addition to District approval, the project is anticipated to require a General Construction Permit from the regional water quality control board (RWQCB), a Coastal Development Permit, Planned Agricultural District Permit, Building Permit, Demolition and Grading Permit, Architectural Review Permit, Resource Management Permit, Environmental Health Permit, Tree Trimming and Removal Permit, an Encroachment Permit from the County of San Mateo, a Construction Permit from the Bay Area Air District (BAAD), Smoke Management Permit and Burn Permit (with an approved Burn Plan) from the California Department of Forestry and Fire Protection and BAAD, a Lake and Streamed Alteration Agreement from the California Department of Fish and Wildlife, Section 404 and Section 401 Permit from the US Army Corps of Engineers and RWQCB, and an Encroachment Permit from the California Department of Transportation. These permits are described in Chapter 2 "Project Description."

1.5 DOCUMENT ORGANIZATION

1.5.1 This IS/MND is organized as follows:

Chapter 1: Introduction. This chapter introduces the environmental review process. It describes the purpose and organization of this document as well as presents a summary of findings.

Chapter 2: Project Description. This chapter describes the purpose of and need for the proposed project, identifies project objectives, and provides a detailed description of the project.

Chapter 3: Environmental Checklist. This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist and determines if project actions would result in no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, or a potentially significant impact. If any impacts were determined to be potentially significant, an EIR would be required. For this project, however, none of the impacts were determined to be significant after implementation of mitigation measures.

Chapter 4: References. This chapter lists the references used in preparation of this IS/MND.

Chapter 5: List of Preparers. This chapter identifies report preparers.

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2 PROJECT DESCRIPTION

2.1 INTRODUCTION AND BACKGROUND

The Midpeninsula Regional Open Space District (Midpen or District) is an independent special district that has preserved over 70,000 acres of public land and manages 27 open space preserves in portions of San Mateo, Santa Clara, and Santa Cruz counties. The District's core mission is to acquire and preserve a regional greenbelt of open space land in perpetuity, protect and restore the natural environment, and provide opportunities for ecologically sensitive public enjoyment and education. The District's Coastside mission is expanded to also acquire and preserve in perpetuity agricultural land of regional significance, preserve rural character, and encourage viable agricultural use of land resources.

Purisima Creek Redwoods Open Space Preserve (Purisima or Preserve) was established in 1982, under the original name Whittemore Gulch Redwoods Open Space Preserve, with the District's acquisition of 570 acres made possible by a $2 million gift from Save the Redwoods League. Public access was initially limited to the Purisima Creek trailhead on the western boundary. Subsequent acquisition of an easement enabled eastern access to the Preserve from State Route (SR) 35 (Skyline Boulevard).

By May of 1984, the District expanded the Preserve through the acquisition of approximately 1,662 acres encompassing Purisima Canyon. The Preserve was renamed accordingly, and public access was broadened to include new trailheads along Skyline Boulevard (now known as the Redwood and North Ridge trailheads) as well as access from Tunitas Creek Road. This expansion of public access led to increased visitation, prompting the District to develop a comprehensive use and management plan focused on enhanced ranger presence, natural resource protection and management, and recommendations for expanded parking and internal and regional trail networks.

Between 2009 and 2010, the District further expanded Purisima Creek Redwoods Open Space Preserve through acquisition of the Blue Brush Canyon, Elkus Ranch Uplands, and Lobitos Ridge properties. These areas support ongoing grazing and agricultural operations and include limited residential uses. The District subsequently adopted a rangeland management plan (RMP) and a Farming Grounds Management Plan as part of the preliminary use and management plans for these properties. Lobitos Ridge represents the first actively farmed prime agricultural land under District ownership. Additional acquisitions, including October Farms, Purisima Uplands, and South Cowell, have extended the Preserve's western boundary to Verde Road and SR 1. Preliminary use and management plans designate much of the Preserve west of the Irish Ridge Trail as closed to public access until comprehensive planning is conducted. The Preserve also includes conservation and trail easements on adjacent parcels to support habitat protection and controlled public access beyond formal Preserve boundaries.

Midpen develops preserve plans and site-specific plans to serve as the guiding vision to direct land use and stewardship and the development of trails, staging areas, and other low-intensity, ecologically sensitive public access facilities within preserves. Due to increasing visitation and limited parking at the Preserve, Midpen initiated development of the Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan (proposed Plan or CUMP) to responsibly guide ecologically sensitive public access, restoration, and land management. In addition, as part of the proposed Plan, Midpen has identified six specific near-term projects that expand access, improve infrastructure, restore natural habitat, and address management needs at the Preserve. These specific projects are proposed for implementation within the next 5 years and are discussed further in Section 2.6, "Description of Proposed Near-Term Projects." This Initial Study provides project-level analysis of the six near-term projects.

In addition to the near-term projects, the proposed Plan also includes recommended actions for implementation that have already undergone California Environmental Quality Act (CEQA) environmental review as part of the District's other plans and programs such as the open space maintenance and restoration plan (OSMRP), integrated pest management (IPM) plan, and the wildland fire resiliency plan (WFRP), as further discussed under Section 2.1.1, Section 2.8, and in Appendix A. Other recommendations in the proposed Plan involve future studies and assessments which are not projects under CEQA (e.g., development of a pollinator habitat enhancement plan, inventory of existing rest stop amenities, assessments of existing infrastructure including roads, trails, and water conveyance infrastructure).

These studies are intended to inform subsequent management decisions at the Preserve. These recommendations do not identify specific projects or commit the District to a particular course of action. Because the nature, scope, timing, and implementation details of any actions that may result from these studies are not currently known, it is not possible to meaningfully evaluate their potential environmental effects at this time. Any future actions proposed as a result of these studies would be subject to separate review by the District and, as appropriate and if necessary, environmental review pursuant to CEQA once sufficient project-specific information becomes available. Recommendations involving future studies and evaluations would be presented to the District's Board of Directors for consideration and direction at a later date.

2.1.1 Applicable Planning Documents and Studies

The following Midpen planning documents and technical studies, which are referenced throughout this IS/MND, apply directly or indirectly to the Preserve and the proposed Plan.

- **Vision Plan.** The Vision Plan, adopted in 2014, is a long-range strategic framework developed to guide open space conservation, restoration, and public access across the San Francisco Peninsula, San Mateo County Coast, and South Bay. The Vision Plan outlines 54 Priority Action Portfolios focused on land protection, habitat restoration, and low-intensity ecologically-sensitive recreation, and includes completing the Purisima-to-the-Sea Trail connection between the Bay Area Ridge Trail and the California Coastal Trail, constructing a new parking area, and preserving additional open space as it becomes available. The Vision Plan also prioritizes removing fish barriers and restoring Lobitos Creek, studying and improving ponds to support California red-legged frog habitat, and continuing grazing while enhancing fencing and cattle watering systems to protect ponds and streams. Additional efforts include developing interpretive materials and implementing a volunteer steward program. The Vision Plan is available on the District's website at: https://www.openspace.org/sites/default/files/2014_Vision_Plan.pdf.
- **Service Plan for the Coastside Protection Area.** The Service Plan for the Coastside Protection Area (Service Plan) was adopted with the Coastal Annexation Environmental Impact Report (EIR) in 2003. The Service Plan includes guidelines and implementation actions for the Coastside Protection Area. Many of these guidelines and actions include mitigation measures identified in the Coastal Annexation EIR. The guidelines and implementation actions in the Service Plan apply to the western portion of the Preserve within the coastal protection area only. The Service Plan is available on the District's website at: https://www.openspace.org/sites/default/files/Coastal_Service_Plan_0.pdf.
- **Resource Management Policies Document.** The District adopted updated Resource Management Policies in 2022 that define the practices used by the District to protect and manage District lands. These policies apply to all District lands, including the entire Preserve. The Resource Management Policies are available for review on the District's website at: https://www.openspace.org/sites/default/files/Resource_Management_Policies.pdf.
- **Regulations for Use of Midpeninsula Regional Open Space District Lands.** The District adopted these regulations for use of District lands in 1993, and most recently revised them in 2024. These policies apply to all District lands, including the entire Preserve. The regulations for use of District lands are available for review on the District's website at: https://www.openspace.org/sites/default/files/District_Regulations.pdf.
- **Agricultural Policy.** The District's Agricultural Policy was updated in 2023 to guide the District's fulfillment of the Coastside mission to encourage viable agricultural use of land resources on the San Mateo County Coastside. This policy consolidates existing board-adopted policies that deal with agriculture and provides a decision-making tool for District staff and board. The Agricultural Policy is available on the District's website at: https://www.openspace.org/sites/default/files/Midpen%20Agricultural%20Policy.pdf.
- **Purisima Creek Multimodal Access and Transportation Demand Management Study.** The District evaluated existing preserve parking, access, and visitation; identified strategies to address parking and traffic issues, manage visitation, and increase greener modes of transit; and developed an implementation plan for recommended strategies. The proposed Plan incorporates findings from the 2022 Multimodal Access and

Transportation Demand Management (TDM) Study, which recommended strategies such as shuttle services, parking reservations, and carpool incentives. Specific strategies are being carried forward and are included under "Purisima Multimodal Access Implementation Project" in Section 2.6, "Description of Proposed Near-Term Projects." The TDM Study is available on the District's website at: https://www.openspace.org/sites/default/files/Purisima%20Multimodal%20-%20Purisima%20TDM%20Report%20Oct%202022%20FINAL.pdf.

- The Wildland Fire Resiliency Program. The WFRP establishes a program-level framework for proactive management to increase fire resiliency in both the natural and build environment and reducing catastrophic fire risk across Midpen's preserves. The Program aims to not only preserve but increase biodiversity while minimizing environmental impacts. It defines and prioritizes locations for targeted vegetation treatments via the use of manual, mechanical, herbivory, selective chemical methods, and prescribed fire. The WFRP is available for review on the District's website at: https://www.openspace.org/what-we-do/projects/wildland-fire-resiliency#documents.
- Rangeland Management Plans. The RMP guide conservation grazing across Midpen's coastal and rural preserves. Purisima has four RMPs guiding its conservation grazing lands, including Bluebrush Canyon, Elkus Ranch Uplands and Lobitos Ridge, South Cowell Addendum to Elkus Ranch Uplands and Lobitos Ridge, and October Farm RMPs. RMPs use livestock as a conservation tool to support native grassland biodiversity, reduce wildfire risk, and sustain agricultural heritage. RMPs protect natural resources by controlling the number and type of livestock, grazing durations and locations. RMPs also include guidance on strategically placing water troughs and installing wildlife-friendly fencing, among other activities, to direct livestock into, and keep them within, the areas where conservation grazing is most desired and beneficial.
- Parking Area and Trailhead/Staging Area Design Guidelines. The design guidelines establish a consistent framework for planning, siting, and detailing staging areas, parking lots, and trailheads across District preserves. They structure guidance into three tiers: Values, Approach, and Design Elements. These three tiers help ensure each facility functions as a welcoming gateway, complements the natural setting, and meets operational needs.
- Open Space Maintenance and Restoration Program Manual. The OSMRP Manual describes the various routine maintenance, small-scale facility improvements, and new low intensity/small footprint facilities, and restoration and enhancement projects conducted by Midpen. Program activities include culvert and bridge maintenance; maintenance of road and trail drainage features; sediment and debris removal; streambank/pond berm stabilization; water supply structure maintenance; pond maintenance; road and trail maintenance; roadway or trail slip-out/slide repairs; building repairs and utility improvements; recreational facility improvements, including new trails/roads and wildlife crossings; conservation grazing infrastructure improvements; aquatic habitat restoration; native vegetation plantings; invasive species removal; and road decommissioning. The Manual provides a comprehensive and consistent approach to conducting OSMRP activities.
- Integrated Pest Management Program. The District's Integrated Pest Management Program provides a comprehensive framework for managing all pests across District properties while prioritizing human health and environmental quality.
    - Integrated Pest Management Guidance Manual. The IPM Guidance Manual, designed with a 10-year planning horizon, outlines both program-wide processes and individual pest management decisions. The Guidance Manual identifies specific pest management actions including preventative and maintenance measures, damage assessment procedures, tolerance levels and thresholds for action, and treatment options. The IPM Guidance Manual was last updated in 2026 as part of the Program's 10-year update to stay current with evolving best practices, operational needs, regulatory listings, and the District's broader stewardship and resource protection priorities, while maintaining the original Program purpose and overall approach. Within the District, the situations that trigger the need for pest control fall into four distinct management categories: (1) buildings; (2) recreational facilities; (3) rangelands and agriculture properties; and (4) natural areas. The 2014 IPM Guidance Manual is available on the District's website at: https://www.openspace.org/sites/default/files/IPM_Guidance_Manual_0.pdf. The 2026 10-year IPM Program update can be found here: https://portal.laserfiche.com/Portal/DocView.aspx?id=72059&repo=r-5197d798.

- Board Policy 4.01 Open Space Use and Management Planning Process. Midpen lands are managed to promote the continued preservation of their natural, historical and cultural resources, and at the same time provide compatible public recreation, environmental education, and agricultural use where possible. The Open Space Use and Management Planning Process was established to address these management goals, and encompasses an ongoing comprehensive approach to management, designed to respond to the dynamic changes of the District's environmental resources and public needs. The process is comprised of five planning categories: 1) Preliminary Use and Management Plans (PUMPs); 2) Interim Use and Management Plans; 3) Comprehensive Use and Management Plans (CUMPs); 4) Preserve Master Plan for Improvement, Use and Management; 5) Use and Management Plan Reviews, which allow for a systematic approach to the development of management plans. The categories relate to the various stages of site planning that a preserve may be subject to during its course of development and use. The Board Policy 4.01 Open Space Use and Management Planning Process is available on the District's website at: https://www.openspace.org/sites/default/files/Board-Policy-4.01-Planning-Process.pdf.
- Prior Use and Management Plans. Midpen develops use and management plans for each of its preserves to establish and meet management goals to preserve the natural, historical, and cultural resources of the lands while providing compatible and ecologically sensitive public recreation, environmental education, and agricultural uses. PUMPs consist of use and management recommendations developed and approved at the time of acquisition or approval of a license or management agreement. These plans normally represent a status quo approach to use and management. Emphasis of the plan is typically on securing the site, specifying immediate site management needs, and establishing a timeline for providing general public access.

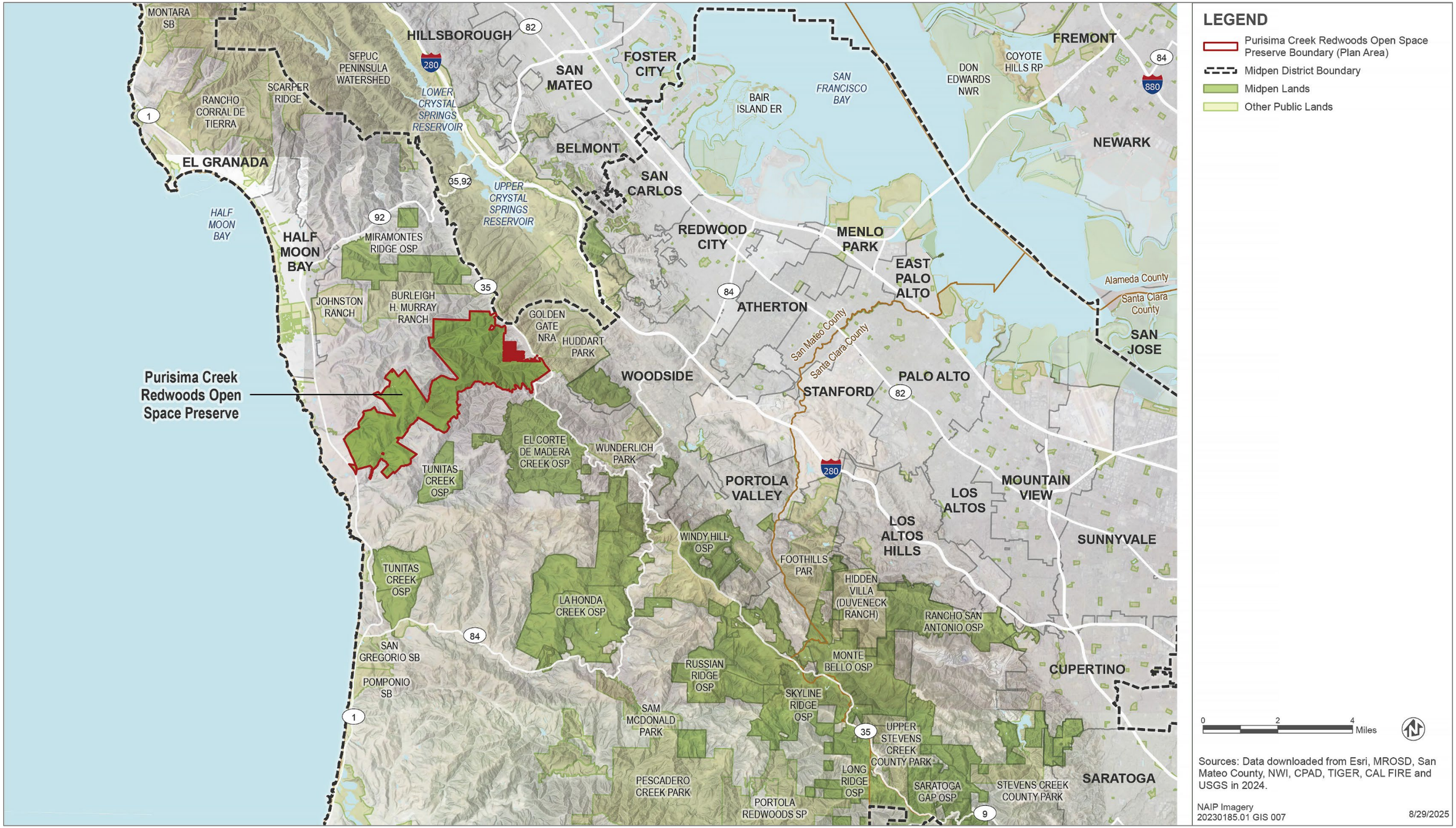
  The CUMP is a detailed plan addressing all aspects of use and management. It is prepared for preserves that have the potential for a substantial amount of public use, and/or have other critical land use issues which need attention. The CUMP is based on a resource analysis and public input and evaluates potential uses as well as cultural and existing uses. It represents both long term (5-15 years) goals and short term (1-5 years) goals.

  The Preserve was first established in 1982 and PUMPs were developed as part of each new land acquisition to designate initial public access, natural resource management, operations, and maintenance requirements. The PUMPs were amended as needed over the years, with a CUMP last completed for Purisima in 1989. The 1989 CUMP identifies a range of public access, natural resource protection, and safety/security recommendations that govern the Preserve's current use and management. The 1989 CUMP led to the development of formal parking areas at the North Ridge (previously known as Whittemore Gulch) and Purisima Creek trailheads, 15 miles of new trails and converted ranch roads, establishment of a ranger residence at the North Ridge trailhead, and watershed enhancements through creek restoration and bridge improvements along Purisima Creek. Since 1989, the Preserve has more than doubled in size, growing by approximately 2,893 acres. Although the subsequent acquisitions have individual PUMPs or other interim use and management plans, these property additions have not yet been incorporated into a new CUMP.

2.2 PROJECT LOCATION

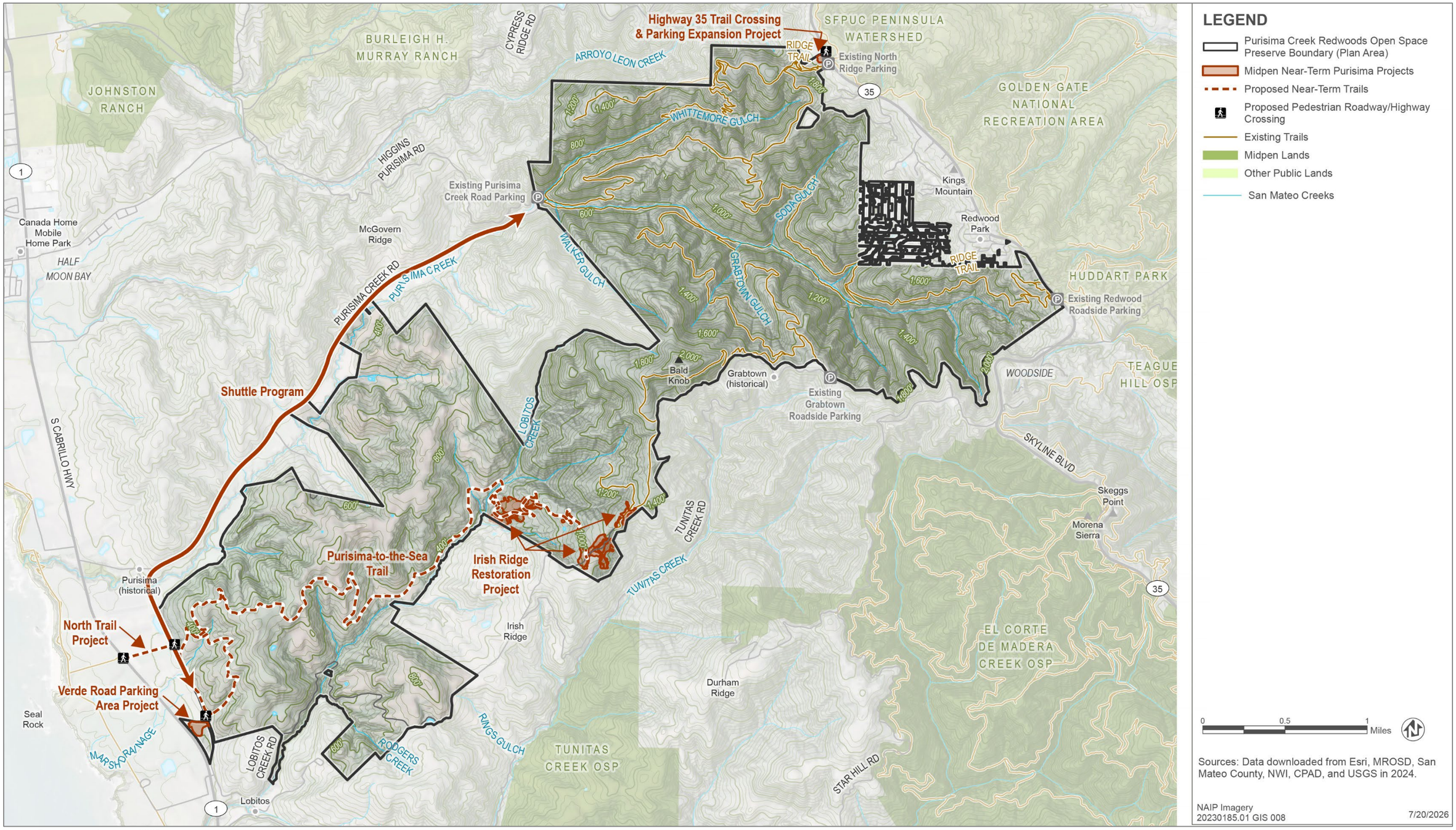
Purisima Creek Redwoods Open Space Preserve is located on the western slopes of the northern Santa Cruz Mountains within unincorporated San Mateo County and is partially within the District's Coastside Protection Area, as shown in Figure 2-1. The Preserve extends from SR 35 (Skyline Boulevard) to the northeast and SR 1 to the southwest with access points from Skyline Boulevard, Purisima Creek Road, and Tunitas Creek Road. The community of Half Moon Bay lies northwest of the Preserve, while the outer extent of the community of Woodside is located approximately 2 miles northeast of the Preserve boundary, along Skyline Boulevard.

As mentioned above, the proposed Plan includes six near-term projects that expand access, improve infrastructure, and address management needs at the Preserve and are shown on Figure 2-2. These near-term projects are proposed for implementation over the next 5 years and are discussed further in Section 2.6, "Description of Proposed Near-Term Projects."



Source: Prepared by Ascent in 2025.

Figure 2-1 Purisima Creek Redwoods Open Space Preserve Regional Location



Source: Prepared by Ascent in 2025.

Figure 2-2 Purisima Creek Redwoods Open Space Preserve Plan Area and Near-Term Projects

2.3 PRESERVE DESCRIPTION AND SETTING

The Preserve is characterized by steep canyon terrain as it is dominated by Purisima Creek Canyon, its central natural feature, as well as dense second-growth coast redwood forests, mixed evergreen woodlands, and riparian corridors associated with Purisima Creek and its tributaries. The Preserve is primarily situated within the Purisima Creek watershed, which includes the tributaries Whittemore Gulch, Soda Gulch, Walker Gulch, and Grabtown Gulch. Portions of the Preserve also drain to the Tunitas Creek and Lobitos Creek watersheds. The understory supports a rich diversity of native vegetation, including ferns, berries, and seasonal wildflowers. Elevations range from as low as 150 feet above mean sea level along the creek corridors to over 2,000 feet on the ridge tops. The elevated ridgelines in the northern portion of the Preserve offer expansive views of the Pacific coastline and Half Moon Bay, notably from designated viewpoints along the Harkins Ridge Trail and Soda Gulch Trails (Midpen n.d.).

Commercial logging occurred throughout the Preserve in the early 1900s, when nearly all old-growth redwoods, many exceeding 10 to 20 feet in diameter, were harvested for lumber. Visible stumps along the Purisima Creek Trail mark the locations of past logging. The current forest is predominantly second-growth redwood stands that were established approximately 100 years ago following the cessation of large-scale timber operations.

A closed-canopy matrix of second-growth coast redwood (*Sequoia sempervirens*), Douglas fir (*Pseudotsuga menziesii*), madrone (*Arbutus menziesii*), tanbark oak (*Notholithocarpus densiflorus*), coastal scrub, and grassland defines the visual character of Purisima Creek Canyon. These forest and scrub communities also support sensitive wildlife, including the marbled murrelet (*Brachyramphus marmoratus*), the California giant salamander (*Dicamptodon ensatus*), and California red-legged frog (*Rana draytonii*).

The Preserve is a popular recreational destination among residents of San Mateo County, neighboring areas, and the broader San Francisco Bay Area region. Public access is provided by four Preserve trailhead entrances: Purisima Creek Trail, Redwood Trail, Grabtown Gulch Trail, and North Ridge Trail. Over 21 miles of multi-use trails provide opportunities for hiking, biking, and equestrian use, while portions of the Preserve remain closed to public access while supporting ongoing grazing, agricultural operations, and habitat protection.

Structures within the Preserve include accessible restrooms at trailheads, wheelchair-friendly picnic areas, multiple bridges crossing Purisima Creek throughout the trail network, and employee residences. The Preserve currently offers three designated parking areas, each serving different trailheads with varying capacities. The designated areas are a combination of formal parking lots and informal roadside pull-off areas. The North Ridge Parking Area is the largest, with 41 standard spaces and two Americans with Disabilities Act (ADA) compliant spaces, providing access to the North Ridge Trailhead via SR 35. The Redwood Roadside Parking area, located along the same highway, offers 11 standard and two ADA spaces near the Redwood Trailhead. The Purisima Creek Road Parking Area is the smallest formal lot with seven standard spaces and one ADA space, accessible via SR 1 and Verde Road. The Grabtown Gulch Trailhead does not offer designated parking although informal roadside parking is present along Tunitas Creek Road, with limited pull-outs. In total, the entire Preserve currently can accommodate approximately 64 parked vehicles across all designated parking areas and another approximately 90 spaces along roadside and informal parking areas (Midpen 2022).

2.4 PROJECT OBJECTIVES

The proposed Plan is intended to achieve the following objectives:

- Guide the long-term land management, operations, and public access actions and activities while prioritizing the protection and enhancement of the natural resources and sustainability of existing agricultural uses on the San Mateo County Coastside.
- Consolidate new and existing uses, programs, and operations at the Preserve into a single planning document that provides a cohesive approach for implementing ongoing actions with proposed improvements.
- Streamline the planning and environmental review process for near-term projects taking place within Purisima Creek Redwoods by creating a single, comprehensive plan for the Preserve.

- Create new trail alignments in support of regional trail connections, such as the Bay Area Ridge Trail, California Coastal Trail, Purisima-to-the-Sea Trail, and future proposed Bay to Sea Trail.
- Provide new and expanded parking areas at the Preserve, where parking demand often exceeds availability during peak visitation hours.
- Improve the ecological values of the preserve that have been degraded by invasive species, including high fire prone species, by enabling large-scale restoration projects to take place.
- Protect significant cultural and environmental resources in future development and operations.

2.5 DESCRIPTION OF PROPOSED PURISIMA COMPREHENSIVE USE AND MANAGEMENT PLAN

The Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan serves as the overarching guiding document for ecologically-sensitive public access, restoration, and land management for the Preserve. Midpen developed the Plan and integrated existing District-wide policies and planning frameworks (such as the existing Preserve Use and Management Plans, the Vision Plan, and Resource Management Policies) into a comprehensive planning document for Purisima. The Plan provides long-term management guidance on focus areas pertaining to natural resources; historic, cultural, and tribal cultural resources; aesthetic resources; public access; and operations and maintenance. All the proposed actions associated with the focus areas are covered by previously adopted or certified Midpen CEQA documents (except for the proposed near-term projects) but they are provided below for important context regarding policies and actions for protecting resources and managing public access. See Section 2.8, "Prior CEQA Documents," below for more information. The proposed Plan would be implemented through a series of future projects led by Midpen and/or through partnerships and agreements with other organizations. The focus areas are discussed in further detail below.

As previously described in Section 2.1, "Introduction and Background," the Plan identifies six, specific, near-term projects to be implemented over the next 5 years. The near-term projects include the Highway 35 Multiuse Trail Crossing and Parking Expansion Project, the Purisima-to-the-Sea Trail Project, the Verde Parking Area Project, the North Trail Project, the Purisima Multimodal Access Implementation Project, and the Irish Ridge Habitat Restoration Project. These projects are anticipated to provide enhanced public access and recreation opportunities and improve the ecosystem within the Preserve (Midpen 2025a).

2.5.1 Vegetation and Wildlife

The purpose of the vegetation focus area is to protect and enhance habitats for rare and special status species, promote native plant species, manage grasslands in alignment with the District's Resource Management Policies, including the Conservation Grazing Management Policy, sustain biodiversity and agricultural heritage, enhance pollinator habitat, sequester carbon, and restore native forest ecosystems in areas impacted by past land use. The purpose of the wildlife focus area is to protect and enhance habitats for rare and special status species, promote native wildlife populations to support ecosystem function, and reduce barriers to movement and dispersal.

The following actions are a part of the ***vegetation*** focus area:

- **Actions:** Identify, monitor, and consider enhancement or reintroduction of special status native plant species.
- **Actions:** Manage and conserve grassland habitat with adequate amounts of residual dry matter at the start of each growing season and a diverse range of vegetation heights and species composition and complexity. Control encroachment of problematic invasive and woody vegetation.
- **Actions:** Develop a pollinator habitat enhancement plan. Conduct seed collection and seed amplification of pollinator host and nectaring plants appropriate for the local ecology. Identify, prioritize, and implement plan actions in appropriate areas.

- **Actions:** Implement the Irish Ridge Restoration Plan, manage invasive species per the IPM Program, and implement vegetation management according to the Wildland Fire Resiliency Program.

The following actions are a part of the ***wildlife*** focus area:

- **Actions:** Use wildlife-friendly fencing and infrastructure when replacing existing or installing new infrastructure, establish and maintain safe wildlife crossings, including wildlife compatible culverts and regular maintenance to allow passage, and install signage to increase public awareness of local wildlife species. Conduct habitat assessments to refine objectives and prioritize barrier removals. Reference best available data sources when planning project areas to select most appropriate tool to inform the identification and protection of wildlife corridors.
- **Actions:** Consider designation of conservation management units, consider recreational access type and timing mindful of sensitive wildlife species, restore or enhance degraded habitats for native wildlife, support species reintroduction and/or projects that enhance the genetic diversity and health of wildlife species. Continue efforts of the District's wildlife programs for birds, bats, amphibians, invertebrates, and mammals such as conducting marbled murrelet monitoring, grassland bird and habitat management, bat species research, frog monitoring and early detection rapid response, invertebrate monitoring, grassland management, badger management, and maintaining wildlife habitat connectivity. Explore and implement shared benefits of wildlife conservation with Conservation Grazing management actions and landscape regimes.
- **Actions:** Protect, monitor, and conduct adaptive management actions to sustain viable habitat for special status species, including mountain lion, marbled murrelet, California giant salamander, California red-legged frog, golden eagle, American badger, steelhead trout, grasshopper sparrow, and Bryant's Savannah sparrow. Conduct monitoring studies to identify priority habitat and conservation management areas for special status wildlife.

2.5.2 Watershed Resources and Aquatic Habitat

The purpose of the watershed resources and aquatic habitat focus area is to enhance riparian habitat quality along key creeks to promote healthy water and anadromy, sequester carbon, prevent erosion, and protect and monitor water quality while supporting long-term preservation and restoration of natural resources. The following actions are a part of the watershed resources and aquatic habitat focus area:

- **Actions:** Where feasible, enhance and/or expand the width and extent of the vegetated riparian corridor along major creeks within the Preserve. Monitor Lobitos Creek to assess conditions for water quality and anadromy and identify restoration and habitat enhancement opportunities.
- **Actions:** Provide appropriate setbacks/buffers to water resources during public access planning in accordance with the Coastal Service Plan guidelines and the District's Resource Management Policies. Restrict direct human and livestock access to Lobitos Creek to minimize sedimentation and other impacts to the creek. Fence riparian areas, as needed, to exclude cattle. Continue to implement the Water Quality Monitoring Program priorities for the Preserve, including regular monitoring of creeks, ponds, springs, and wells to guide adaptive management efforts and any appropriate response actions.
- **Actions:** Monitor stream bank stability at Purisima and Lobitos Creeks, particularly in areas near trails and cattle access and implement stabilization actions and/or restrict access as needed.

2.5.3 Conservation Grazing

The purpose of the conservation grazing focus area is to continue conservation grazing to preserve grasslands, reduce fire fuels, and support local agriculture, while updating infrastructure to sustain current and future operations and exploring its expansion to further natural resource management goals. The following actions are a part of the conservation grazing focus area:

- **Actions:** Manage grazing in accordance with the Board-approved RMP and Agricultural Policy. Update the RMP as needed. Continue existing monitoring program and evaluate introducing new monitoring frameworks (e.g., Audubon Conservation Grazing, Pt. Blue Rangeland Monitoring Network) as needed.
- **Actions:** Install and replace grazing infrastructure (e.g., new and/or repairs to pasture fences, new gates, stock water systems) to achieve grazing management objectives set forth in the RMP; explore emerging infrastructure technologies that improve general range management (e.g., stock water monitoring systems, electric fence, virtual fence).
- **Actions:** Evaluate potential to expand conservation grazing in the western areas of the Preserve to address fuel reduction, control invasive plants, control brush encroachment, and conserve native plant and animal diversity.

2.5.4 Wildfire Resiliency

The purpose of the wildfire resiliency focus area is to increase ecosystem resilience to wildland fire, reduce the risk of uncharacteristically severe fire, and support conditions that help protect natural resources, neighboring communities, and emergency responders. The following action is a part of the wildfire resiliency focus area:

- **Actions:** Implement the Wildland Fire Resiliency Program's vegetation management plan, which includes ecosystem resiliency/healthy forest initiatives, enhanced fire management (i.e., fuel breaks and legally required defensible spaces around critical infrastructure), targeted removal of eucalyptus and acacia, and updating fire response resource maps. Conduct outreach to neighbors to promote the District's defensible space permits and encourage ecologically sensitive vegetation management related to wildfire resiliency and natural resource enhancement consistent with the IPM and Wildland Fire Resiliency programs. Close trail access points within the Coastal Service Area during red flag days and post notice of closures on the District's website.

2.5.5 Habitat Integrity

The purpose of the habitat integrity focus area is to preserve the composition, structure, and ecological function of habitats when siting new preserve infrastructure to support ecosystem resilience and health. The following action is a part of the habitat integrity focus area:

- **Actions:** Properly design and site new preserve infrastructure (i.e., trails, parking areas, fencing, corrals, etc.) to avoid habitat segmentation, maintain wildlife movement, and reduce the need for compensatory mitigation. Focus on siting new physical elements in the outer edges of preserves and close to areas of existing development where possible as recommended in the District's Parking Area and Trailhead/Staging Area Design guidelines. Identify and implement proper buffers to critical habitats and wetlands, both within and near the Preserve

2.5.6 Climate Resiliency

The purpose of the climate resiliency focus area is to reduce and manage greenhouse gas (GHG) emissions, promote habitat resilience to climate change, and inform the public about its impacts and the District's resilience efforts in the Preserve. The following actions are a part of the climate resiliency focus area:

- **Actions:** Promote resilience of long-term vegetation carbon sequestration by implementing the Wildland Fire Resiliency Program actions. Support rangeland carbon sequestration and storage by implementing actions under the Bluebrush Carbon Farming Plan. Protect soil carbon storage by managing erosion. Promote old-growth structure in redwood forest through active forest management practices for long-term carbon sequestration and storage potential. Reduce visitor GHG emissions by promoting use of multimodal and green travel alternatives and the associated support infrastructure.
- **Actions:** Implement priorities under the Wildland Fire Resiliency Program and IPM Program. Maintain and enhance habitat corridors to support species redistribution or migration needs as climate changes. Remove barriers to species as they may need to adapt to changing conditions and consider nature-based solutions. Consider best-

available models of future climate conditions when designing restoration or mitigation projects. Identify and protect a mosaic of habitat refugia with consideration given to changing temperatures and moisture levels. Implement Early Detection and Rapid Response methods to address invasive species and protect native and imperiled species that are negatively affected by shifting climate conditions. Make water available for livestock while sufficiently preserving natural sources of water resources for wildlife and riparian habitat health, consistent with District policies.

- **Actions:** Provide interpretive opportunities regarding climate change impacts to the preserve and the San Mateo Coast, and the District's resiliency work. Anticipate increased coastside visitation during heatwaves and alert the public ahead of these conditions about heat risks and safety measures via the District website and/or social media. Provide clear messaging when weather conditions (e.g., storm damage, red flag days) lead to trail closures.

2.5.7 Tribal Cultural Resources and Historic and Cultural Resources

The purpose of the tribal cultural resources and the historic and cultural resources focus areas is to appropriately address tribal, cultural, and historical resources that could be affected by implementation of the proposed Plan such as through engaging with Native American tribes to plan for and address tribal cultural resources within the Preserve and managing historic and cultural resources consistent with the Basic Policy. The following actions are a part of the tribal cultural resources focus area:

- **Actions:** Begin tribal consultations as early as possible in the project planning process, as appropriate. Conduct cultural resource studies and analyses where appropriate and needed, including areas with proposed ground disturbance.
- **Actions:** In areas where there are known tribal cultural resources, implement avoidance measures to the greatest extent possible. When avoidance is not possible, work with the tribe(s) on implementing cultural resource protection measures and monitoring for known tribal cultural resources. In the event that previously undiscovered tribal cultural resources are discovered, work with the appropriate tribes to develop and implement recommendations for the protection and treatment of the cultural resources in accordance with tribal cultural values, District's Resource Management Policies, and Coastal Service Plan protocols.
- **Actions:** Engage tribes in development of ongoing education opportunities regarding archaeology, anthropology, and Native American cultural history. Develop interpretation signage that includes Indigenous voices.
- **Actions:** Consider formalizing access for tribal members to practice traditional lifeways, such as cultural burns/prescribed fires, ethnobotanical collection, and land stewardship actions that connect tribal members to their ancestral homeland and support ecosystem land management goals.

The following actions are a part of the historic and cultural resources focus area:

- **Actions:** Conduct records searches and surveys with qualified archaeologists and consult the District's historic and cultural resource inventories to identify significant resources prior to project implementation, in accordance with the District's Resource Management Policies for cultural resources. For projects that may negatively impact historic resources, hire a qualified architectural historian to verify historic significance eligibility and inform treatment. Provide a qualified historic/cultural resource monitor when ground-disturbing work is occurring within areas of concern to protect resources from damage.
- **Actions:** With guidance from qualified architectural and cultural historians and informed by cost projections, identify financially and operationally sustainable options consistent with the Basic Policy and Resource Management Policies for the long-term management of cultural and historical resources, such as interpretation and documentation.

2.5.8 Viewshed and Scenic Corridors

The purpose of the viewshed focus area and scenic corridors focus area is to protect and showcase the area's scenic views, rural character, and distinctive natural features to enhance public enjoyment. The following actions are a part of the viewshed focus area:

- **Actions:** Site proposed infrastructure and amenities in accordance with the District's Coastal Service Plan, Resource Management Policies, and the Parking and Staging Area Design Guidelines. Where feasible, use materials complementary of the Preserve's natural landscape and the rural character of San Mateo County. Design new parking areas in a way that utilizes existing topography to screen them from view and site them naturalistically in the landscape to limit the need for earthwork and retaining walls. Include locally appropriate native seeding to provide additional screening only when necessary.
- **Actions:** Site proposed amenities, including benches, overlooks, and interpretive signage, in accordance with the District's Resource Management Policies and Parking and Staging Area Design Guidelines to highlight key vistas, including coastal views.

The following action is part of the scenic corridors focus area:

- **Actions:** Site proposed infrastructure and amenities to minimize effects on the SR 1 and SR 35 (Skyline Boulevard) Scenic Corridors in alignment with the County of San Mateo, Coastal Service Plan policies, and Resource Management Policies. Retain existing berms and native trees where possible that provide screening of new public access facilities.

2.5.9 Public Use, Recreation, and Amenities

The following focus areas include public use, trails, parking and trailheads, multimodal access, site amenities, signage, interpretation, and education. The purpose of these focus areas is to enhance public access and recreation by providing well-designed trails, diverse trail experiences, appropriate amenities, and interpretive features that support safe, enjoyable use while protecting and respecting the Preserve's natural and cultural landscape. The following actions are a part of the public use focus area:

- **Actions:** Consider natural and cultural resource sensitivities, trail features, including slope and line of sight, the presence of agricultural uses, and other elements when determining the allowable uses for each trail (which do not include e-bikes unless as an ADA other powered mobility device) to protect natural and cultural resources, reduce the potential for conflicts, and maintain visitor safety. Designate public access as on-trail use only within conservation grazing areas, restoration areas, and other sensitive areas within the preserve. Designate portions of the Purisima Uplands area as a closed area until site remediation work is completed and designated trails are established. Evaluate appropriate trail segments for options to incorporate dog access, such as the Purisima-to-the-Sea trail loop, that avoids impacts to sensitive natural and cultural resources and grazing operations. Consider seasonal closures or changes to recreational access based on new information about impacts to sensitive resources.
- **Actions:** Designate the regional Purisima-to-the-Sea Trail as multi-use (hiking, biking, and equestrian use, not including e-bikes unless as an ADA other powered mobility device); includes redesignating existing segments that are hiking-only as multi-use.

The following actions are a part of the trails focus area:

- **Actions:** Consider topography, vegetation, native habitats, habitat connectivity, species sensitivities, cultural resources, and other natural features when planning new trail alignments. Evaluate the suitability of existing roads and trails for public use to minimize new cuts on the landscape. Design and construct trails in accordance with the District's Trail Use Policy, Coastal Service Policy, and Details and Specifications Guidelines. Site and design trails to avoid or minimize impacts to sensitive habitats, rare plants, wildlife corridors, and cultural resources wherever feasible. Build trails to an average grade of eight percent, where practicable, for long-term durability. Incorporate sustainable trail design features to reduce erosion and encourage proper drainage that directs runoff to vegetated areas away from creeks. Avoid siting trails near private property boundaries, cattle grazing infrastructure and sensitive resource areas whenever possible. Consider seasonal closures or changes to recreational access based on new information about impacts to sensitive resources.
- **Actions:** Consider trail loop opportunities of varying distances, including shorter loops (e.g., 1-4 miles) from main trailheads. Consider new internal trail connections to improve trail connectivity within the preserve (e.g., a

western North Ridge Trail connector to lower Whittemore Trail) while considering impacts to wildlife movement and habitat fragmentation.

- **Actions:** Coordinate with the San Francisco Public Utilities Commission (SFPUC) to implement the SR 35 trail crossing on SR 35 and a spur trail from the North Ridge parking area to connect existing segments of the Bay Area Ridge Trail within Purisima to the new SFPUC Skyline Watershed Ridge Trail. Implement the Purisima-to-the-Sea regional trail within the preserve and coordinate with Peninsula Open Space Trust (POST), San Mateo County Parks, Coastal Conservancy and California Department of Transportation (Caltrans) to connect the Purisima-to-the-Sea trail to the California Coastal Trail at the Cowell-Purisima trailhead via an existing trail easement held by POST on private property. Collaborate with agencies and partners implementing the regional trails that connect to Purisima (i.e., Bay-to-Sea, Bay Area Ridge, and California Coastal trails) about how to disseminate information and updates to the public about the regional trails, including trail maps, amenities, and operating hours.
- **Actions:** Explore opportunities to extend the existing 0.3-mile Easy Access Redwood Trail. Evaluate new locations for Easy Access trails that connect to ADA facilities and other amenities (e.g., restrooms, benches, vista points).
- **Actions:** Follow the applicable Board-approved Resource Management Policies and trail design and specification guidelines when identifying new trail alignments and designing/constructing new trails.

The following actions are a part of the parking and trailheads focus area:

- **Actions:** Develop new driveways in accordance with the Board approved Parking/Staging Areas and Trailhead design guidelines, including confirming adequate lines of sight. Implement no parking areas along public roadway frontages near driveway entrances, as appropriate, to maintain lines of sight and orderly site circulation.
- **Actions:** Develop the new Verde parking area and North Ridge parking area expansion in alignment with the Board-approved Coastal Service Plan and Parking/Staging Areas and Trailhead design guidelines, including proper siting/design of new parking areas and selection of construction materials that are durable and reflect the open space character of the surrounding area. Coordinate with the County of San Mateo to designate no-parking zones on roadways adjacent to parking areas, where necessary, to reduce congestion and improve visitor safety and emergency access near Preserve parking areas and trailheads.

The following actions are a part of the multimodal access focus area:

- **Actions:** Implement a 3-year pilot shuttle program that provides a point-to-point shuttle service between the new Verde Road Parking Area and Purisima Creek Road Trailhead consistent with the Purisima Multimodal Implementation Project Report. Close roadside and trailhead parking at the Purisima Creek Road Trailhead when the shuttle is in service.
- **Actions:** After evaluating the level of success of the pilot shuttle program for the Purisima Creek Road Trailhead, consider either expanding the shuttle program with stops in Half Moon Bay and/or Pescadero, or pursuing other TDM strategies to further manage parking and visitation. Seek partnerships and funding sources for implementation and long-term operation.
- **Actions:** Establish an online real-time parking information system, using sensors to track available parking spaces at the North Ridge and Verde parking areas, providing information online to assist the public in scheduling their visit and better distribute parking use.
- **Actions:** When parking demand meets established capacity thresholds, consider the following:
  - Designating parking spaces for carpool, vanpool, or high occupancy vehicles as an incremental, additional step to better manage parking use and encourage carpooling to the Preserve; and/or
  - Establishing a reservation parking system.
- **Actions:** Advertise other District trailheads and nearby preserves for visitors to find alternative destinations when specific parking areas are at capacity.

The following actions are a part of the site amenities focus area:

- **Actions:** Inventory the various rest stop amenities, including restrooms and rest areas that currently exist within the preserve. Identify potential suitable interior sites for new amenities to support long distance travel within the preserve. Ensure existing and new amenities are wildlife friendly.
- **Actions:** Inventory the various rest stop amenities, including restrooms, rest areas with bench(es), potable water, hitching post, and/or backpack camps that currently exist along the regional Bay to Sea Trail corridor. Conduct a feasibility study to identify critical gaps where similar amenities can be offered within the preserve to support this regional trail use. In addition, coordinate with regional partners to explore how trail amenities would be implemented to support the Purisima-to-the-Sea Trail and overall Bay to Sea Trail corridor.
- **Actions:** Incorporate visitor serving amenities in accordance with the Board approved Parking/Staging Areas and Trailhead design guidelines, including proper signage. Provide a vault toilet at the future Verde Road parking area.
- **Actions:** Include bicycle racks, a bicycle repair station, bicycle wheel brush, hitching posts, and/or water troughs, as would be suitable, at preserve trailheads. Include notices or educational material to the public about pathogen or weed transfer.

The following action is a part of the signage focus area:

- **Actions:** Develop a signage plan in alignment with the District's Sign Manual to provide trail directional signs, relevant regulation signs, and appropriate resource management signs. Install standard District signboards at the future Verde Road trailhead, including a partner signboard that recognizes the support from partners and Measure AA public funding support.

The following actions are a part of the interpretation and education focus area:

- **Actions:** Identify appropriate locations for new interpretive signage at trailheads or on trails where mid-trail facilities may be located and at the Verde Road trailhead/parking area. Potential interpretive topics include themes that highlight the local ecology, sensitive species, historic oil refinery and logging operations in Purisima Canyon, agricultural heritage, tribal cultural resources, climate change impacts and sustainability measures, and land management practices that protect biodiversity and support the preservation of local agriculture on the San Mateo County coast. Include language translations on interpretive signage on the coastside based on changing demographics and census-related data when the number of residents with limited English proficiency (LEP) reach San Mateo County/Santa Clara County thresholds.
- **Actions:** Provide docent naturalist guided activities to the public. When effective and as capacity allows, generate digital media content (e.g., StoryMaps, OuterSpatial, podcasts, mobile apps, audio tours, etc.) to enhance storytelling. Provide language translations for online resources.
- **Actions:** Explore opportunities and interest in offering cultural and/or natural resource docent-led programming for local schools. Incorporate Spanish language translations and other language translations to signage and educational programs, as needed, to expand reach to non-English speaking communities on the Coastside.

2.5.10 Sensitive Area Management and Conservation Management Unit

The purpose of the sensitive area management and the conservation management unit focus areas is to protect highly sensitive areas of conservation priority and, where necessary, manage public access to be consistent with site specific management goals.

The following action is a part of the conservation management unit focus area:

- **Actions:** Designate Conservation Management Units (CMUs) at the Preserve, when needed, for sensitive areas requiring limited or no public access, restricted infrastructure or facilities planning, and/or special management considerations.

The following action is a part of the sensitive area management focus area:

- **Actions:** Identify and designate highly sensitive natural resource areas and/or highly disturbed areas that require extensive restoration effort as areas restricted to on-trail use only and/or as CMUs.

2.5.11 Road and Trail Maintenance

The purpose of the road and trail maintenance focus area is to ensure safe and sustainable access to the Preserve by maintaining emergency routes, reducing erosion from legacy roads, and keeping trails in good condition for public enjoyment. The following actions are a part of the road and trail maintenance focus area:

- **Actions:** Maintain existing operational roadways consistent with the District's best management practices.
- **Actions:** Properly decommission unnecessary internal roadways. Implement erosion control measures and drainage improvements, including maintenance of existing culverts, as needed for the remaining roads.
- **Actions:** Maintain vegetation along trails in compliance with the District's Wildland Fire Resiliency Program and IPM program. Maintain trail surfaces and associated drainage infrastructure in compliance with the Open Space Maintenance and Restoration Program. Identify trail segments that require additional hardening, particularly for new trail segments in grazing areas, and install and replace aggregate material as needed to maintain trail function. Evaluate and implement minor trail reroutes to avoid problematic trail conditions or trail failures.

2.5.12 Safety and Security, Utilities and Infrastructure, Environmental Hazards

The following focus areas include safety and security, utilities and infrastructure, and environmental hazards to ensure public safety and resource protection by complying with District regulations, minimizing wildland fire risk, enhancing infrastructure resilience to extreme weather and climate impacts, and addressing environmental hazards. The following actions are a part of the safety and security focus area:

- **Actions:** Provide signage and education to promote compliance with District regulations. As needed, conduct enforcement actions to address violations for the protection and safety of the resources and public.
- **Actions:** Conduct ongoing patrol to monitor safe, appropriate, and permissible public uses. Patrol closed areas for unauthorized access. Utilize gates, wildlife-friendly fencing, and signage on District property where appropriate to maintain site security and meet public safety objectives in alignment with the District's Good Neighbor Policy.
- **Actions:** Maintain vegetation along roads and trails, where appropriate. Educate visitors about regulations to maximize compliance, conduct regular patrols, and conduct maintenance activities according to best managements practices for fire safety. Implement actions specified for the Preserve in the Wildland Fire Resiliency Program.
- **Actions:** In areas within the Coastside Protection Area where trail routes are adjacent to private property, wildlife-friendly fencing shall be employed as necessary to deter users from leaving the trail and private property signs will be installed to inform visitors of private property rights. Consider wildlife-appropriate directional fencing to guide wildlife away from unsafe or unwanted property areas. Specific fence, gate, and crossing designs will be determined in consultations with adjacent affected property owner(s) at the Use and Management Plan stage, in accordance with the Coastal Service Plan. In the Coastside Protection Area, trails should be sited 300 feet from any occupied dwellings on neighboring properties, where feasible, with a minimum 50-foot setback if greater separation from dwellings is not feasible. Consider impacts from District operations in the vicinity of private properties such as noise, maintenance activities, and siting of new trails and facilities in accordance with the District's Good Neighbor Policy and Coastal Service Plan.

The following actions are a part of the utilities and infrastructure focus area:

- **Actions:** Identify and document utilities and infrastructure and remove unnecessary facilities and infrastructure, such as obsolete water systems and fencing. Remove the old county park restroom near the Redwood Trailhead, approved for demolition by the Board in 2000.
- **Actions:** Inventory and maintain existing water infrastructure. Measure domestic and agricultural consumptive water use and evaluate opportunities to use municipal water supply where feasible. Evaluate opportunities to expand and/or replace existing water infrastructure to support conservation grazing operations while maintaining water requirements of wildlife. Ensure all water infrastructure is wildlife friendly and does not create entrapment risk (e.g., escape ramps, secured closures).
- **Actions:** Assess roads, trails, crossings, and water conveyance infrastructure for vulnerability to impacts from severe storms, fire, and extreme heat. Upgrade or decommission infrastructure as appropriate. Design new infrastructure and repairs in consideration of more severe weather conditions than historic levels.

The following actions are a part of the environmental hazards focus area:

- **Actions:** Remove barbed wire, nails, debris, and other materials that no longer have a functional purpose or that pose public safety hazards and do not contain significant cultural or historic value. Support the long-term stewardship of the property and meet public safety objectives in alignment with the District's Good Neighbor Policy.
- **Actions:** Identify hazardous areas and develop any necessary plans for containment, removal, and/or remediation where appropriate in alignment with natural and historic resource management objectives and procedures. Remove and remediate hazards where already identified within Purisima Uplands and designate Purisima Uplands as a closed area until the site has been remediated. Following remediation, re-evaluate the area for potential public access in consideration of long-term natural and cultural resource protection.

2.6 DESCRIPTION OF PROPOSED NEAR-TERM PROJECTS

As part of the proposed Plan, Midpen has identified six near-term projects that improve and expand public access and connectivity; reduce parking congestion; restore and enhance native habitat; help to offset impacts; and support land management and stewardship needs at Purisima Creek Redwoods Open Space Preserve. These projects are proposed for implementation over the next 5 years and are being evaluated in this IS/MND.

- Highway 35 Multi-use Trail Crossing and Parking Expansion Project at the existing North Ridge parking lot to improve safety and access for hikers, bikers, and equestrians;
- Purisima-to-the-Sea Trail Project, which is an approximately 7-mile connector between the California Coastal Trail and Bay Area Ridge Trail, and is supported by the Verde Road Parking Area Project;
- Verde Road Parking Area Project, which consists of a new parking area and trailhead location between Verde Road and SR 1, and two trail crossings of Verde Road, to support the Purisima-to-the-Sea Trail, enhance public access to the Preserve, reduce congestion at existing trailheads, and facilitate multimodal connectivity;
- North Trail Project, which includes a new trail connection referred to as the North Trail, and a new trail crossing at SR 1 to improve public access and connectivity;
- Purisima Multimodal Access Implementation Project, which aims to promote sustainable transit options, manage visitation, and guide future access improvements; and
- Irish Ridge Habitat Restoration Project, which is an ecological stewardship initiative within the Preserve with the primary goal of increasing fire resiliency and carbon sequestration by removing invasive plant species from the Irish Ridge area to restore native habitat and improve biodiversity. This restoration project would help mitigate impacts that occur as a result of the proposed near-term projects.

All construction activities associated with the near-term projects would occur between the hours of 7:00 a.m. and 6:00 p.m. on weekdays, 9:00 a.m. and 5:00 p.m. on Saturdays, and no construction would occur on Sundays, Thanksgiving, and Christmas consistent with the San Mateo County Noise Ordinance. In addition, construction activities would comply with the Bay Area Air District's best management practices (BMPs) to minimize fugitive dust emissions. Each of the proposed near-term projects are described individually and in further detail below.

2.6.1 Highway 35 Multi-Use Trail Crossing and Parking Expansion Project

BACKGROUND

The Highway 35 Multi-Use Trail Crossing and Parking Expansion Project (Highway 35 Parking Project) is a result of a collaborative feasibility study led by Midpen in partnership with the SFPUC, Bay Area Ridge Trail Council, and POST. The study evaluated a new multi-use trail crossing of Skyline Boulevard at the North Ridge parking area to link existing Bay Area Ridge Trail segments west of Highway 35 with the new SFPUC Skyline Watershed Ridge Trail east of the highway. It also explored conceptual design alternatives to expand and reconfigure the current parking lot to serve both the existing Purisima North Ridge trailhead and the new SFPUC Skyline Watershed Ridge Trail. The existing North Ridge parking area is an unstriped gravel lot that accommodates parking for 41 vehicles and provides two ADA parking stalls. Equestrian parking at the North Ridge lot is not dedicated and can be accommodated along the northwest boundary of the parking area, with space for approximately two equestrian trailers. The proposed project design calls for terraced parking area expansions featuring two-way circulation and an integrated trail crossing design connecting to a spur trail and on to the SFPUC Skyline Watershed Ridge Trail. The project's goals are to enhance regional connectivity, support Bay Area Ridge Trail implementation, improve visitor access and experience, and increase parking capacity.

PROJECT DESCRIPTION

The Highway 35 Parking Project is located within a partially developed area adjacent to SR 35, within the Preserve boundary, immediately east of an existing employee residence (Figure 2-3). The project area encompasses approximately 3 acres. The site includes existing trailhead infrastructure on Midpen lands and undeveloped natural and semi-natural landscapes on lands managed by SFPUC. The Highway 35 Parking Project involves constructing a trail crossing of SR 35 and an approximately 400-foot-long new spur trail segment (the Highway 35 Spur Trail or Spur Trail) located east of SR 35, which would connect to the new SFPUC Skyline Watershed Ridge Trail. To meet Caltrans requirements based on the documented line of sight and vehicle speeds, the SR 35 crossing would include a high visibility crosswalk and advanced warning pedestrian crossing signage installed within the SR 35 right-of-way (ROW) and at both driveways to alert drivers to the upcoming Preserve entrance and crosswalk. During the Caltrans permitting process, Caltrans may require additional crossing infrastructure such as pedestrian-activated rectangular rapid flashing beacons (RRFBs) to enhance safety. The new Highway 35 Spur Trail would be an approximately 400-foot long and 6-foot-wide gravel/native dirt trail segment.

The Highway 35 Parking Project would also expand the existing parking facilities adjacent to SR 35 within three terraces on the hillside east of the existing employee residence. On the upper terrace, there are two rows of 90-degree passenger vehicle stalls and a two-way drive aisle. On the middle terrace there is a one-way drive aisle and one row of angled standard parking stalls. Approximately 67 standard stall spaces, including six electrical vehicle (EV) and four ADA accessible spaces would be constructed. Along SR 35, there would be 3 shoulder parking spaces. The lower terrace would be graded and stabilized to accommodate two pull-through equestrian trailers. This arrangement maximizes separation between horses and other preserve users and minimizes visitor impacts near the employee residence, with new native vegetation planted as a visual and noise buffer between the parking area and the residence, as shown on Figure 2-3. In addition, a bioretention area would be constructed southeast of the residence to manage stormwater runoff by capturing and filtering flows through engineered soil and vegetation.

The project includes an extension of the driveway from the upper area to the lower equestrian lot for vehicular circulation. A one-way drive aisle would loop through the lower area, providing appropriate ingress and egress for horse trailers. The total paved and drivable footprint of the expanded parking area would be approximately 37,112 square feet, incorporating asphalt and other paved surfaces designed to support the varied loading requirements of passenger vehicles and equestrian equipment. The parking area would be designed with an appropriate turn radius to accommodate emergency vehicles.

TDM strategies would be integrated to optimize parking utilization and reduce single-occupancy vehicle trips. Priority stalls for low-emission vehicles would be sited in the upper area. New landscaping would feature native plant species to screen the employee residence from the parking areas and stabilize the adjacent slopes. Utility connections proposed as part of the Highway 35 Parking Project include electrical service to support automatic gates, EV charging stations, and real-time parking information sensors. No lighting is proposed. Other proposed trailhead amenities include a bike parking and repair station, trailhead signage, boot brushes, and bike wheel brushes.

As mentioned above, the existing North Ridge parking area can accommodate up to 41 vehicles with two ADA parking stalls and has space for up to two equestrian trailers when the parking area is not at capacity and standard vehicles are not in the equestrian trailer spaces. In addition, up to 10 vehicles can park along the SR 35 shoulder under existing conditions. The Highway 35 Parking Project would expand the existing parking area to provide a total of 67 standard parking spaces, two formalized and designated pull-through stalls for equestrian trailers and would reduce SR 35 shoulder parking from 10 spaces to three spaces (Figure 2-3). Table 2-1 below provides a summary of the total current parking stalls, the total parking stalls with the expansion, and the net change in parking stalls.

Table 2-1 Highway 35 Parking Project Summary of Parking Changes

Parking Type	Total Current Parking Stalls	Total Parking Stalls with Expansion	Net Change in Parking
Standard	26-41 (2 are ADA-accessible)*	67 (4 ADA-accessible and 6 EV)	+26 to 41
Equestrian	0-2	2	0 to +2
SR 35 Roadway Shoulder	10	3	-7
Totals	**Up to 53**	**72**	**+19 to 36**

*The range reflects changes in capacity when equestrian trailers are parked in the lot.
Source: Compiled by Ascent from Midpen in 2025.

In addition, the Highway 35 Parking Project includes the replacement of an existing vault restroom at the North Ridge trailhead with a double ADA-accessible vault restroom. To ensure accessibility for all users, a continuous ADA-compliant path would run along the east side of the upper parking area. The path would cross one drive aisle at the south end, with appropriate signage, striping, and curb ramps provided to meet current accessibility standards.

The parking area would be designed and maintained to prevent sparks from vehicle use through hardened surface treatments (use of paved/concrete driveways and parking spaces) and through defensible space treatments.

The expansion of the existing parking area may affect the use of the site as a designated helicopter landing zone that can be used for emergency medical calls and evacuations. However, there are three alternative landing zones within a 2-mile radius of the Preserve, including one within Purisima along the North Ridge Trail (0.8 miles west of the North Ridge Parking Area), one at Skeggs Point (1 mile away), and one in El Corte de Madera (1.9 miles away). For these reasons, the Kings Mountain Volunteer Firefighters and San Mateo County Fire Department did not raise concerns with the removal of the North Ridge Parking Area site as a helicopter landing zone (Sullivan, pers. comm., 2023).



Source: Provided by Midpen in 2026, adapted by Ascent.

Figure 2-3 Proposed Highway 35 Parking Project Concept Plan

Tree Removal and New Planting

The proposed Highway 35 Parking Project would require the removal of up to 26 trees. Up to 10 trees (ranging from approximately 15 inches diameter at breast height [DBH] to 65 inches DBH) could be removed along the portion of the Highway 35 near the proposed Spur Trail within Caltrans ROW and on SFPUC property, with the predominant tree species being tanoak (*Notholithocarpus densiflorus*), Douglas-fir *(Pseudotsuga menziesii*) and Madrone (*Arbutus menziesii*). For the portion of the Highway 35 Spur Trail outside of the Caltrans ROW, up to seven trees under 30 inches DBH could be removed with the objective to retain all redwoods and only remove species such as tan oaks or other trees susceptible to or already infected with *Phytophthora* spp. Midpen crews would field-fit the trail during construction to avoid tree removals to the extent feasible. In addition, within the Caltrans ROW on SFPUC property, one tree across from the future driveway would likely require removal for line-of-sight . For the parking area, up to eight trees under 25 inches DBH, including one non-native pear tree (*Pyrus* spp.) would be removed. One 33-inch DBH tanoak may require removal on the slope between the standard parking area and equestrian parking area; however, Midpen is exploring options to retain this tree. See Table 2-2 for a summary of anticipated tree removal.

Table 2-2 Highway 35 Parking Project Anticipated Tree Removal

Tree Location	Species	Size (inches DBH)	Number of trees	Reason for removal
Removal Required				
Caltrans ROW on SFPUC Property	predominant tree species include tan oak (*Notholithocarpus densiflorus*), Douglas-fir (*Pseudotsuga menziesii*), and Madrone (*Arbutus menziesii*)	15-65	10	Removal required due to extensive regrading of slope needed to accommodate the trail with a running slope under 10 percent to meet ABA Chapter 10 code requirements for recreation facility accessibility.
Caltrans ROW on SFPUC property across from future driveway	tan oak (*Notholithocarpus densiflorus*)	Multi-trunk. 34.5[1]	1	Removal required for vehicular line-of-sight .
Parking area/trailhead	tan oak (*Notholithocarpus densiflorus*), big-leaf maple (*Acer macrophyllum*)	Under 20	5	Located within parking area expansion footprint, unable to avoid. Trees are in poor condition.
Parking area/bioretention	non-native pear tree (*Pyrus* spp.)	10	1	Located within parking area expansion and bioretention area footprint, unable to avoid. To replace with locally native species.
On slope between standard parking area and equestrian parking area	big-leaf maple (*Acer macrophyllum*)	Multi-trunk. 24.5[1]	1	Removal required due to extent of grading necessary on the slope. Tree is in declining health – as indicated by defoliation of canopy and excessive presence of lichen.
Possible Removal, Retain if Feasible				
On slope between standard parking area and equestrian parking area	tan oak (*Notholithocarpus densiflorus*)	33	1	Removal may be required due to extent of grading necessary on the slope. Exploring options to retain.
Spur Trail on SFPUC Property	predominant tree species include redwood (*Sequoia sempervirens*), tan oak (*Notholithocarpus densiflorus*), and Douglas-fir (*Pseudotsuga menziesii*).	Under 30	7	Retain if possible; will remove only if necessary for trail alignment or safety concerns. The trail will be field-fit by District crew and aligned to avoid disturbance to trees as much as feasible. Trees for removal will be reviewed and assessed by District Staff.

Notes: [1] calculated using San Mateo County multi-trunk tree measuring guidelines. https://sanmateocountytrees.org/resources/. DBH = diameter at breast height; ROW = right-of-way; SFPUC = San Franciso Public Utilities Commission.

Source: Provided by Midpen in 2026.

As discussed above, the Highway 35 Parking Project would include new landscaping featuring a variety of shrubs and native plant species to provide both visual and noise buffering between the employee residence and the parking areas, as well as stabilize the adjacent slopes. Screening vegetation would include native shrub species such as toyon (*Heteromeles arbutifolia*) and blueblossom (*Ceanothus thyrsiflorus*), selected for their ecological compatibility and visual buffering capacity. These plantings would be installed along the western perimeter of the parking lot, specifically between the parking area and the employee residence, as well as distributed throughout the parking lot.

Construction

Construction is anticipated to begin in spring or summer of 2027 and last 12 to 18 months. The number of onsite personnel would vary based on construction activity. During peak grading, paving, and utility installation phases, staffing is expected to reach 12–15 construction workers per day. On average, daily staffing levels would range from 8–10 construction personnel.

Construction activities associated with the parking area expansion would include demolition of the existing vault restroom, vegetation clearing and grubbing, selective tree removal, soil excavation, grading, installation of erosion control and drainage infrastructure, and construction of associated site features such as accessible paths, signage, and a new double vault restroom. Final paving would complete the improvements. Equipment used would include vehicles and standard site development machinery, such as excavators, bulldozers, backhoes, graders, dump trucks, compactors, smooth drum rollers, asphalt pavers, concrete mixing trucks, trenchers, water trucks, and street sweepers.

Construction activities associated with installation of the new SR 35 crossing would consist primarily of surface painting and the placement of associated signage. Work would include striping the crosswalk on the existing paved roadway and installing "pedestrian crossing" warning signs to the north and south of the crossing to alert approaching drivers. All work would occur within the existing roadway and would be completed using standard construction equipment and methods. Construction is anticipated to be short-term and would not require major ground disturbance, grading, or vegetation removal. Temporary traffic control measures may be implemented to ensure worker and public safety during installation.

The Highway 35 Spur Trail would be constructed within an undeveloped portion of the landscape, requiring minimal disturbance beyond the designated trail corridor. Construction staging would occur within existing developed areas, including the current parking area and on the shoulder of SR 35. Construction activities would include vegetation clearing and grubbing, selective tree removal, soil excavation, grading, installation of erosion control measures, and trail surfacing. Additional work may involve installation of signage and wayfinding elements. All activities would be confined to the designated trail corridor and staging areas.

Planned excavation and grading for the parking lot expansion and trail construction are estimated not to exceed 3 feet below current ground surface in most of the project area. Excavation to replace the existing vault toilet with a double ADA-accessible vault toilet is expected not to exceed 8 feet in depth. The total footprint of the vault restroom is anticipated to be 204 square feet (17 feet by 12 feet). The existing vault toilet would be removed and backfilled in accordance with all laws and regulations.

For the parking area and the Highway 35 Spur Trail, approximately 2,970 cubic yards of cut and 2,940 cubic yards of native earth fill would be required – resulting in a balanced cut and fill (no in-hauling or off-hauling). Approximately 900 cubic yards of demolished asphalt pavement that overlays the existing driveway apron would need to be hauled offsite and recycled at an appropriate facility in accordance with OSMRP BMP GEN-7 and federal, state, and local solid waste disposal regulations.

All construction activities associated would comply with the Bay Area Air District's BMPs to minimize fugitive dust emissions.

Construction activities associated with the parking area expansion would include demolition of the existing vault restroom, vegetation clearing and grubbing, selective tree removal, soil excavation, grading, installation of erosion control and drainage infrastructure, and construction of associated site features such as accessible paths, signage, and a new double vault restroom. Final paving would complete the improvements. Equipment used would include vehicles

and standard site development machinery, such as excavators, bulldozers, backhoes, graders, dump trucks, compactors, smooth drum rollers, asphalt pavers, concrete mixing trucks, trenchers, water trucks, and street sweepers.

Construction activities associated with installation of the new SR 35 crossing would consist primarily of surface painting and the placement of associated signage. Work would include striping the crosswalk on the existing paved roadway and installing "pedestrian crossing" warning signs to the north and south of the crossing to alert approaching drivers. All work would occur within the existing roadway and would be completed using standard construction equipment and methods. Construction is anticipated to be short-term and would not require major ground disturbance, grading, or vegetation removal. Temporary traffic control measures may be implemented to ensure worker and public safety during installation.

Maintenance

Maintenance of the parking area would be conducted by the District and includes routine surface repairs and debris removal to ensure safe and accessible conditions for vehicles and pedestrians. Additional activities would involve servicing the double vault restroom; inspecting and maintaining signage, fencing, and EV charging stations; and managing waste disposal. Maintenance of the Highway 35 crossing would primarily involve re-striping the crosswalk when needed, which would require coordination with Caltrans.

Maintenance of the Highway 35 Spur Trail would be conducted by SFPUC and includes annual trail brushing conducted from late spring through summer to ensure clear and safe passage for trail users. Crews would remove downed trees and other obstructions as needed to maintain a navigable trail corridor. Minor slope failures and trail slip-outs would be addressed through the removal of displaced soil and debris using hand tools or trail-appropriate equipment, such as mini-excavators, depending on site conditions and accessibility. All maintenance activities would be scheduled during low-flow periods to minimize erosion and protect surrounding natural resources, except for urgent maintenance or repairs needed to prevent further damage or erosion during the rainy season.

2.6.2 Purisima-to-the-Sea Trail Project

BACKGROUND

The Purisima-to-the-Sea Trail Project would develop a new regional trail connection linking the Bay Area Ridge Trail at the Preserve to the California Coastal Trail near the San Mateo County coastline (Figure 2-2). The proposed trail alignment would provide a continuous, scenic route from the ridgeline of the Santa Cruz Mountains to the Pacific Ocean, enhancing public access to open space and supporting regional trail connectivity. The proposed trail involves 4.1 miles of new trail construction and 3.1 miles converted from existing ranch roads. The project, once complete, would create a new 7.2-mile trail segment and connect to existing trails within Purisima (e.g., the Irish Ridge Trail). Together, the new and existing trail segments within the Preserve will create the approximately 16-mile multi-use (hiking, biking, equestrian access) Purisima-to-the-Sea Trail alignment stretching from Highway 35 to the California Coastal Trail. The Purisima-to-the-Sea Trail would also facilitate a longer-term vision of a regional Bay to Sea Trail that, once completed, would consist of approximately 40-miles of continuous east-west regional trails connecting the San Francisco Bay to the San Mateo County coast.

PROJECT DESCRIPTION

The proposed Purisima-to-the-Sea Trail Project will establish and open 7.2 miles of a new trail within an area of the Preserve that is currently closed to public access. The area is characterized by varied topography and habitat types, including second-growth redwood forest, coastal scrub, and grasslands. The proposed trail is intended for hiking, biking, and equestrian access. This multi-use trail would ultimately facilitate a link between the Preserve and the existing Cowell-Purisima Coastal Trail.

The proposed Purisima-to-the-Sea Trail Project includes construction of 4.1 miles of new trail and converting 3.1 miles of existing ranch roads within the Preserve to develop the 7.2-mile trail alignment. In addition, minor improvements to the existing Bald Knob and Irish Ridge trails would occur to accommodate multi-use access. These improvements would be minor to incorporate bicycle and equestrian use in addition to the existing hiking use, and construction activities would utilize similar equipment, crew sizes, and methods as those employed for new trail construction associated with the Purisima-to-the-Sea Trail.

The proposed trail would feature a 4-foot-wide main tread with 1-foot shoulders on each side where new trail construction would occur. The existing ranch roads that would be incorporated into the proposed trail alignment range in width from 8 feet to more than 12 feet. Generally, the trail would be unpaved with a natural surface. Discrete segments of trail would be hardened using imported aggregate base rock in areas of high cattle use or areas of soft-muddy soils to support all-weather, year-round use.

The trail would require the construction of two large trail bridges: an approximately 45-foot-long bridge spanning a tributary to Lobitos Creek and a 65-foot-long bridge crossing Lobitos Creek. Both bridges would consist of cast-in-place concrete foundations and a prefabricated superstructure, likely fiberglass, with railings. In addition, multiple puncheons (small footbridges measuring 12, 16, or 20 feet in length) would be constructed with timber foundations and glue-laminated beams. These puncheons would not include handrails and will have a maximum deck height of 30 inches above the channel. Other drainage crossing solutions such as rock fords and culverts would be installed at sites where a puncheon or trail bridge would not be suitable.

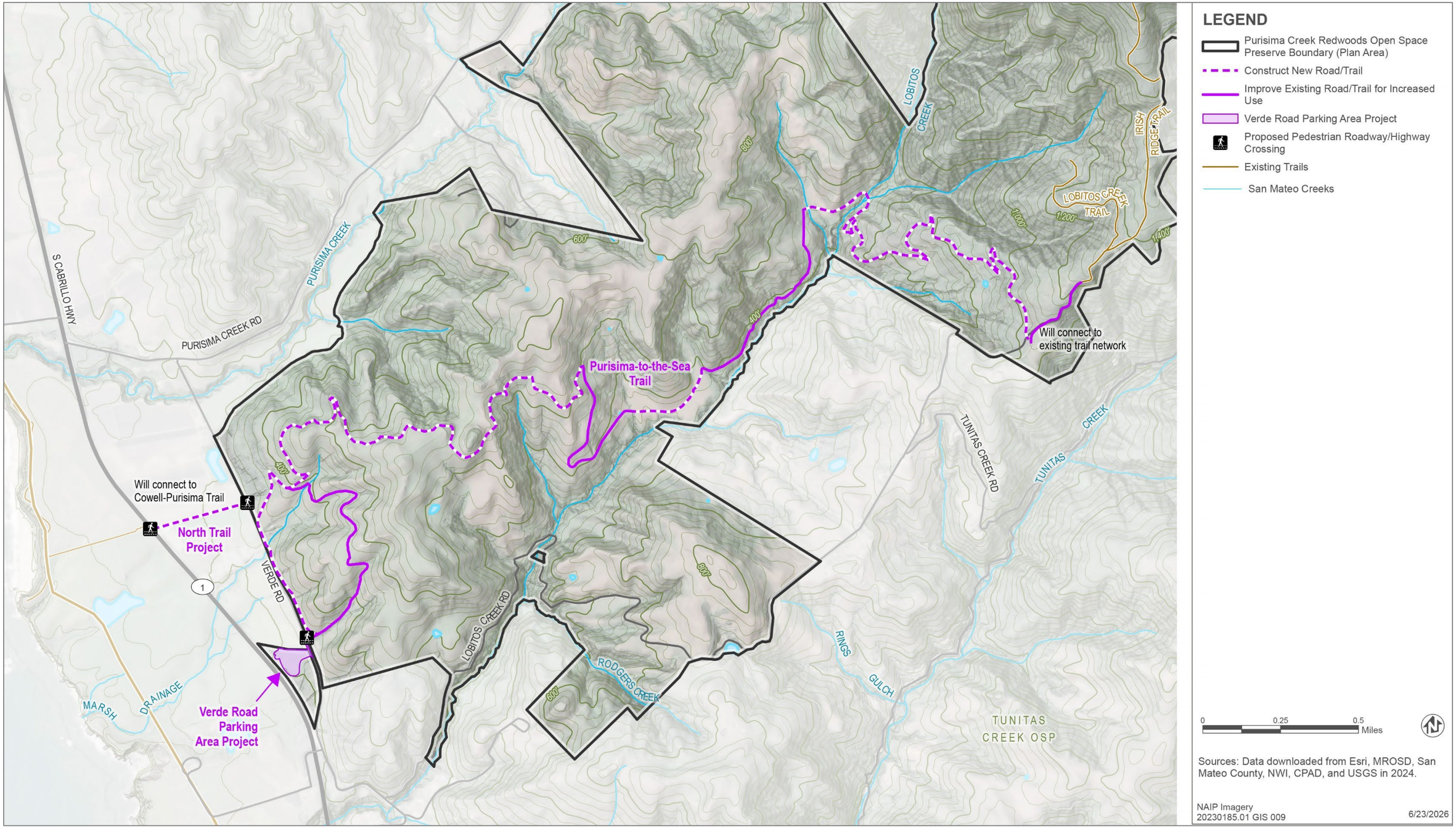
The project also includes installation of a retaining wall composed of simple wood lagging with u-channel galvanized posts and u-channel tiebacks. Other trail components include installation of wildlife-friendly wire barrier fencing and signage. Although the proposed trail aims to minimize the overlap of public access with grazing activities and infrastructure, several self-closing gates would be installed due to the proposed trail crossing in and out of pasture areas.

A new parking area and trailhead, as well as connector trails and two pedestrian road crossings on Verde Road are also proposed to support the Purisima-to-the-Sea Trail. The North Trail and one pedestrian road crossing of Highway 1 would provide access and connections from the Purisima-to-the-Sea Trail to the California Coastal Trail (refer to Section 2.6.3, "Verde Road Parking Area Project," and Section 2.6.4, "North Trail Project," below for more details). Figure 2-4 shows the proposed Purisima-to-the-Sea Trail, future trail connections, and general location of the proposed Verde Road Parking Area Project.

Construction

Construction is anticipated to begin in spring or summer of 2027. Construction activities associated with the proposed Purisima-to-the-Sea Trail Project would span approximately four construction seasons, typically occurring between May 1 and October 31, totaling an estimated 400 working days. Crew sizes would range from five to 12 workers, depending on the specific activity, such as trail construction, vegetation clearing, or bridge/structure construction.

Site preparation for trail construction would include removal of vegetation and clearing of the alignment. This would be completed in segments ahead of trail construction. Tree removal would be avoided by making minor adjustments to the trail alignment where feasible. New trail would be constructed as partial or full bench with the incorporation of reverse grade dips to effectively drain the trail. For bridge construction, foundations would be excavated using a small excavator. Spoils would be used to construct the trail approach to the bridge. Concrete would be mixed on-site and forming materials would be removed following construction. The new bridge would be installed per the manufacturer's and/or engineer's guidelines. Temporary scaffolding may be required to support bridge elements during construction. Crews may also "highline" bridge pieces into place using rope rigging temporarily attached to nearby trees. All areas of disturbed soil would be stabilized with erosion control measures such as fiber rolls, coir mats, or brush-packing with native vegetation. Minor retaining walls may be installed along areas of steep cross-slope and unstable areas per District standards. Walls would be installed with tiebacks where appropriate. All posts would be driven by hand or with an attachment on a mini excavator.



Source: Provided by Midpen in 2025; adapted by Ascent.

Figure 2-4 Purisima-to-the-Sea Trail and North Trail Project Overview

Construction staging areas would be established away from sensitive areas. These sensitive areas would be clearly delineated during construction. A variety of equipment would be used to support transportation, material delivery, trail construction, and structural improvements. Construction equipment would include work trucks (F350–F550) and side-by-side utility terrain vehicles (UTVs) for transportation and delivery between the Skyline Field Office and the Preserve and within the Preserve itself; mini-excavators, a SWECO trail dozer, motorized wheelbarrows (ride-on and walk-behind), and plate compactors would be used for trail construction; and chainsaws, brush cutters, hedgers, power pole saws, and remote-controlled mowers/masticators would be used for trail corridor clearing.

Bridge and structure construction would rely on power tools, concrete mixers, fans, and portable gas-powered generators, while road work (improvements made to existing ranch roads that are planned for incorporation into the designated trail system) would employ mid-sized excavators, bulldozers, skip-loaders, water tenders, rollers, 10-wheel dump trucks, and transport trailers. Hand tools would include shovels, rock bars, and McLeods. Road work may involve installation and maintenance of drainage features, including reverse grade dips, knicks, and waterbars, repair and replacement of existing culverts, and hardening of tread with aggregate base and other imported rock. Roads also may be reshaped to reduce sedimentation and provide improved drainage (no new roads would be constructed). All excavated soils and materials would be balanced and remain on site, with no off-site disposal anticipated.

Maintenance

Annual trail brushing would be conducted by the District from late spring through summer to maintain clear and safe passage for trail users. As needed, crews would remove downed trees and other obstructions to preserve a safe and navigable trail corridor. Minor slope failures and trail slip-outs would be addressed through the removal of displaced soil and debris using hand tools or trail-appropriate equipment (e.g., mini-excavators), contingent on-site conditions and accessibility. All trail maintenance activities would be scheduled during low-flow periods to minimize erosion and protect surrounding resources, except for urgent maintenance or repairs needed to prevent further damage or erosion during the rainy season.

Culverts and drainage structures would be inspected and maintained on an as-needed basis to ensure proper function. Bridges and puncheons would undergo regular inspections and would be repaired or replaced as necessary to maintain structural integrity and user safety.

BMPs for stormwater would be implemented as necessary to prevent sedimentation and ensure compliance with water quality standards. In order to reduce potential erosion on roads and trails, the District would:

- repair and stabilize head cuts of actively eroding gullies and install rock to prevent further erosion;
- slope existing roads to the outside edge to allow sheet runoff;
- install reverse grade dips to more effectively drain road and trail surfaces;
- install rip-rap or other impact reducing mechanisms when necessary at the outfall of each waterbar/dip, bridge footing, and/or culvert; and
- install filter berms to collect sediments.

2.6.3 Verde Road Parking Area Project

BACKGROUND

Midpen has proposed the Verde Road Parking Area Project in order to support the Purisima-to-the-Sea Trail and enhance public access within the Preserve, as well as reduce congestion at existing trailheads and support multimodal transportation options.

PROJECT DESCRIPTION

The Verde Parking Area Project site is located at the western edge of the Preserve, between Verde Road and SR 1 (Figure 2-2). The site forms the trailhead for the proposed Purisima-to-the-Sea trail, linking the Preserve's forested canyons and grassy ridgelines down to the California Coastal Trail corridor.

The Verde Parking Area Project consists of a new trailhead location with a parking area off Verde Road and SR 1, and two new trail crossings across Verde Road. Ultimately, the Verde Parking Area Project would support the 16-mile east-west link in the regional trail network between the Bay Area Ridge Trail and the California Coastal Trail.

The proposed Verde Road Parking Area Project includes development of a graded parking facility designed to accommodate approximately 115 vehicles, consisting of 87 standard stalls, eight ADA-compliant stalls (including one van accessible stall and one EV accessible stall), 12 EV charging spaces, three designated staff parking spaces, and five equestrian-designated spaces. Optional overflow parking and additional equestrian parking areas may be constructed at a later phase, resulting in an additional 73 parking spaces. Fourteen bicycle parking spaces and a bike repair station would be provided to encourage non-motorized access. The parking area would be designed with an appropriate turn radius to accommodate emergency vehicles. See Figure 2-5 for a conceptual overview of the proposed Verde Road Parking Area Project.

Trailhead improvements would include installation of informational signage and interpretive displays to support public education and appropriate recreational use. Other trailhead amenities would include boot brushes and bike wheel brushes. Adjacent to the parking area, a coastal overlook is proposed to enhance scenic viewing opportunities. The project also includes a designated nature education area with approximately 75 linear feet of seating, capable of accommodating up to 48 children. This area would be used for school field trips, docent-led interpretive programs, and other nature-related education activities.

Restroom facilities would consist of a vault toilet system. Stormwater management features would be integrated throughout the site, including stormwater basins, to reduce runoff and promote groundwater infiltration. Utility installation would include electrical connections to support proposed site features such as automatic gates, EV charging stations, and real-time parking information sensors. No lighting is proposed as part of the project.

The Verde Road Parking Area Project includes development of transit-supportive infrastructure, including a shuttle turnaround or drop-off zone and a bus shelter to accommodate potential future public transportation connections. In addition, connectivity across Verde Road would be provided via two new road crossings. The northern crossing would be located where the proposed North Trail meets Verde Road and would consist of a high visibility (i.e., marked ladder) crosswalk that would be installed along with associated pedestrian-crossing signage to enhance pedestrian safety and alert approaching drivers. A small connector trail would be constructed on the opposite side of Verde Road from the proposed North Trail to connect to the Purisima-to-the-Sea Trail. The southern crossing would be a designated pedestrian and equestrian crossing and would also include a high visibility crosswalk that would be installed along with associated pedestrian-crossing signage. Both crossings would be installed within the San Mateo County ROW in accordance with applicable design and safety standards. During the permitting process, the County may require additional recommended crossing infrastructure such as pedestrian-activated RRFBs to enhance safety.

The parking area would be designed and maintained to prevent sparks from vehicle use through hardened surface treatments (use of paved/concrete driveways and parking spaces) and through defensible space treatments.

Tree Removal and New Plantings

The proposed Verde Road Parking Project would require the removal of up to 43 trees (Table 2-3). Approximately 22 non-local Monterey pines ranging from 10 to 36 inches DBH would be removed along the northern border of the parking area to both accommodate an ADA-accessible pathway and restore the landscape to reflect locally native plant communities in keeping with natural resource management policies. An additional 8 trees ranging from 19 to 30 inches DBH located along the northwestern portion of the parking area would also be removed to allow for the bioretention area and education area and/or to remove non-local trees and replant with locally native vegetation. In addition, 13 non-local Monterey Pines ranging from 14 to 29 inches DBH would be removed and replaced with locally native vegetation for restoration. Removal of these Monterey pines is consistent with Midpen's wildland fire policies as it would reduce fire risk.



Source: Provided by Midpen in 2026; adapted by Ascent.

Figure 2-5 Proposed Verde Road Parking Area Project Concept Plan

Table 2-3 Verde Road Parking Area Project Anticipated Tree Removal

Species	Size (inches DBH)	Number of trees	Reason for removal
Monterey pines	10-36	22	Removal to accommodate ADA-accessible pathway and replacement with locally native species.
Monterey pines	19-30	8	Removal to allow for the bioretention area and education area and replacement with locally native species.
Monterey pines	14-29	13	Removal of non-local trees to facilitate restoration of local plant communities.

Notes: DBH = diameter at breast height.

Source: Provided by Midpen in 2026.

Native landscaping and habitat restoration would be implemented around the parking perimeter to enhance ecological function and the genetic integrity of locally native stands of trees. This native restoration work would also improve the visual character by returning the natural vegetative composition to the landscape. This restoration work involves the strategic planting of Coast Live Oak trees and various native shrubs and grasses. These new plantings will act as vegetation screening to buffer views between the new parking lot and adjacent private property, Verde Road, and SR 1. Coast Live Oaks would be concentrated near the northeastern portion of the parking area, close to the entrance, to help screen views from Verde Road. Additional Coast Live Oaks and native shrubs and grasses would be planted along the northwestern portion, around the nature education area and overlook. Coast Live Oaks and native grasses will also be scattered throughout the parking area.

Construction

Construction of the parking area, trailhead, southern Verde Road connector trail, and the two Verde Road crossings is anticipated to begin in spring or summer of 2028 and is expected to take approximately 12 to 18 months to complete. Equipment used for the Verde Parking Area Project would consist of vehicles and standard site development equipment including excavators, bulldozers, backhoes, graders, dump trucks, compactors, smooth drum rollers, asphalt pavers, concrete mixing trucks, trenchers, water trucks, and street sweepers to carry out earthwork; grading, paving, trenching for utility installation; and site cleanup. Erosion control and drainage infrastructure would be installed to minimize erosion and stormwater runoff during construction. Terracing of the parking area follows the existing topography and would allow for the 11,000 cubic yards of cut required for construction to be balanced on-site to avoid the need for any off-hauling.

The number of construction workers would vary by construction phase and the degree of trade overlap. During peak grading, paving, and utility trenching activities with a single trade mobilized on site, daily staffing is projected to range from 16 to 22 workers (average of 10 to 14 workers). Peak concurrent multi-trade operations could require 25 to 35 workers per day (average of 18 to 28 workers).

Maintenance

Maintenance of the parking area would include routine surface repairs and debris removal to ensure safe and accessible conditions for vehicles and pedestrians. Additional maintenance activities would include servicing the vault restroom, inspecting and maintaining signage, repairing and maintaining fencing and EV charging stations, and managing routine waste disposal.

Trail maintenance for trail connections between the Verde Road Parking Area and Purisima-to-the-Sea trail east of Verde Road would involve the same activities as described above for the Purisima-to-the-Sea Trail, although less maintenance would be required given that only a small connector trail linking the Verde Road parking area to the Purisima-to-the-Sea Trail would be constructed. All trail maintenance activities would be scheduled during low-flow periods to minimize erosion and protect surrounding resources, except for urgent maintenance or repairs needed to prevent further damage or erosion during the rainy season. Maintenance of the two Verde Road crossings would involve re-striping when needed and coordination with the County for any required repairs.

2.6.4 North Trail Project

BACKGROUND

For the past two decades the District has been actively working in partnership with POST to acquire the land necessary to complete the proposed North Trail Project. In 2002, the Conservancy awarded funds to POST to acquire Purisima Farms Ranch to both protect the property's agricultural, open space natural resources as well as for future development of the Coastal Trail and the Purisima-to-the-Sea Trail. The Cowell-Purisima Coastal Trail was completed and opened to the public in 2011 with Conservancy funding. In June of 2019 Conservancy staff approved POST's transfer of the remaining land rights needed to construct the North Trail to Midpen.

The trail would extend over an existing trail easement from Verde Road to the Cowell-Purisima Trail owned by POST. To support this connection to the existing Cowell-Purisima Trail, a new trail connection referred to as the North Trail, and a new trail crossing of SR 1, are proposed. The North Trail would become part of the larger Purisima-to-the-Sea Trail corridor, helping to provide the important east-west connection from the Preserve to the San Mateo County coast.

PROJECT DESCRIPTION

The proposed North Trail Project includes construction of a new trail connection referred to as the North Trail, and a new trail crossing of SR 1, to improve public access and connectivity (Figure 2-4 above). The North Trail would be an approximately 0.3-mile multi-use (hiking, biking, equestrian access) trail segment connecting the Purisima-to-the-Sea Trail to the east to the Cowell-Purisima Coastal Trail to the west. The North Trail would be native surface and/or gravel surface and 8 feet wide with 2-foot shoulders on each side. A wire barrier fence would be installed along both sides of the trail to enhance user safety and discourage off-trail access. At SR 1, a crossing would be installed, including a marked crosswalk, and pedestrian-crossing signage. Based on the documented line of sight and vehicle speeds, the SR 1 crossing would include installation of a high-intensity activated crosswalk (HAWK) signal within the SR 1 ROW to enhance pedestrian safety and alert approaching drivers. A HAWK signal is an overhead traffic signal facing each vehicular approach to the crossing. When activated, the HAWK uses a red indication to inform drivers to stop, thereby creating a time period for pedestrians to cross the major roadway.

Construction

The North Trail and SR 1 crossing would be constructed by POST. Construction of the North Trail and the SR 1 crossing is anticipated to begin in spring or summer of 2028 and is expected to take approximately 12 to 18 months to complete.

Construction activities would include selective removal of existing fencing along both the western and eastern sides of Verde Road to accommodate project improvements. Construction of two new fence/gates would occur on the eastern side of Verde Road. Additionally, a culvert would be installed on the eastern side of Verde Road, south of the trail alignment, at the Verde Road crossing to facilitate drainage and maintain hydrologic connectivity.

Construction activities would require the use of standard equipment such as excavators, backhoes, skid-steer loaders, and utility trucks to remove existing fencing, install new fence segments, signage, and gates, and complete culvert installation along Verde Road. Trail construction would require excavators, bulldozers, backhoes, graders, compactors, smooth drum rollers, trencher, dump trucks, and a water truck.

Maintenance

Maintenance of the North Trail would involve the same activities as described above for the Purisima-to-the-Sea Trail, although less maintenance would be required given that the small connector trail is only 0.3 miles in length. All trail maintenance activities would be scheduled during low-flow periods to minimize erosion and protect surrounding resources, except for urgent maintenance or repairs needed to prevent further damage or erosion during the rainy season, or material removal of up to 2 cubic yards per 100-yard length of road/trail. Maintenance of the SR 1 crossing would involve re-striping when necessary and coordination with the County and/or Caltrans for any required repairs. As POST is implementing both the North Trail and SR 1 crossing, the District is coordinating with POST while the agency responsible for long-term maintenance and management responsibility for the North Trail and SR 1 crossing is determined (which may include Caltrans for the SR 1 crossing).

2.6.5 Purisima Multimodal Access Implementation Project

BACKGROUND

The Preserve experiences high weekend and holiday visitation that can result in roadside parking conflicts and circulation concerns, particularly at the Purisima Creek Road Trailhead. The Purisima Creek Multimodal Access and Transportation Demand Management Study, completed in November 2022, assessed what transportation demand management strategies could be appropriate for Purisima at a preserve-wide level and made recommendations for implementation.

During a special meeting on November 9, 2022, the Midpen board of directors reviewed and affirmed the findings and recommendations of the Purisima Creek Redwoods Preserve Multimodal Access and Transportation Demand Management Study. The board directed staff to integrate high-priority TDM strategies into the Purisima-to-the-Sea Trail Project, the Verde Parking Area Project, and to evaluate those that could be accommodated in the Highway 35 Parking Project.

On December 11, 2024, the Midpen board of directors held a follow-up public meeting to provide more specific direction on access management strategies for the Preserve. The board accepted the recommended shuttle and parking management concept options as part of the Purisima CUMP. Final approval of a specific shuttle option will occur at a later stage following completion of CEQA review.

PROJECT DESCRIPTION

The Purisima Multimodal Access and Transportation Demand Management Study was developed to evaluate existing preserve parking, access and visitation, identify strategies to address parking demand, manage visitation, increase sustainable modes of transit, and develop an implementation plan for recommended strategies (Midpen 2025b). The Study evaluated multimodal transportation options, including a pilot shuttle service, transit stops, real-time parking information, reservation parking, carpool parking, and wayfinding signage to reduce roadside parking and vehicle congestion while improving safety and connectivity for hikers, cyclists, equestrians, and shuttle users.

The two near-term parking area improvement projects (i.e., the Highway 35 Parking Project and Verde Road Parking Area Project) would provide a total of 187 parking spaces, including 177 standard vehicle parking stalls (which includes 12 ADA-accessible stalls and 11 EV parking stalls), three roadway shoulder spaces, and seven equestrian parking stalls (see Table 2-4 below). This represents a net increase of up to 151 parking spaces across the Preserve (up to 36 additional parking spaces at the expanded North Ridge parking area + 115 new parking spaces at the Verde Road parking area).

Table 2-4 Summary of Proposed Parking Capacity Changes Across the Preserve

Projects	Parking Stalls	Roadway Shoulder Spaces	Equestrian Spaces
Highway 35 Parking Project	67 (includes 4 ADA-accessible stalls and 6 EV charging spaces)	3	2
Verde Road Parking Area Project	110 (includes 8 ADA-accessible stalls and 12 EV charging spaces)	0	5
Total	**177**	**3**	**7**
Grand Total	**187**	**Net Increase**	**Up to 151**

Source: Compiled by Ascent in 2025.

In addition to providing expanded parking as shown above, Midpen plans to implement two TDM strategies within the Preserve to better manage parking: a pilot shuttle service linking the Verde and Purisima Creek parking areas, and real-time parking information sensors at both the North Ridge and Verde parking lots. These two TDM strategies are described below.

Shuttle Service

Midpen would implement a pilot shuttle service connecting the proposed Verde Road parking area to the Purisima Creek Trailhead to address parking congestion along the narrow public roadway of Purisima Creek Road during peak days. A new vehicle gate may need to be installed at the Purisima Creek Trailhead entrance for a shuttle turn-around and maneuverability. Additional capital improvements to accommodate the shuttle service include ADA-accessible landing pads, benches with shelters, and informational shuttle signage at the Purisima Creek Trailhead and Verde Road parking area.

One cellular communication structure would be installed at the Purisima Creek Trailhead to support shuttle operations. Midpen is considering different types of small-scale structures with varying degrees of disturbance, including pole-mounted cellular communication structures with a call box and smaller options that would be mounted on the existing restroom structure at Purisima Creek Trailhead. The most visible option with the potential for ground disturbance is the pole-mounted communication structure, which would be installed within the existing Purisima Creek Trailhead parking area. It would be a solar-powered cellular communication pole with an emergency call box and battery backup, with a solar panel mounted at the top. Depending on the design, it could be highly visible with a blue-and-white appearance. The pole would be approximately 9-12 feet tall with an up to 5-foot by 5-foot concrete base. All other options would be small in scale and easily mounted on the existing restroom with no ground disturbance or large construction equipment required.

All the Purisima Creek Trailhead improvements would occur within the existing footprint of the Purisima Creek Trailhead parking area. Additionally, Midpen would coordinate with San Mateo County to restrict roadside parking on Purisima Creek Road during shuttle operating hours. The proposed parking restrictions are necessary to incentivize shuttle use, address parking congestion during peak days, and facilitate shuttle vehicle turnarounds as well as maintain frequent headways. Shuttle vehicles are anticipated to be 18-24 feet long, accommodating 15-25 passengers.

At this time, it is uncertain what the frequency of the shuttle service will be by season and time of day. However, below is the maximum frequency that may be implemented (Table 2-5).

As shown in Table 2-5, the maximum frequency of shuttle service would include 30-minute headways across 9 hours on weekends in winter, 30-minute headways across 4 hours and 15-minute headways across 9 hours in spring and fall, and 30-minute headways across 5 hours and 15-minute headways across 9 hours during summer. Shuttle service would be provided on holidays. Based on the maximum frequency shown above, during the spring, summer, and fall, there would be a second shuttle vehicle that creates in aggregate a 15-minute headway while two shuttle vehicles are in operation. Pending successful implementation of a pilot shuttle service and Board consideration of future phases, Midpen may provide shuttle service from Half Moon Bay to the Verde Road Parking Area and/or Purisima Creek Road parking area and potentially south to Pescadero.

Table 2-5 Maximum Shuttle Service Frequency by Season and Time of Day

Season	Frequency of Service[1]
Winter	Weekends, 8am-5pm: every 30 minutes
Spring/Fall	Daily, 7am-8am: every 30 minutes Daily, 8am-5pm: every 15 minutes Daily, 5pm-8pm: every 30 minutes
Summer	Daily, 6:30am-8am: every 30 minutes Daily, 8am-5pm: every 15 minutes Daily, 5pm-8:30pm: every 30 minutes

Note: [1] At this time, the level of frequency by season and time of day is not yet known; however, the maximum frequency is provided in this table. Actual implementation, including initial implementation, may be less than what is shown in the table.

Source: Provided by Midpen in 2025.

Once the expanded North Ridge and new Verde Road parking areas begin to consistently approach capacity at peak times, Midpen may consider implementing a reservation system and carpool strategies. However, these concepts are preliminary and have not been formally proposed or approved as projects; therefore, they are not evaluated in this Initial Study.

Real-Time Parking Information

Midpen would implement real-time parking information at the North Ridge and Verde Road parking areas to provide visitors with accurate information about parking availability prior to visiting the preserve as another measure to reduce parking demand and congestion issues. Vehicle sensor systems would generally be installed at primary entry and exit points to record total vehicle counts entering and leaving the site. Additional internal sensors may be placed near staff-only or special-use areas (such as equestrian access points or employee residences adjacent to the Highway 35 parking area) to exclude those vehicle counts from the general parking totals or separate those counts from standard parking. Visitors would be able to access this information online to help them plan their visit. This strategy would require wireless connectivity and public education to implement.

Construction

The proposed Purisima Multimodal Access Implementation Project focuses on implementing TDM concepts, such as coordinating shuttle services and updating parking information, and implementing minor physical infrastructure. The shuttle service and real-time parking information would launch after the opening of the Verde Road parking area as a subsequent implementation item. Light construction would be required to implement capital improvements, including a new automatic gate at the Purisima Creek Trailhead and ADA-accessible landing pads, benches with shelters, and signage for the Purisima Creek Trailhead and Verde Road parking area, all of which would be completed within 5 working days.

Construction of the pole-mounted cellular communication infrastructure would require an up to 25 square foot area of disturbance to construct the concrete base and install the pole. The maximum depth of excavation would be based on a 2:1 height-to-depth ratio for the pole, plus an additional 1 foot below the pole for concrete footings (i.e., up to 7 feet deep). Construction activities would include use of an auger drill, delivery and placement of concrete other material deliveries, and use of a boom lift. Installation would require approximately 3 to 5 days of active construction, with additional time for concrete curing. No modifications to existing infrastructure would be required. Operations and maintenance of the K1 Call Box/Blue Light Tower would be provided by the vendor as needed.

2.6.6 Irish Ridge Habitat Restoration Project

BACKGROUND

The Irish Ridge Habitat Restoration Project (Irish Ridge Restoration Project) site is infested by non-native and non-local invasive plants that provide low-quality habitat and increase potential fire severity. These species are expanding into adjacent forested and grassland areas. Portions of the site that remain as locally native plant communities feature excessive woody debris that could serve as fuel ladders, thereby increasing the risk of high-intensity wildfire. Midpen intends to remove the invasive plants, restore natural plant communities to be both more fire and climate resilient, and thin some of the overgrown woody debris. The proposed Purisima-to-the-Sea Trail is planned to pass through the project site. The proposed restoration project would reestablish locally native plants within the cleared areas, which would not only restore the habitat but serve to reduce the potential for the recolonization of the area by invasive plant species and improve ecosystem health and resilience. The habitat restoration, which involves management and monitoring, also presents an opportunity to reintroduce rare and endangered plants to the area.

In addition to the area colonized by invasive plants, the project site encompasses a mix of habitats that may be broadly defined as coniferous forest, oak woodland, coastal scrub, and grassland. With much of the project area having been historically logged or cleared, most of the onsite habitats feature at least some degree of disturbance. Because the project site is within a large preserve and surrounded by steep mountains, natural habitats extend a considerable distance on all sides, with various nearby areas supporting agricultural and residential uses along the coastal terrace to the west.

The restoration activities proposed as part of the Irish Ridge Restoration Project will restore locally native plant communities and associated habitat that are presumed to have existed prior to human caused vegetation change and more recent invasive plant encroachment, and enhance existing locally native plant communities adjacent to the restoration areas. To the extent possible, native vegetation would be left intact to maintain habitat quality and facilitate restoration. Where feasible and safe, snags (standing dead trees) would be created by girdling larger invasive trees that do not risk propagation to retain the tree material on-site for the benefit of wildlife as habitat and/or shelter and to return nutrients back into the soil through its eventual decayed material. The restoration methods are designed to have clear beneficial ecological outcomes that address both biological and physical habitat issues at the project site. At the completion of the Irish Ridge Restoration Project, a total of approximately 33 acres of habitat would be restored. The project would require consultation and avoidance for special status species whose habitat is within or adjacent to the project site.

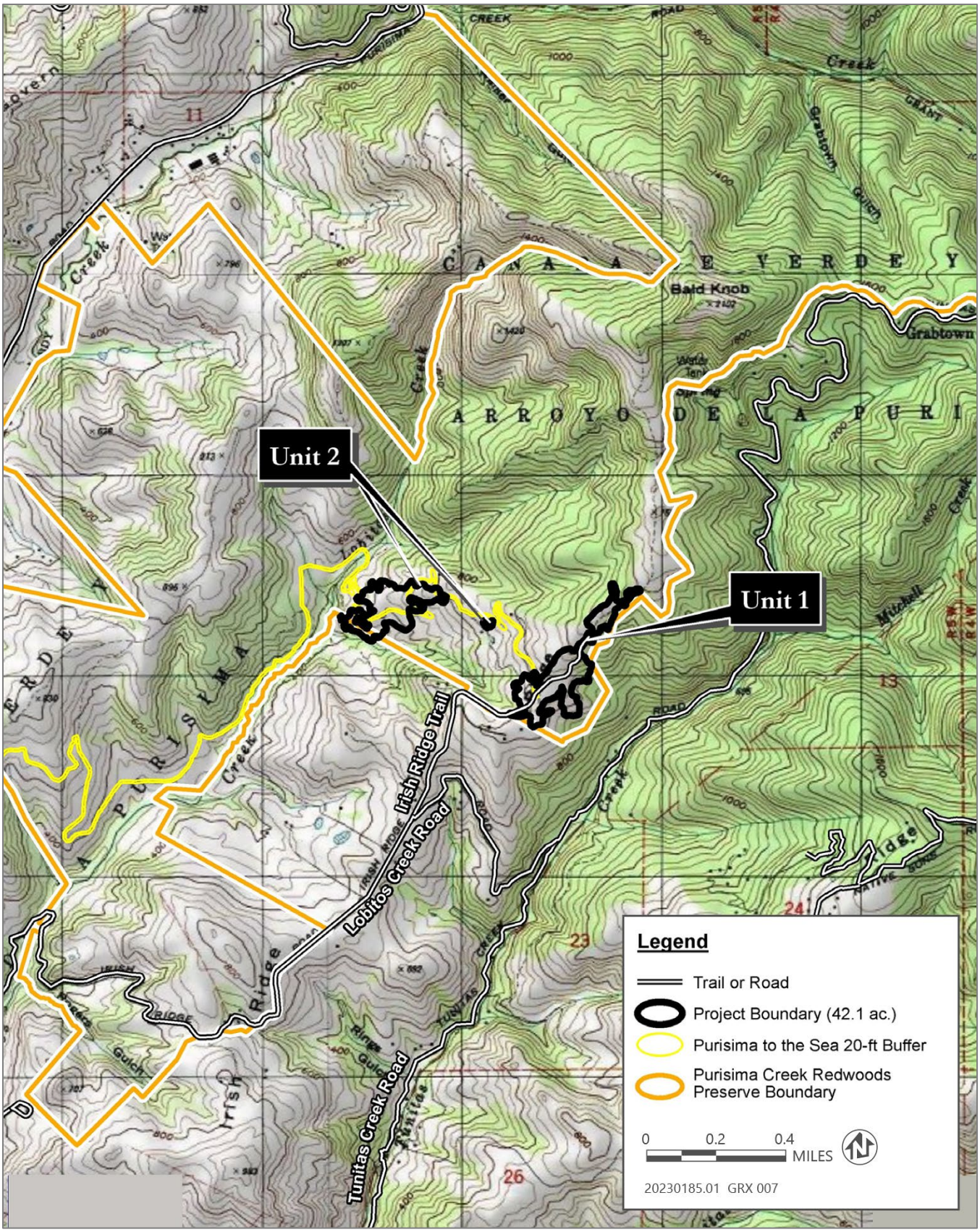
PROJECT DESCRIPTION

The Irish Ridge Restoration Project site is located along both sides of the Irish Ridge Trail within the Preserve and is accessible from SR 1 via Verde Road and Lobitos Creek Road (Figure 2-2). The Irish Ridge Restoration Project site is an approximately 42-acre area that consists of two separate units, referred to as Unit 1 and Unit 2 (Figure 2-6). Unit 1 consists of an approximately 16-acre area that would be completely cleared of non-native or non-local vegetation and restored with locally native vegetation (restoration area), and a 24-acre area that would be thinned of native woody species. Unit 2 consists of two separate areas west of Unit 1 that are approximately 0.3 acres and 18 acres, of which approximately 16 acres would be restored. Thus, the restoration areas total approximately 33 acres. The restoration areas within Unit 1 and Unit 2 were identified using modeled habitat data and vegetation maps to determine optimal areas for specific plant communities. Site delineation also considered transitional zones to ensure ecological continuity between restoration areas and existing vegetation. Unit 1 is dominated by blackwood acacia (*Acacia melanoxylon*), French broom (*Genista monspessulana*), jubatagrass (*Cortaderia jubata*), and more limited numbers of Monterey pine (*Pinus radiata*), while Unit 2 is dominated by manna gum (*Eucalyptus viminalis*), Bishop pine (*Pinus muricata*), and jubatagrass (Midpen 2024).

Irish Ridge Restoration Project Objectives

The Irish Ridge Restoration Project is intended to achieve the following objectives:

- Objective 1: Removal of large stands of non-native and non-local plant species, including blackwood acacia, French broom, jubatagrass, manna gum, Bishop pine, and Monterey pine.
- Objective 2: Establishment of a diverse assemblage of locally native plants through installation of containerized plants and seed.
- Objective 3: Maintenance of restoration areas through implementation of long-term invasive plant follow up treatments and plant maintenance.



Source: Midpen 2024.

Figure 2-6 Irish Ridge Restoration Project Sites – Unit 1 and Unit 2

The restoration treatments are included in Table 2-6 below and shown on Figure 2-7 and Figure 2-8.

Table 2-6 Summary of Irish Ridge Restoration Treatments

Site ID	Acres	Proposed Treatments
1A	2.22	ACAMEL Removal; Container Plant Installation
1B	0.32	ACAMEL Removal; Container Plant Installation
1C	1.85	GENMON Removal; Container and Seed Installation
1D	1.13	ACAMEL Removal; Container Plant Installation
1E	2.52	ACAMEL Removal; Container Plant Installation
1F	2.62	ACAMEL Removal; Container Plant Installation
1G	3.69	ACAMEL Removal; Container Plant Installation
1H	1.62	GENMON/PINRAD Removal; Container and Seed Installation
1I	0.30	CORJUB Removal; Container and Seed Installation
2A	8.80	EUCVIM Removal; Container Plant Installation
2B	0.46	EUCVIM Removal; Container Plant Installation
2C	0.55	CORJUB Removal; Container and Seed Installation
2D	0.59	EUCVIM Removal; Container Plant Installation
2E	1.22	EUCVIM Removal; Container Plant Installation
2F	0.51	EUCVIM Removal; Container Plant Installation
2G	0.76	EUCVIM Removal; Container Plant Installation
2H	1.52	PINMUR Removal; Container Plant Installation
2I	1.72	PINMUR Removal; Container Plant Installation
2J	0.16	EUCVIM Removal; Container Plant Installation
PS2 TRAIL	2.82	Trailside Invasive Plant Removal; Container and Seed Installation

Notes: PS2 Trail = Purisima-to-the-Sea Trail; ACAMEL - *Acacia melanoxylon* (blackwood acacia); GENMON - *Genista monspessulana* (French broom); PINRAD - *Pinus radiata* (Monterey pine); CORJUB - *Cortaderia jubata* (Jubatagrass); EUCVIM - *Eucalyptus viminalis* (manna gum); PINMUR - *Pinus muricata* (bishop pine)

Source: Midpen 2024.

Maintenance

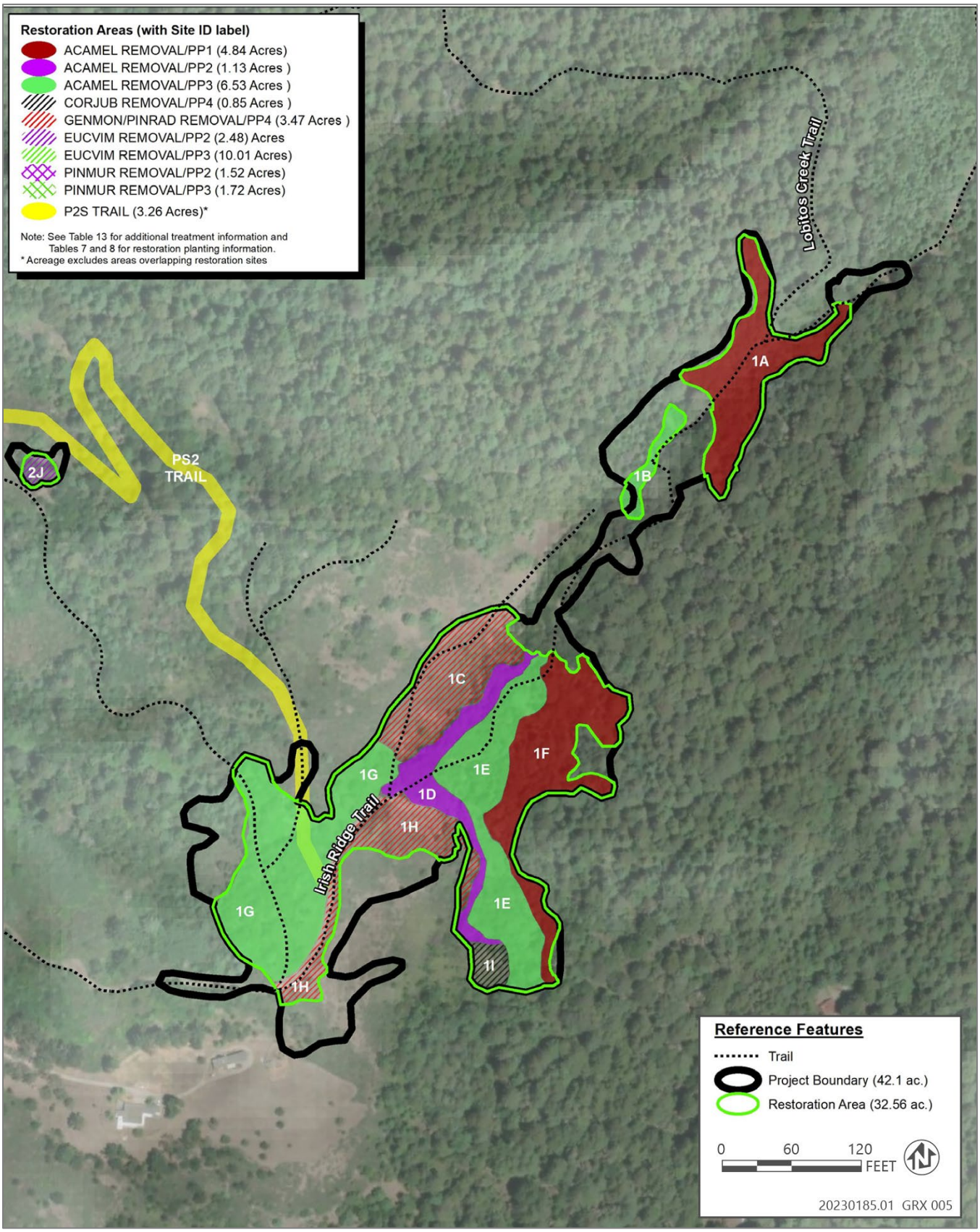
Maintenance on all Irish Ridge Restoration Project restoration sites would be required for a minimum 5-year period, or less if restoration objectives are achieved sooner. Project maintenance is required to ensure effectiveness of restoration treatments. The maintenance requirements detailed below are specified on an as-needed basis. A summary of monitoring, maintenance, and reporting requirements can be found in Table 2-7 below.

Table 2-7 Monitoring and Maintenance Requirements

Restoration Task	Monitoring Requirements	Success Criteria	Maintenance Requirement	Reporting Requirement
1. Invasive Vegetation Removal	Annual monitoring for 5 years[1]	Decrease in resprouting and reestablishment of native plants	Annual removal of resprouts and newly established plants	Pre- and post- project photos, annual photos, monitoring report
2. Native Plan Installation	Vegetative cover and survival data collection at revegetation sites for 5 years[1]	50% survival of native plants, 80% native vegetation cover	Maintain plants through weeding and irrigation to achieve success criteria, maintain tree protection	Pre- and post- project photos, annual photos, monitoring report

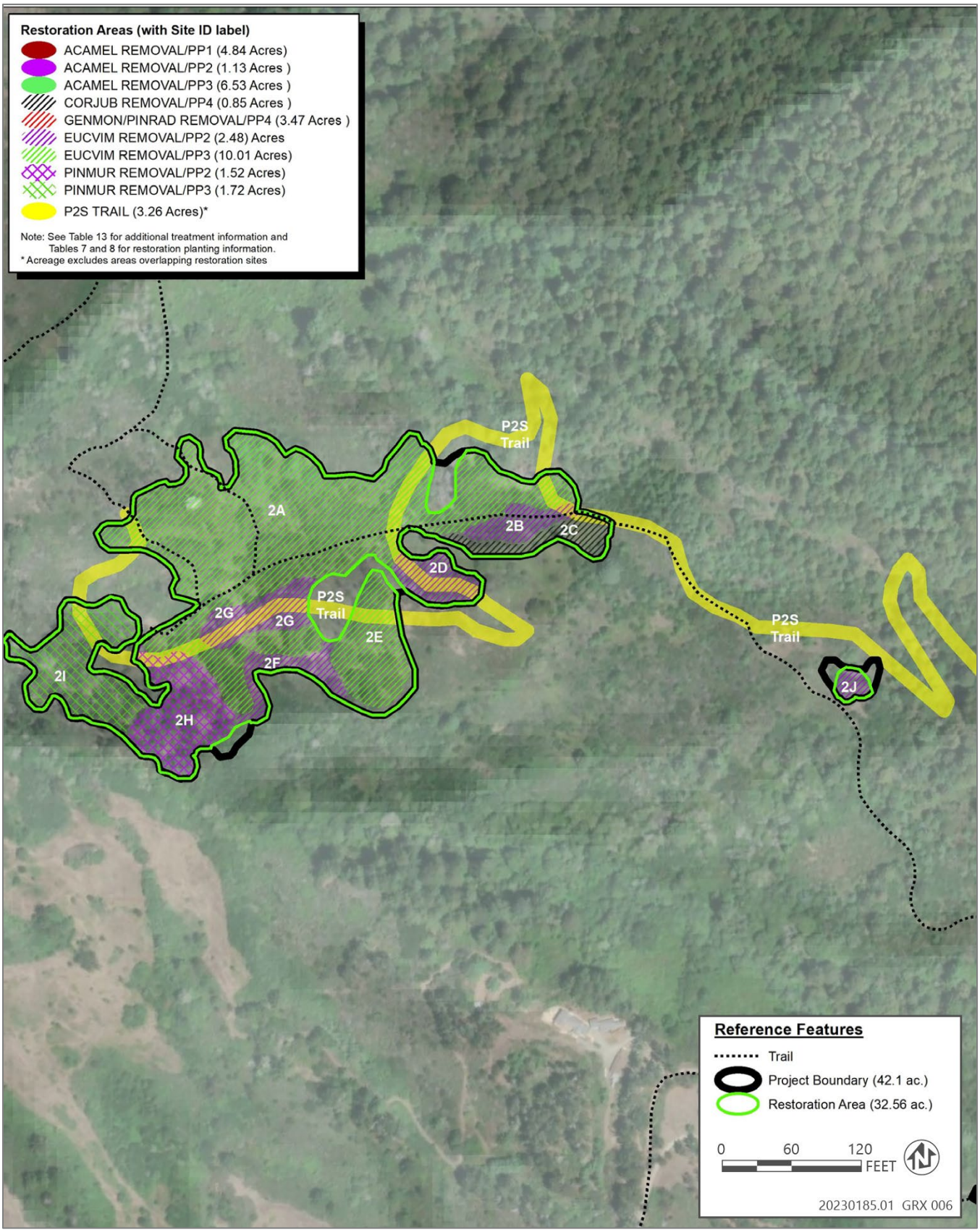
Notes: [1]Timeframe may be reduced if restoration objectives are achieved sooner than 5 years.

Source: Midpen 2024.



Source: Midpen 2024.

Figure 2-7 Irish Ridge Restoration Unit 1



Source: Midpen 2024.

Figure 2-8 Irish Ridge Restoration Unit 2

Reporting

During the monitoring period, annual reports will be prepared to document the methods and results of restoration monitoring. These reports would include detailed data on survivorship and health of planted native and rare species, with height measurements for woody plants to track growth. Observed conditions would be evaluated against the project's goals and success criteria. Reports would also address broader ecological issues such as erosion, sudden oak death, vandalism, and invasive species presence. Infrastructure conditions (e.g., protective shelters, irrigation systems, and fencing) would also be assessed. Visual documentation is essential, including maps, graphs, and standardized photographs from designated monitoring points to illustrate ecological changes over time. Any management actions taken since the previous report would be described, and recommendations would be provided to resolve identified issues or deficiencies.

Implementation

The restoration activities are proposed to start in September 2027. Restoration activities proposed as part of the Irish Ridge Restoration Project include a combination of mechanical, manual, herbicide application, and pile burning methods. All four treatment types would be implemented as described in the proposed Plan.

Crew sizes vary depending on the specific activity being performed. Vegetation removal may require up to 20 crew members to efficiently clear and manage the designated areas. Planting activities are expected to involve approximately 10 crew members, while pile burning operations would be conducted by teams ranging from five to 10 individuals, depending on site conditions and safety requirements. Herbicide application would be carried out by a smaller crew of approximately four members. Burning equipment would include the use of an air curtain burner when feasible. If unavailable, pile burns would be conducted using standard dimensions of approximately 6 feet by 6 feet by 6 feet per pile.

Heavy equipment anticipated for use includes masticators, excavators, track chippers, chainsaws, and/or a dozer. These activities would be carried out during standard seasonal windows outside of bird nesting season (September 1 through the onset of winter rains) over a 3-year period. Equipment access and staging would occur via existing gated access to the Preserve from Irish Ridge Road, serving as both the access route and the staging area. No additional ground disturbance is expected for equipment staging.

2.7 ANTICIPATED PERMITS AND APPROVALS

Table 2-8 includes potential permits and approvals that would be required for the six near-term projects.

Table 2-8 Potential Permits and Approvals

Permit/Approval	Agency	Purpose/Applicability
Project Approval	Midpen	Midpen Board of Directors – Certification of CEQA document and approval of the project
General Construction Permit	RWQCB	Regional Water Quality Control Board – general construction permit (Order WQ 2022-0057-DWQ)
Coastal Development Permit (CDP)	County of San Mateo	The western portion of the Preserve is within the Coastal Zone. One CDP will be needed to cover all the public access and restoration project activities implemented by Midpen within the Coastal Zone. POST's public access improvements would be covered under a separate CDP.
Planned Agriculture District (PAD) Permit	County of San Mateo	The western portion of the Preserve is zoned as PAD. A PAD permit will be needed to cover the public access and restoration project activities within the Coastal Zone and may be submitted as part of the CDP application.
Building Permit	County of San Mateo	Building permits from the County will be required for major structures (e.g., vault toilets, trail bridges, etc.). EV chargers will require a stand-alone permit. Certain minor structures may be exempt from a building permit.
Demolition and Grading Permit	County of San Mateo	San Mateo County Planning and Building Department – demolition and grading permits

Permit/Approval	Agency	Purpose/Applicability
Architectural Review Permit	County of San Mateo	Construction of a new structure or an addition to an existing structure that is located within a designated State scenic corridor must either have an architectural review permit or be granted a permit exemption.
Resource Management Permit	County of San Mateo	The Resource Management (RM) District was created to meet the County's objectives for open space and conservation. Construction of a significant structure or removal of trees over 55 inches in circumference on property within the District requires a RM Permit
Environmental Health Permit	County of San Mateo	All entities that install sewage disposal systems must obtain a permit from Environmental Health. This would be required for the newly proposed vault restrooms in the Preserve.
Tree Trimming and Removal Permit and/or Protected Tree Removal Permit	County of San Mateo	The County has designated trees of 12 inches DBH or larger in any area of the unincorporated County as Significant Trees to prevent their indiscriminate removal. The County requires a permit for the removal of these trees and may require an arborist report to substantiate tree health or safety concerns. A Protected Tree Removal permit is required to remove one or more protected trees on public or private property or within a public or private right-of-way. Some tree removals may be eligible for permit exemptions or for self-permitting approval.
Encroachment Permit	County of San Mateo	The project involves an access driveway off of Verde Road and improvements within the ROW of Verde Road, owned by the County of San Mateo.
Construction Permit	BAAD	Bay Area Air District – register all portable equipment permits with the Air District; notify the Air District of all demolition activities 10 days prior to occurrence of activity.
Smoke Management Permit and Burn Permit (with an approved Burn Plan)	CAL FIRE and BAAD	To conduct pile burning and/or to use an air current burner as part of the Irish Ridge Restoration Project, both a smoke management permit from the BAAD and a burn permit (with an approved burn plan) from CAL FIRE is required.
LSAA	CDFW	The project has the potential to impact riparian trees and vegetation.
Section 404 and Section 401	USACE and RWQCB	The project has the potential to impact state and federal waters or waterways.
Encroachment permit	Caltrans	The project involves road improvements to SR 35 and SR 1, and tree removal within the ROW of SR 35, which requires an encroachment permit from Caltrans.

Notes: BAAD = Bay Area Air District; CAL FIRE = California Department of Forestry and Fire Protection; Caltrans = California Department of Transportation; CDFW = California Department of Fish and Wildlife; CDP = Coastal Development Permit; CEQA = California Environmental Quality Act; DBH = Diameter at Breast Height; EV = electric vehicles; LSAA = Lake and Streambed Alteration Agreement; PAD = Planned Agriculture District; RM = Resource Management; ROW = right-of-way; RWQCB = Regional Water Quality Control Board; SR = State Route; USACE = United States Army Corps of Engineers.

Source: Compiled by Ascent in 2026.

2.8 PRIOR CEQA DOCUMENTS

Certain operations and maintenance activities as well as vegetation treatment are covered by existing CEQA documents prepared by Midpen. These prior CEQA documents include the OSMRP MND (SCH No. 2021080129), Wildland Fire Resiliency Program EIR (State Clearinghouse No. 2020049059), IPM Program EIR (SCH No. 2013092033), and Coastal Service Plan EIR (SCH No. 2000062048). These documents are described below:

- The OSMRP MND, certified in April 2021, authorizes routine infrastructure and vegetation upkeep across Midpen's preserves. It details activities such as culvert and bridge upkeep; road and trail drainage repairs; sediment and debris removal; pond and water-supply structure maintenance; and vegetation management including mowing, brushing, pruning, aquatic herbicide application, and conservation grazing.
- The Wildland Fire Resiliency Program EIR, certified by Midpen in May 2021, provides a program-level analysis of landscape-scale fuel-reduction and resilience treatments across Midpen's preserves. It evaluates manual, mechanical, herbivory, selective chemical methods, and the future use of prescribed fire within designated Vegetation Management Areas.

- The IPM Program EIR, certified in September 2014, covers invasive species control and pest-management measures. The IPM requires that non-chemical methods be considered in addition to chemical methods. If chemical methods are necessary to meet a pest control objective, the potential for harm to the public and workers is carefully considered, as are effects on the environment, and then the least toxic and most effective, efficient, and target-specific method is chosen.
  - The 2019 Addendum to the District's certified IPM Program EIR evaluated updates to pest-management practices. The 2019 Addendum to the IPM Program EIR analyzed three new chemical products [triclopyr BEE (Garlon 4 Ultra), triclopyr TEA (Capstone), and prallethrin (PT Wasp-Freeze II)] as candidates for evaluation and potential inclusion in the IPM Program. Capstone contains two active ingredients: triclopyr TEA and aminopyralid TIPA, the latter of which was previously analyzed in the 2014 EIR. Additionally, the District expanded its biological review to include two newly recognized species of special concern: the California giant salamander and the Santa Cruz black salamander.
  - The 2026 Addendum to the District's certified IPM Program EIR evaluated minor updates to the tools and methods available under the Program (including refinements to treatment actions for certain pest types), updates to the pesticide list and related application parameters used to implement the IPM approach, clarifications to program implementation measures, and updates to reflect current conditions and related District programs that intersect with pest management. The update also clarified program protections for additional Special-Status Species that have been listed since certification of the 2014 EIR and adoption of the 2019 addendum, without changing the Program's core mitigation approach or adopted mitigation measures.
- The Coastal Service Plan EIR, certified in June 2003, evaluated the environmental impacts of the proposed annexation and long-term management strategy for coastal lands in San Mateo County. The District proposed to extend its boundaries to include the majority of the San Mateo County Coastside (approximately 140,000 acres) in order to acquire and manage land and easements for the preservation of open space and agriculture, and the protection of sensitive resources. The proposed annexation was subject to approval by the San Mateo County Local Agency Formation Commission. Mitigation measures in the Final EIR are included in the Service Plan section titled "Guiding Principles For The Coastal Annexation Area" and apply to Coastside Protection Area portions of the Preserve.

Table 2-9 below summarizes recommended actions from the proposed Plan that are covered by prior CEQA documents, as well as actions that do not require CEQA coverage as stated. A detailed table of CEQA coverage for each action is included as Appendix A.

Table 2-9 Summary of Proposed Plan Actions with Existing CEQA Coverage

CEQA Document	Proposed Plan Actions Covered by Existing CEQA	Implementation Table Reference Numbers
Open Space Maintenance and Restoration Plan (OSMRP) IS/MND	▶ Use wildlife-friendly fencing and other infrastructure for safe wildlife crossings and to support habitat connectivity ▶ Enhance and expand riparian corridors ▶ Implement erosion control measures, including stabilization of stream banks ▶ Manage water resources for livestock and preserve natural water resources for habitat health ▶ Provide interpretive signage ▶ Maintain existing trails, roadways, regulatory signage, and other infrastructure ▶ Decommission unnecessary existing internal roadways and removal of obsolete infrastructure ▶ Remove and remediate environmental hazards ▶ Improve carbon sequestration and storage at Bluebrush Canyon (Bluebrush Carbon Farming Plan)	NR-5, 8, 10, 17, 18, 19 CR-3 PA-15 OM-1, 2, 3, 5, 8, 9, 10, 11

CEQA Document	Proposed Plan Actions Covered by Existing CEQA	Implementation Table Reference Numbers
Wildland Fire Resiliency Plan (WFRP) EIR	▶ Manage vegetation to reduce fire wildland fire risk, improve habitat connectivity, and improve ecosystem resiliency	NR-4, 5, 14, 17, 18 OM-3, 6
Integrated Pest Management (IPM) Plan EIR	▶ Manage invasive species ▶ Manage vegetation to support habitat connectivity ▶ Implement adaptive management actions to sustain habitats for special status species	NR-2, 4, 5, 6, 7, 14, 18 OM-3
Rangeland Management Plan NOEs and IS/ND	▶ Manage grasslands in grazing properties ▶ Continue conservation grazing operations as stated in the Rangeland Management Plans ▶ Fence appropriate riparian areas to prevent livestock access ▶ Install and replace grazing infrastructure as needed (including improvements to water infrastructure)	NR-2, 6, 7, 9, 11, 12 OM-9
Coastal Service Plan EIR	▶ Close trail access points within the coastal service area on red flag days ▶ Use gates, fencing, and signage to maintain site security and prevent visitor encroachment into adjacent private property ▶ Site trails and amenities with appropriate setbacks from private property within the coastside protection area	NR-14 OM-5, 7
Separate NOEs	▶ Install multimodal amenities (e.g., bike racks, bike repair stations) at Preserve trailheads to support reduction of carbon emissions ▶ Remove old county park restroom facility	NR-17 OM-8
Not a project under CEQA (future related actions would require review by the District)	▶ Identify and monitor special status species, aquatic resources, and other wildlife ▶ Coordinate and consult with partners, neighbors, Native American tribes, and other land managers as necessary ▶ Conduct plan development, feasibility studies, and other evaluations (including habitat assessments, trail amenity studies, dog access study, cultural and historic resource surveys, records searches, signage plans) ▶ Designate Conservation Management Units (CMUs), as appropriate ▶ Comply with existing policies and guidelines (e.g., Resource Management Policies, Staging/Parking Area and Trailhead Design Guidelines) ▶ Provide docent naturalist guided activities and translation services ▶ Patrol Preserve lands	NR-1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 18, 19, 20 CR-1, 3, 4, 5, 6 AR-1, 2, 3 PA-1, 3, 4, 5, 6, 7, 8, 11, 13, 15, 16, 18, 19, 20, 21, 22 OM-5, 6, 7, 8, 9, 10, 11, 12, 13, 14

Notes: CEQA = California Environmental Quality Act; EIR = environmental impact report; IS/MND = initial study/mitigated negative declaration; IS/ND = initial study/negative declaration; NOE = notice of exemption.

Source: Data provided by Midpen 2026.

3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title: Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan IS/MND
2. Lead Agency Name and Address: Midpeninsula Regional Open Space District
   5050 El Camino Real, Los Altos, CA 94022-1530
3. Contact Person and Phone Number: Brittany Wheatman, 650-772-3646
4. Project Location: Unincorporated San Mateo County
5. Project Sponsor's Name and Address: Same as #2 above
6. General Plan Designation: San Mateo County: Open Space, Public Recreation, Timber Production
7. Zoning:

   San Mateo County: RM (Resource Management), RM-CZ/CD (Resource Management – Coastal Zone), TPZ (Timberland Preserve Zone), and TPZ-CZ/CD (Timberland Preserve Zone- Coastal Zone), PAD/CD (Planned Agriculture District/Coastal Development District)
8. Description of Project:

   See Chapter 2, "Project Description."
9. Surrounding Land Uses and Setting:

   The Preserve is surrounded by primarily agriculture, open space, undeveloped private land, and rural residential uses. Please see Chapter 2, "Project Description."
10. Other public agencies whose approval is required:
    - Midpeninsula Regional Open Space District (project approval, CEQA document adoption, and any appropriate self-permitting authorities as an independent open space district)
    - Regional Water Quality Control Board (General Construction Permit, Section 404, and Section 401)
    - County of San Mateo (Coastal Development Permit, Building Permit, Demolition and Grading Permit, Architectural Review Permit, Resource Management Permit, Planned Agricultural District Permit, Environmental Health Permit, Tree Trimming and Removal Permit [unless otherwise covered through self-permitting authorities], Encroachment Permit)
    - Bay Area Air District (Construction Permit and Smoke Management Permit and Burn Permit [with an approved Burn Plan])
    - California Department of Forestry and Fire Protection (Smoke Management Permit and Burn Permit [with an approved Burn Plan])
    - California Department of Fish and Wildlife (Lake and Streambed Alteration Agreement)
    - US Army Corps of Engineers (Section 404 and Section 401)
    - California Department of Transportation (Encroachment Permit)

    See Table 2-8 above for more details regarding each of the required permits.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

    For compliance with Public Resources Code Section 21080.3.1 (i.e., Assembly Bill [AB] 52), the following local Native American tribal groups and representatives identified by the Native American Heritage Commission (NAHC) were formally notified on December 2, 2025 by Midpen that environmental review for the proposed Purisima Creek Redwoods Open Space Preserve Comprehensive Use and Management Plan had officially commenced:

    - Amah Mutsun Tribal Band,
    - Amah Mutsun Tribal Band of Mission San Juan Bautista,
    - Costanoan Rumsen Carmel Tribe,
    - Indian Canyon Mutsun Band of Costanoan Ohlone People,
    - Muwekma Ohlone Indian Tribe of the San Francisco Bay Area,
    - The Ohlone Indian Tribe,
    - Ramaytush Ohlone,
    - Tamien Nation, and
    - Wuksachi Indian Tribe/Eshom Valley Band.

    Midpen received six responses - from the Ramaytush Ohlone Tribe, the Muwekma Ohlone Tribe of the San Francisco Bay Area, the Costanoan Rumsen Carmel Tribe, the Indian Canyon Mutsun Band of Costanoan Ohlone People, the Tamien Nation, and the Amah Mutsun Tribal Band of Mission San Juan Bautista. The Tamien Nation responded that the project lands are outside of their traditional territory and did not request consultation. No responses were received from other tribal representatives within the 30-day response period so formal consultation with those tribes is considered closed. Refer to the discussion in Section 3.18, "Tribal Cultural Resources," below for a detailed summary of tribal consultation that has occurred for the proposed Plan.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Where checked below, the topic with a potentially significant impact will be addressed in an environmental impact report.

- ☐ Aesthetics
- ☐ Agriculture and Forest Resources
- ☐ Air Quality
- ☐ Biological Resources
- ☐ Cultural Resources
- ☐ Energy
- ☐ Geology / Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards / Hazardous Materials
- ☐ Hydrology / Water Quality
- ☐ Land Use / Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population / Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation
- ☐ Tribal Cultural Resources
- ☐ Utilities / Service Systems
- ☐ Wildfire
- ☐ Mandatory Findings of Significance
- ☐ None
- ☒ None with Mitigation Incorporated

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DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

Signature Signed by: B0890649F640410... _____ Date 10/06/2026

Printed Name Ana Ruiz _____ Title General Manager _____

Agency Midpeninsula Regional Open Space District

3.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics.				
Except as provided in Public Resources Code section 21099 (where aesthetic impacts shall not be considered significant for qualifying residential, mixed-use residential, and employment centers), would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

VISUAL CHARACTER AND QUALITY

The criteria for describing visual character and quality are vividness, intactness, and unity and are described below:

- **Vividness:** visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
- **Intactness:** visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes, as well as in natural settings.
- **Unity:** visual coherence and compositional harmony of the landscape considered as a whole.

The Preserve is defined by steep canyon topography dominated by Purisima Creek Canyon, the Preserve's central landform. The area contains dense second-growth coast redwood forests, mixed evergreen woodlands, and well-developed riparian corridors associated with Purisima Creek and its tributaries, including Whittemore Gulch, Soda Gulch, Walker Gulch, and Grabtown Gulch. While most of the Preserve lies within the Purisima Creek watershed, portions of the western slopes drain toward the Tunitas Creek and Lobitos Creek watersheds. The forest understory supports a diverse assemblage of native vegetation, such as ferns, berries, and seasonal wildflowers, that contribute to the visual richness and ecological complexity of the canyon environment. In addition to the redwood and mixed evergreen forest communities, the Preserve also supports extensive coastal grassland and coastal scrub habitats. These western coastal habitats are characterized by open slopes with native grasses, low-growing shrubs, and seasonal wildflowers, creating a varied visual landscape of contrasting colors and vegetation structure. Together, these habitats support a diverse community of native plants and contribute to the area's biological diversity and scenic character.

Elevations range from approximately 150 feet above mean sea level along the lower creek corridors to more than 2,000 feet along the upper ridgelines. These elevated ridges, particularly in the northern portion of the Preserve, provide expansive long-range views of the Pacific coastline and Half Moon Bay from designated viewpoints along the Harkins Ridge and Soda Gulch Trails. Within the canyon, the dense redwood canopy creates a visually enclosed setting with high levels of intactness, while transitions to mixed evergreen forest and intermittent grassland openings along the upper slopes introduce additional visual variety.

Commercial logging occurred extensively throughout the Preserve in the early 1900s, during which nearly all old-growth redwoods (many exceeding 10 to 20 feet in diameter) were harvested. Remnant stumps along the Purisima Creek Trail provide visible evidence of this historic land use. The existing forest is composed primarily of second-growth redwood stands established roughly a century ago following the cessation of large-scale timber operations. Despite this history, the current landscape retains high overall scenic quality, exhibiting strong visual unity and an open space character, with minimal contemporary human intrusions aside from basic recreational access facilities that are typical of the District's publicly accessible open space preserves.

More specifically, the Preserve contains basic built features that support low-intensity recreation, including trails, accessible restrooms at trailheads, benches, multiple bridges, and parking areas, along with several employee residences. The areas surrounding the Preserve are emblematic of the rural Santa Cruz Mountains, characterized by forested ridges, steep canyons, and open lands with pockets of scattered rural residences and lands in active agricultural production (including grazing) containing operational-support infrastructure such as fencing, corrals, and water troughs. Utility infrastructure (overhead electrical and phone lines) is also present along roadways and highways.

VIEWER SENSITIVITY AND VIEWER EXPOSURE

Viewer sensitivity is a measure of public expectation or concern for changes to scenic quality. Number of viewers from publicly accessible viewpoints, viewer activity, view duration, distance from seen objects (i.e., foreground versus background), and special planning designations, such as zoning and general plan designations, are used to characterize viewer sensitivity. Viewers of the project area primarily include recreationists using the Preserve or other nearby trails and motorists using nearby roadways.

Viewer groups in the Preserve and surrounding area primarily include motorists traveling on nearby roadways such as SR 1 and SR 35, as well as recreationists using the Preserve's trail system, trailheads, and associated facilities. These viewers generally have a moderate to high sensitivity to visual change because they are engaged in recreation, sightseeing, or travel through a landscape where scenic quality is an important part of the experience. In many of the locations where near-term projects are proposed, viewer numbers are relatively low due to limited public access, steep terrain, and dense forest cover. As a result, the extent of potential visual exposure varies, with motorists experiencing brief, passing views and recreationists experiencing longer-duration views along trails and at designated viewpoints.

Table 3.1-1 lists viewer groups that would be exposed to the project's visual changes; defines their geographic proximity to the project; qualitatively estimates the volume of viewers, duration of views, and frequency of views; and identifies the viewer sensitivity of each general viewer group. Visual sensitivity associated with views in a particular area is the combination of viewer sensitivity and viewer exposure.

Table 3.1-1 Sensitive Viewer Groups Near the Preserve and Near-Term Projects

Viewer Group	Viewer Exposure				Viewer Sensitivity
	Area	Usage Volume	Duration of Views	Frequency of Views	
Recreationists	Preserve	High	High	Moderate to High	High
Motorists and vehicle passengers	Nearby roadways and highways	Moderate	Low	Low to Moderate	Moderate

SCENIC HIGHWAYS

A highway may be designated as "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view. The California Department of Transportation (Caltrans) maintains a list of eligible highways and officially designated scenic highways in California. The Preserve extends from SR 35 (Skyline Boulevard) to the northeast, and SR 1 (Cabrillo Highway) to the southwest, with access points from Skyline Boulevard, Purisima Creek Road, and Tunitas Creek Road. Both SR 35 and SR 1 are officially designated state scenic highways by Caltrans in the segments that pass adjacent to the Preserve, and they are also identified as County-designated scenic corridors in the San Mateo County General Plan, reflecting their high visual quality and regional scenic importance (Caltrans 2026; San Mateo County 1986).

Official designation of a state scenic highway does not preclude development, but any development within a state scenic highway corridor must occur under a locally adopted and enforced Corridor Protection Program that ensures compatibility with scenic resource protection and community values (Caltrans n.d.-a). Such programs are intended to minimize the encroachment of incompatible land uses, emphasize preservation of visual quality through appropriate siting, landscaping, and screening, and prohibit billboards while regulating on-site signage to avoid detracting from scenic views. The Caltrans Scenic Highway Guidelines also encourage development that is compatible with the environment and harmonious with its surroundings, require grading practices that prevent erosion and minimize alteration of natural contours, and call for the preservation of hillside and ridgeline views by limiting development on steep slopes. Additional measures include reducing the need for noise barriers by requiring adequate setbacks for residential uses adjacent to scenic highways and incorporating design approaches that maintain the natural visual character of the corridor (Caltrans 2012).

The County of San Mateo regulates development along designated scenic corridors through both its General Plan and its Zoning Regulations to ensure that public views, natural landforms, and the rural visual character of these roadways are preserved. San Mateo County's General Plan includes several scenic corridor policies aimed at preserving the visual quality of rural landscapes by regulating how development is sited and designed along these roadways. The policies call for special controls on both site planning and architectural design so that new structures reinforce, rather than diminish, the scenic character of the corridor. They direct development to be located in a manner that avoids obstructing views from scenic roads or disrupting the natural visual harmony of the surrounding landscape. The General Plan also emphasizes integrating paved areas with the natural setting by encouraging alternative paving treatments that reduce hardscape visibility and requiring landscaping or screening to soften the visual presence of parking and other paved surfaces (San Mateo County 1986). In addition, the County's Zoning Regulations (Chapter 36A.2) establish detailed development review criteria for Scenic Corridors that require protection and enhancement of public views, prohibit development that would significantly obscure or detract from scenic quality, and direct projects to use vegetative screening or setbacks to reduce visual intrusion. The regulations further require that development visible from Scenic Corridors be sited and designed to minimize interference with ridgeline silhouettes, ensuring that new structures and associated improvements blend with the surrounding landscape.

3.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than significant. A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. The Preserve is located along the western slopes of the Santa Cruz Mountains and contains high quality scenic vistas with views of redwood forests, mixed hardwood canyons, and, in some locations, long range coastal views. Public views of the near-term project areas occur primarily from trails within the Preserve and from limited roadside viewpoints along SR 35 and SR 1. Few elevated or long-range scenic vistas provide direct views of the specific project sites, which are generally located in previously disturbed or managed areas, or near existing parking areas, roadways, and established trail corridors.

Construction activities associated with the near-term projects could result in temporary visual effects to scenic vistas as a part of the Preserve's trail system. Construction equipment, such as excavators, haul trucks, compactors, and

other small machinery, could temporarily reduce the visual intactness and unity of the natural landscape. However, these temporary visual effects would be confined to the immediate project areas, with intervening hillsides, dense forest cover, and topography substantially screening most construction activities from public viewpoints. In addition, construction equipment would be present only during each project's construction window (typically 12 to 18 months, or about two to four construction seasons depending on the project), further reducing the duration of any temporary visual change. Although scenic views from certain trails may be temporarily affected by the presence of construction equipment, these effects would be short-term, partially screened by vegetation, and limited to small portions of the overall viewshed. As a result, construction-related impacts on scenic vistas would not be substantial.

Long term changes to views from scenic vistas would result from the installation of new public access features, including new and expanded parking areas, new trailheads, trail connections, and small-scale amenities such as signage, restrooms, seating areas, and a cellular communication structure at the Purisima Creek Trailhead. The proposed structure would either consist of a small box mounted to the existing restroom or would consist of a pole approximately 9 to 12 feet tall with a mounted solar panel and emergency call box. A small box mounted to the existing restroom would blend with the restroom building and would not be visible from a scenic vista. The cellular communications pole may be colored for high visibility in blue and white and would be located within the existing developed trailhead parking area. Although visible to visitors in the immediate vicinity and visually distinct because of its blue and white color, the structure would be modest in height and scale relative to the surrounding forested landscape and would be sited within an area that already contains developed facilities. As a result, it would be viewed in the context of existing trailhead infrastructure, including parking areas, signage, and restroom facilities. The structure would be small in scale, located within an existing developed trailhead setting within a forested landscape, and therefore would not be visible from a scenic vista. All other new public access features and small-scale facilities would be constructed using natural, non-reflective materials, such as wood, weathered steel, and stone, consistent with existing recreational facilities in the Preserve. Their low profile and site-sensitive design would maintain the high level of visual intactness and unity characteristic of the Preserve. Trail improvements and new connections would enhance public access to existing scenic viewpoints and improve the visitor experience without altering the vistas themselves.

The proposed Verde Road Parking Area Project represents the primary instance where a natural area would be converted to a formal parking area and therefore constitutes the most visually substantive change. However, its limited overall scale and low profile (i.e., a flat, paved parking area with only small structures present) would help to prevent its visibility from elevated scenic viewpoints, and incorporating natural, non-reflective materials for the proposed facilities would minimize contrast with the surrounding landscape. In addition, native landscaping and habitat restoration would be implemented around the parking perimeter, replacing non-local vegetation with the strategic planting of locally native Coast Live Oaks, shrubs, and grasses to provide visual screening, integrate the parking area into the surrounding landscape, enhance ecological function, and restore the natural character of the surrounding area. Although it may be visible by recreationists (with high viewer sensitivity) from some elevated viewpoints in the immediate area (e.g., from nearby trails), it would not substantially alter views from a scenic vista for the reasons described.

The installation of potential Caltrans-required pedestrian safety features such as the HAWK signal across SR 1 or pedestrian-activated RRFBs on SR 35 would not occur within or obstruct a scenic vista; given how small they would be, these elements likely would not be perceptible from a scenic vista. Figure 3.1-1 shows an example of pedestrian crossing infrastructure similar to that of HAWK signal infrastructure, which is similar to a stop light in its appearance and scale. The proposed crossings and associated infrastructure would be limited in height and scale, would not intrude into any established vista point, and would not alter the expansive coastal or forested views that define scenic vistas in the area. Similar examples of pedestrian safety features exist along SR 1 north of the near-term project areas in Pacifica, including flashing beacons, highway striping, and flashing warning signs for pedestrian crossings (see Figure 3.1-1). Other infrastructure is also present near the location of the proposed SR 1 crossing, including utility poles, signage, and facilities within view of the highway (see Figure 3.1-1 and Figure 3.1-4). Thus, the proposed crossing would be located within this existing roadway setting and would incorporate features that are already present elsewhere along rural segments of SR 1. Furthermore, existing vegetation would continue to obscure most project elements from surrounding scenic viewpoints. For these reasons, the near-term projects would have a **less-than-significant** impact on scenic vistas.



Source: Adapted by Ascent from Google Earth in 2026.

Example of a HAWK Pedestrian Crossing on SR 1 in Pacifica



Source: Adapted by Ascent from Google Earth in 2026.

Example of a RRFB pedestrian crossing in Stinson Beach – Looking Northwest



Source: Adapted by Ascent from Google Earth in 2026.

Example of a RRFB pedestrian crossing in Stinson Beach – Looking Southeast

Figure 3.1-1 Representative Photographs of Pedestrian Crossing Infrastructure

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

Less than significant. The portions of SR 1 and SR 35 adjacent to the Preserve are officially designated state scenic highways, and scenic resources along these corridors include mature trees, forested ridgelines, coastal views, and natural landforms. The near-term projects are located within the Preserve, primarily in previously disturbed or managed areas adjacent to existing roadway infrastructure, parking areas, and established trail corridors. The near-term projects occurring near SR 1 and SR 35 include the Highway 35 Parking Project, Verde Road Parking Project, and the North Trail Project.

The proposed Highway 35 Parking Project would expand the existing parking area, replace a vault restroom, construct a new Spur Trail on SFPUC property across SR 35 from the parking area, and require the removal of up to 26 trees. In the vicinity of the Highway 35 Parking Project, dense vegetation and several trees are present, as well as existing infrastructure such as wooden fences, Preserve signage, and utility poles and transmission lines (Figure 3.1-2). Most of the trees proposed for removal at the Highway 35 Parking Project are located behind existing roadside vegetation, and due to the dense vegetation present, the tree removal proposed would not be noticeable to motorists traveling along SR 35. However, approximately 150 feet of the proposed Spur Trail and 11 of the trees proposed to be removed are within the SR 35 ROW on SFPUC property. The removal of these 11 trees would be required to implement the Spur Trail and maintain vehicular line-of-sight for safety. The project site and location where the Spur Trail and associated tree removal would occur is situated within a heavily forested landscape characterized by extensive tree cover both within and adjacent to the SR 35 corridor (Figure 3-1-2). While the proposed Spur Trail may be visible for a short period of time by motorists traveling along the SR 35, it would be a 6-foot-wide gravel/native dirt trail segment with dense trees remaining in close vicinity, thus, it would not substantially change or degrade views of the corridor. In addition, removal of 11 trees within the Caltrans ROW would represent a very small proportion of the existing forest canopy and would not substantially alter the visual character, scenic quality, or wooded appearance of the surrounding area. Given the abundance of mature trees that would remain in place and continue to define views along the corridor as shown in Figure 3.1-2, the proposed tree removal and Spur Trail would not result in substantial damage to scenic resources within SR 35.

The Verde Road Parking Area Project would remove up to 43 non-locally native Monterey pines ranging from approximately 10 to 36 inches DBH to support parking area reconfiguration, installation of an ADA-accessible pathway, development of the bioretention and nature education areas, and site restoration with locally native vegetation. Specifically, approximately 22 trees (10 to 36 inches DBH) would be removed to construct the ADA-accessible pathway and facilitate replacement with locally native vegetation; eight trees (19 to 30 inches DBH) would be removed to accommodate the bioretention and nature education areas and associated native plantings; and 13 trees (14 to 29 inches DBH) would be removed and replaced with locally native vegetation as part of site restoration efforts. Portions of the Verde Road Parking Project could be visible from SR 1, an officially designated state scenic highway, where openings in vegetation and topography may allow limited views upslope toward the Preserve (Figures 3.1-3). However, the location of the Verde Road Parking Project is elevated relative to SR 1 and, given the intervening vegetation (which is not proposed to be removed), would be difficult to discern in detail (Figure 3.1-3). In addition, visibility from SR 1 would be very brief and highly constrained, as motorists on this segment of SR 1 typically travel at highway speeds (55 miles per hour [mph]), resulting in short-duration, forward-focused views that limit the ability to perceive small-scale features at distance. Furthermore, locally native landscaping and planting would be installed around the parking perimeter, including strategic planting of Coast Live Oaks, shrubs, and grasses to provide visual screening, enhance ecological function, and integrate the parking area into the surrounding landscape. No damage to any scenic resources within SR 1 would occur.

The Purisima Multimodal Access Implementation Project would include installation of new cellular communication infrastructure at the Purisima Creek Trailhead to support shuttle operations. The proposed cellular communication structure at the Purisima Creek Trailhead would not result in the removal or alteration of scenic resources within a state scenic highway corridor. The structure would be located within the existing developed trailhead parking area or adjacent to the existing restroom, outside of the SR 35 ROW. Due to its modest scale relative to the surrounding landscape and its location within an area that already contains developed trailhead facilities, the structure would not substantially affect scenic highway views or damage scenic resources associated with the designated state scenic highway.



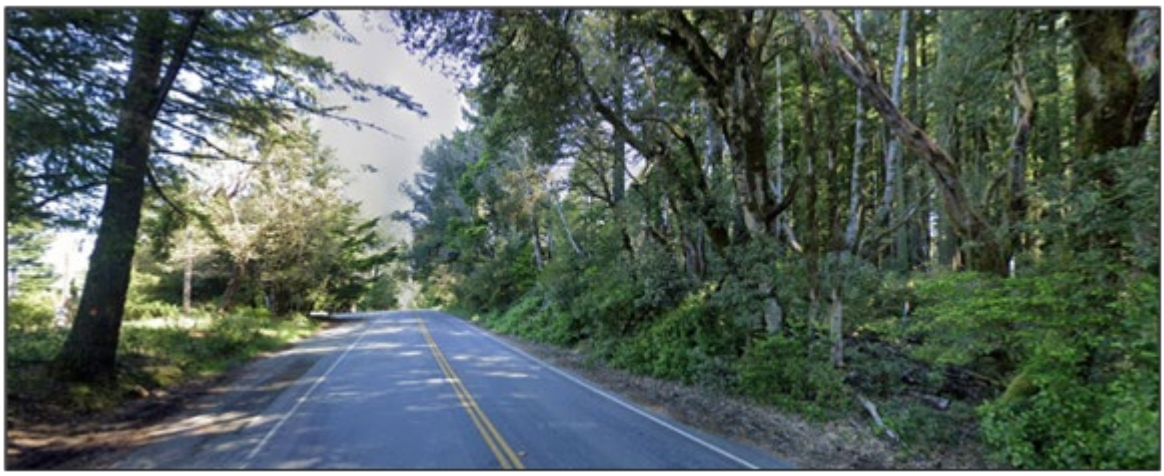
Source: Adapted by Ascent from Google Earth in 2026.

SR 35 – Looking Northwest (with views of the existing North Ridge parking lot)



Source: Adapted by Ascent from Google Earth in 2026.

SR 35 – Looking Southeast (with views of the existing North Ridge parking lot)



Source: Adapted by Ascent from Google Earth in 2026.

SR 35 – Looking North (the proposed Spur Trail would occur on the right side of the photograph)

Figure 3.1-2 Representative Photographs of SR 35 Adjacent to the Proposed Highway 35 Parking Project



Source: Adapted by Ascent from Google Earth in 2026.

SR 1 – Looking Northwest (Verde Road Parking Project area would be behind vegetation on the right side of the photograph)



Source: Adapted by Ascent from Google Earth in 2026.

SR 1 – Looking Southeast (Verde Road Parking Project area would be behind vegetation on the left side of the photograph)

Figure 3.1-3 Representative Photographs of SR 1 Adjacent to the Verde Road Parking Area Project

The proposed pedestrian crossing of SR 1 proposed as a part of the North Trail Project would include a painted crosswalk and overhead HAWK signal, and the pedestrian crossing of SR 35 would include a painted crosswalk and possibly a RRFB. As shown in Figure 3.1-1, RRFBs are rectangular yellow or orange signs with pedestrian-activated small flashing orange lights. The RRFB, if constructed, would be a small-scale roadside feature within an already developed transportation corridor that contains utilities, signage, fencing, and other highway-related elements (Figure 3.1-2). The proposed crossing and associated RRFB would not require removal of scenic trees or natural landforms and would not alter the forested backdrop or the scenic character of SR 35. In addition, views of the pedestrian crossing from motorists using SR 35 would be extremely short in duration as motorists travel along the densely forested highway. An example of the type of HAWK signal that may be used for the SR 1 pedestrian crossing is shown in Figure 3.1-1 above. Although the HAWK signal would be visible to motorists as they approach it, it would not require removal of scenic trees or natural landforms, and it would be consistent with the developed nature of the SR 1 corridor that contains similar pedestrian safety features for pedestrian crossings (i.e., flashing beacons, highway striping, and flashing warning signs), as well as utilities, signage, fencing, and outbuildings in this area (Figure 3.1-1 and Figure 3.1-4). Views of the HAWK signal would also be relatively short in duration as motorists travel at high speeds (around 55 mph) along SR 1. Furthermore, any project improvement located within a designated State scenic corridor would be subject to the San Mateo County Architectural Review Permit. Under County regulations, construction of any new structure or addition to an existing structure within a designated State scenic corridor must either obtain an Architectural Review Permit or receive an exemption. This process provides design oversight so that new features introduced within scenic corridors, such as the proposed pedestrian crossings at SR 1 and SR 35, are developed in a manner that is visually compatible with the surrounding landscape.

Because the near-term projects avoid substantial removal or alteration of scenic natural features within state scenic highways, occur in areas already influenced by roadway development, and introduce mostly low-profile improvements that do not detract from the scenic qualities of SR 1 or SR 35, the impact would be **less than significant.**

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?

Less than significant. The proposed near term projects, including new and expanded parking areas (Highway 35 Parking Project and Verde Road Parking Area Project), associated new trailheads and new trail connections (North Trail Project and Purisima-to-the-Sea Trail Project), multimodal access and visitor management measures (Purisima Multimodal Access Implementation Project), and ecological stewardship (Irish Ridge Restoration Project), would be sited within and adjacent to the Preserve, in previously disturbed or already accessible areas and designed with natural, nonreflective materials that blend with the surrounding forested environment.

Construction activities associated with the proposed near-term projects would temporarily reduce the vividness, unity, and intactness of the Preserve's existing visual character by introducing short term human elements, such as construction equipment and materials staging, into an otherwise natural setting characterized by mixed hardwood forests, and coastal grassland and coastal scrub habitats with high visual quality. Temporary visual effects could be experienced from portions of the Preserve's trail system and from limited public viewpoints along SR 35 and SR 1. However, as described under criterion (a), these temporary visual changes would be confined to the immediate project footprints, which are located in previously disturbed areas such as existing parking lots, road shoulders, and established trail corridors. Dense forest cover, intervening slopes, and the limited visibility of many work areas would substantially screen construction activities from most public views. Therefore, once a viewer travels further from a construction area on a trail or roadway, the signs of construction would no longer be visible. In addition, the presence of construction equipment would be temporary, and only for the duration of each project's relatively short construction window (typically 12 to 18 months, or about two to four construction seasons depending on the project), further limiting the severity of temporary visual effects.



Source: Adapted by Ascent from Google Earth in 2026.

SR 1 – Looking Northwest (location of proposed pedestrian crossing of SR 1)



Source: Adapted by Ascent from Google Earth in 2026.

SR 1 – Looking West (location of proposed pedestrian crossing of SR 1)



Source: Adapted by Ascent from Google Earth in 2026.

SR 1 – Looking East (location of proposed pedestrian crossing of SR 1)

Figure 3.1-4 Representative Photographs of SR 1 at Location of Proposed HAWK Signal

In the long-term, most of the near-term projects would not substantially alter the visual character or quality of public views given that they are occurring in locations where similar development is already present (i.e., Highway 35 Parking Project and the Purisima Multimodal Access Implementation Project), or they would provide additional opportunities for high quality public views through trail expansion and connectivity (i.e., Purisima-to-the-Sea Trail and the North Trail). The Verde Road Parking Area Project would create a new paved parking area with restrooms and other trail amenities in an area that is currently undeveloped. However, it would be located alongside existing roadway infrastructure, between Verde Road and SR 1, where very few public viewers are currently present aside from motorists on the adjacent roadways. The proposed facilities would not block scenic views from either SR 1 or Verde Road and would introduce typical public access features, such as small structures, signage, and crosswalks that are typical and visually consistent with the surrounding recreational and open space setting. Therefore, the existing visual character and quality of public views of the Verde Road Parking Area Project site would not be substantially degraded.

The proposed pedestrian crossing of SR 1 would include a painted crosswalk and overhead HAWK signal. Although the HAWK signal would be visible to motorists as they approach it, it would not require removal of scenic trees or natural landforms, and it would be consistent with the developed nature of the SR 1 corridor that contains similar pedestrian safety features for pedestrian crossings (i.e., flashing beacons, highway striping, and flashing warning signs), as well as utilities, signage, fencing, and outbuildings in this area (Figure 3.1-1 and Figure 3.1-4). The Purisima Multimodal Access Implementation Project would include installation of new cellular communication infrastructure at the Purisima Creek Trailhead to support shuttle operations. It may consist of a small box that would be mounted to the existing restroom at the Purisima Creek Trailhead. In this case, it would blend in with the existing restroom building and would not substantially degrade the character of existing views. The proposed structure may be a nine to 12 foot blue and white colored pole within the existing developed trailhead parking area. Although the structure could be visible to visitors in the immediate vicinity and would introduce a new built feature into the landscape, it would be viewed in the context of existing trailhead facilities, would be modest in height and scale relative to the surrounding forested landscape and would not obstruct public views or substantially alter the visual character of the trailhead area. In addition, communication and visitor safety infrastructure of this type is commonly associated with trailheads and public recreation areas and would be visually compatible with the existing developed trailhead setting.

Because the Preserve is large and the proposed near-term projects are limited in scale and consistent with existing open space uses, the projects would not substantially alter the existing visual character or degrade public views from nearby trails, SR 35, SR 1, or other publicly accessible vantage points. Low-intensity public access would continue to be the primary recreational use, and the presence of hikers, bicyclists, and equestrians would remain visually compatible with the open space setting typical of District preserves and rural San Mateo County. These uses are minor in visual intensity and would not detract from the natural landscape. Therefore, the impact on the quality of public views of the site and its surroundings would be **less than significant.**

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than significant. During construction, exterior lighting is often needed when construction hours extend past sunset. As discussed below in Section 3.13, "Noise," construction of the proposed near-term projects would occur during daytime hours consistent with the construction noise exemption identified in San Mateo County Municipal Code Section 4.88.360. However, during the shorter days of the late fall and winter months, exterior lighting may be required in the late afternoon. Any required construction lighting would be temporary and pointed downward toward construction activities. In addition, the Preserve and near-term project locations are somewhat remote with few residences nearby; any required construction lighting would not be prominent and would not result in a substantial source of light affecting any nighttime views.

Construction equipment and vehicles may create glare that could adversely affect daytime views within proximity of the construction work. However, glare created from construction equipment would be temporary and intermittent, limited to the project footprints, and intervening hillsides and vegetation would limit glare impacts to surrounding viewers. In addition, where construction occurs within and/or adjacent to existing parking areas and roadways, glare from vehicles is already present. Therefore, any glare created during construction would not be substantial.

Once operational, new recreation facilities and structures would include expanded trail mileage; wayfinding and interpretive signage; restroom facilities, such as vault toilets; benches; shuttle stops with open air shelters; and cellular communication infrastructure at the Purisima Creek Trailhead. None of the proposed near-term projects would create substantial light or glare because they do not include new lighting and any new structures or facilities, aside from the proposed cellular communication structure, would be constructed with low-reflectivity, natural materials that blend into the surrounding area. The proposed cellular communication structure may be blue and white in appearance for high visibility and would include a solar panel; however, it would not include illuminated features and any localized reflections from the solar panel would be minor and intermittent. Because the structure would be modest in height and scale relative to the surrounding landscape, and located within an existing developed trailhead setting, it would not create a substantial source of glare. As a result, the proposed recreation facilities and trail-related improvements would not introduce new nighttime illumination or substantial glare.

The pedestrian-safety lighting required for the SR 1 pedestrian crossing (and potentially Verde Road and SR 35 crossings if RRFBs are required) would be the only permanent lighting associated with the near-term projects; no other permanent new lighting is proposed. These lighting features, such as the HAWK signal across SR 1 or potential Caltrans-required pedestrian-activated RRFBs on Verde Road and SR 35, are limited to the highway and roadway ROW where vehicle light and glare is already present. The proposed pedestrian-activated safety features at the SR 1 (and potentially Verde Road and SR 35) would operate intermittently and only when triggered by a user and would therefore not introduce a continuous source of light. Furthermore, as mentioned above, Midpen preserves are open for visitation only during daytime hours, which means pedestrian activity at any of the crossings would primarily occur during daylight; as a result, nighttime illumination would not typically occur. For these reasons, the near-term projects would have a **less-than-significant** impact related to light and glare.

3.2 AGRICULTURE AND FOREST RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☒	☐
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

Purisima Creek Redwoods Open Space Preserve is in the northern Santa Cruz Mountains which is characterized by forested habitat, steep terrain, and natural vegetation communities. The Preserve includes approximately 1,700 acres of active grazing operations. The California Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP) identifies the majority of Preserve as "Grazing Land" or "Other Land," reflecting natural open-space conditions and/or grassland/rangeland (DOC 2026); a small portion located on the northwest boundary of the Preserve along Purisima Creek Road is classified as "Prime Farmland" and "Farmland of Statewide Importance." The uses within this small area of the Preserve would remain unchanged. In addition, small portions of the southeastern Preserve, including the Irish Ridge Restoration Project area, overlaps with lands currently under non-renewal Williamson Act contract lands (Figure 3.2-1).

As mentioned in Section 2.1 of the Project Description, commercial logging occurred throughout the Preserve in the early 1900s, when nearly all old-growth redwoods, many exceeding 10 to 20 feet in diameter, were harvested for lumber. Visible stumps along the Purisima Creek Trail mark the locations of past logging. The current forest is predominantly second-growth redwood stands that were established approximately 100 years ago following the cessation of large-scale timber operations.

The San Mateo County General Plan designates the Preserve as Open Space, Public Recreation and Timber Production, which allow for resource management, recreation, and agricultural uses. The Preserve is zoned RM (Resource Management), RM-CZ/CD (Resource Management – Coastal Zone), TPZ (Timberland Preserve Zone), and TPZ-CZ/CD (Timberland Preserve Zone- Coastal Zone). These zoning designations provide for park, open space, and recreational uses.

3.2.2 Discussion

Would the Project:

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

No impact. Although a small portion of the Preserve is mapped as "Prime Farmland" and "Farmland of Statewide Importance," this area is not located near any of the proposed near-term project sites, would remain unchanged and would not be converted as a result of implementation of the near-term projects. Therefore, the proposed near-term projects would not convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the FMMP, to non-agricultural use, and there would be **no impact**.

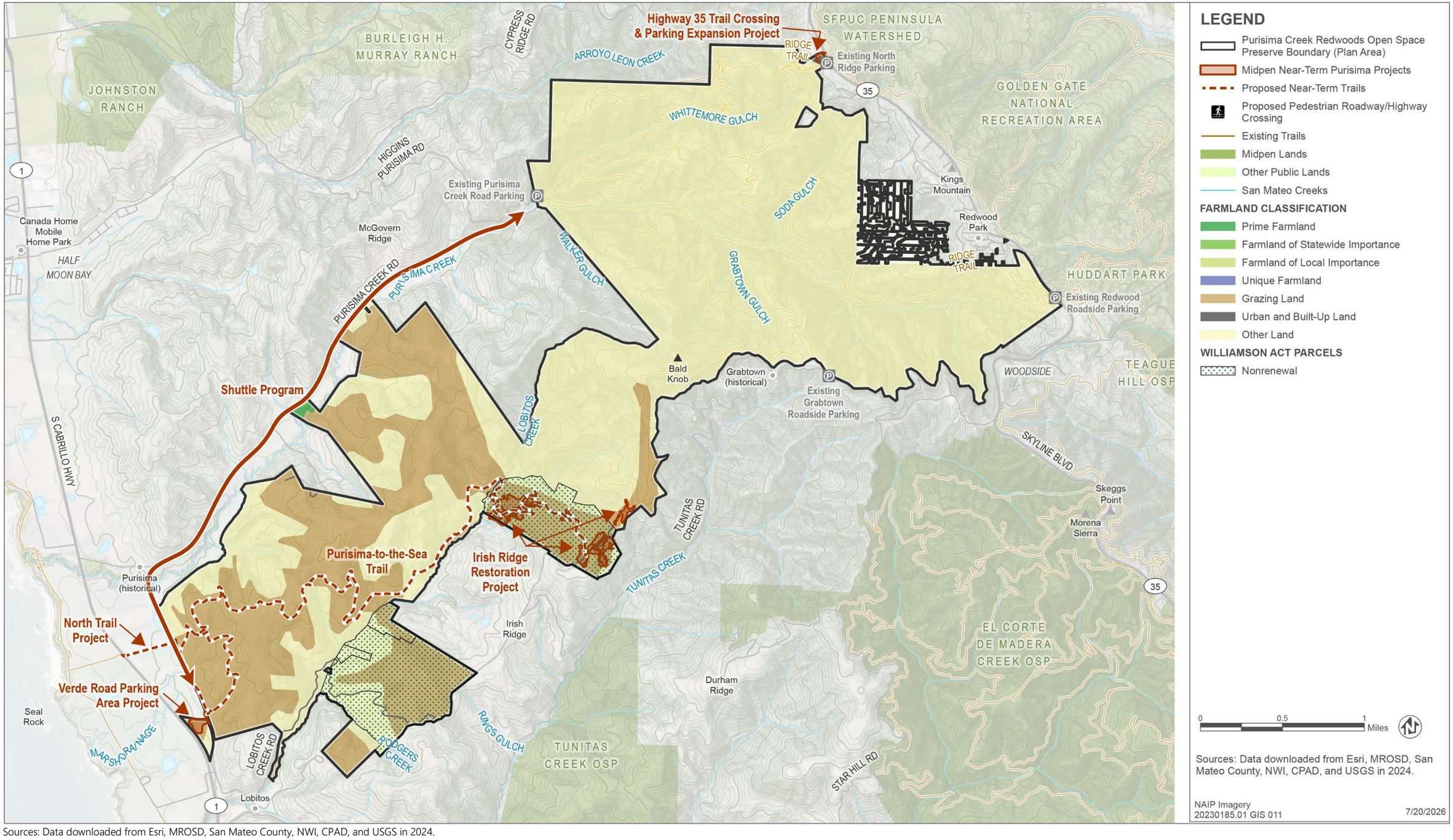
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No impact. The area of the Preserve west of Irish Ridge is zoned as Planned Agriculture District/Coastal Development District, including the project sites for the Verde Road Parking Area, Purisima-to-the-Sea Trail, and portions of the Irish Ridge Habitat Restorations projects. No parcels with active Williamson Act Contracts are present within the Preserve. Small portions of the southeastern Preserve, including the Irish Ridge Restoration Project area, overlap with lands shown by DOC as being in Williamson Act non-renewal status. However, the proposed near-term projects would not introduce activities that conflict with or impair agricultural operations on Williamson Act contracts. The proposed near-term projects would therefore have **no impact** related to conflicts with existing zoning for agricultural use or a Williamson Act Contract.

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

Less than significant. Although the Preserve contains forested habitat and includes areas zoned TPZ (Timberland Preserve Zone), the proposed near-term projects do not involve timber harvesting, would not alter allowable uses within TPZ designated- areas, and would not require any rezoning. All proposed near-term projects are compatible with the existing zoning framework, which allows for park, open-space, and recreational uses.

Historic logging occurred in the early 1900s. The current forest is second-growth redwood and is managed for conservation and recreation rather than timber production. The proposed near-term projects would not conflict with zoning for forest land or timberland, nor would it result in the conversion or rezoning of Timberland Production lands. This impact would be **less than significant**.



Sources: Data downloaded from Esri, MROSD, San Mateo County, NWI, CPAD, and USGS in 2024.

Figure 3.2-1 Farmland and Williamson Act Contract Lands within the Preserve

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

Less than significant. The proposed near-term projects are primarily located within previously disturbed or managed areas of the Preserve and would not convert substantial areas of forest land to non-forest use. Tree removal associated with the near-term projects would occur both to accommodate the proposed recreational facility improvements and to support habitat restoration and vegetation management objectives intended to improve ecological conditions and wildfire resilience.

The Highway 35 Parking Project would require the removal of up to 26 trees within the project area. Removal of 20 trees would be required to construct the Spur Trail, expand the parking area, and improve line-of-sight for motorists. An additional eight trees may require removal depending on final design and field conditions; however, Midpen would seek to retain these trees where feasible through design refinements and field fitting of the Spur Trail. The Verde Road Parking Area Project would remove up to 43 non-locally native Monterey pines ranging from approximately 10 to 36 inches DBH. Specifically, approximately 22 trees would be removed to construct the ADA-accessible pathway and facilitate replacement with locally native vegetation, eight trees would be removed to accommodate the bioretention area and nature education area, and 13 trees would be removed and replaced with locally native vegetation as part of site restoration efforts, and to reduce wildfire risk consistent with Midpen's wildland fire policies. This level of tree removal represents a very small proportion of the Preserve's approximately 5,412 acres of mostly forested land and would be offset through replanting, restoration, and the Irish Ridge Restoration Project. At the Verde Road Parking Area Project site, native landscaping and habitat restoration would be implemented around the parking perimeter, including strategic planting of locally native Coast Live Oaks, native shrubs, and native grasses to provide visual screening, enhance ecological function, restore the natural vegetative character of the surrounding area, and integrate the parking area into the surrounding landscape. At the Highway 35 Parking Project area, new landscaping with locally native shrubs and plant species, such as toyon and blueblossom, would be installed along the western perimeter and throughout the parking lot to provide visual and noise buffering and stabilize adjacent slopes.

While the Preserve contains extensive second-growth redwood, mixed evergreen forest, and riparian woodland, portions of the Preserve (such as the Irish Ridge Restoration Project area) are infested by non-native or non-local invasive plants that provide low-quality habitat and increase potential fire severity. These species are expanding into adjacent areas. Portions of the site that remain as locally native plant communities feature excessive woody debris that could serve as fuel ladders, thereby increasing the risk of high-intensity wildfire. Midpen intends to remove the invasive plants, restore natural communities that are both more fire and climate resilient, and thin some of the woody debris as a part of the Irish Ridge Restoration Project. The proposed Irish Ridge Restoration Project restoration activities, including removal of invasive plants, restoration of more fire- and climate-resilient native communities, and selective thinning of woody debris, would improve forest health and reduce wildfire risk. These actions would not convert forest land to non-forest uses; rather, they would enhance the long-term ecological integrity of forested areas. For the reasons described above, the near-term projects would not result in a loss of forest land nor conversion of forest land to non-forest use and the impact would be **less than significant**.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No impact. The near-term projects would allow all existing agricultural uses, including grazing operations, to continue and keep these conditions status quo. The introduction of passive recreation within grazing lands is deemed a compatible use that allows grazing operations to continue. Educational signage and the use of pasture fencing with self-closing gates will support responsible recreation and prevent potential impacts to grazing operations. Similarly, extending new trails for multi-use recreation within forested land is deemed a compatible use that retains the underlying forested nature of the forested landscape. Implementation of the near-term projects would not involve changes to the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, and **no impact** would occur.

3.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.				
Are significance criteria established by the applicable air district available to rely on for significance determinations?	☒ Yes		☐ No	
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

The Preserve is located within the San Francisco Bay Area Air Basin (SFBAAB) and is under the jurisdiction of the Bay Area Air District (formerly the Bay Area Air Quality Management District or BAAQMD). This analysis reflects the current understanding of the attainment standards for air quality and relies upon the most recent National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These standards are summarized in Table 3.3-1. Areas that meet the NAAQS/CAAQS for those pollutants are called attainment areas, and those that do not meet the NAAQS/CAAQS are called nonattainment areas. As shown in Table 3.3-2 below, San Mateo County is in nonattainment for the 8-hour ozone standard and is thus subject to enforcement of the 1-hour standard. San Mateo County is also in nonattainment for the $PM_{2.5}$ NAAQS and CAAQS (Table 3.3-2).

Table 3.3-1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California (CAAQS)[a,b]	National (NAAQS)[c]	
			Primary[b,d]	Secondary[b,e]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	—	Same as primary standard
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as primary standard
	8-hour	9 ppm[f] (10 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	—
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	—	—
	3-hour	—	—	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	—	Same as primary standard
	24-hour	50 µg/m^3	150 µg/m^3	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	9.0 µg/m^3	15.0 µg/m^3
	24-hour	—	35 µg/m^3	Same as primary standard
Lead [f]	Calendar quarter	—	1.5 µg/m^3	Same as primary standard
	30-Day average	1.5 µg/m^3	—	—
	Rolling 3-Month Average	–	0.15 µg/m^3	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	No national standards	
Sulfates	24-hour	25 µg/m^3		
Vinyl chloride [f]	24-hour	0.01 ppm (26 µg/m^3)		
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Notes: µg/m^3 = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million.

[a] California standards for ozone, carbon monoxide, SO_2 (1- and 24-hour), NO_2, particulate matter, 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.

[b] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°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.

[c] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. The $PM_{2.5}$ 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 US Environmental Protection Agency for further clarification and current federal policies.

[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[e] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold 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.

Source: CARB 2024.

Table 3.3-2 Attainment Status Designations for San Mateo County

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Ozone	Attainment (1-hour)[1]	Nonattainment (Transitional)
	Nonattainment (8-hour)[2] Classification=Marginal	
	Nonattainment (8-hour)[3] Classification=Marginal	
Respirable particulate matter (PM_{10})	Attainment	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Nonattainment - Moderate	Nonattainment
Carbon monoxide (CO)	Attainment	Attainment
Nitrogen dioxide (NO_2)	Unclassified/Attainment	Attainment
Sulfur dioxide (SO_2)	Attainment	Attainment
Lead (Particulate)	Attainment	Attainment
Hydrogen Sulfide	—	Unclassified/Attainment
Sulfates	No Federal Standard	Attainment
Visibly Reducing Particles	—	Unclassified/Attainment
Vinyl Chloride	—	Unclassified/Attainment

[1] Air Quality meets federal 1-hour Ozone standard (77 FR 64036). EPA revoked this standard, but some associated requirements still apply.

[2] 2008 standard

[3] 2015 standard.

Source: CARB 2023, EPA 2025.

SENSITIVE RECEPTORS

The Bay Area Air District generally defines a sensitive receptor as a facility or land use that houses or attracts members of the population who are particularly sensitive to the effects of air pollutants. This includes children, the elderly, and people with illnesses. Examples of sensitive receptors include residences, schools, medical facilities, daycare centers, parks, and playgrounds. The only potential sensitive receptors near the Preserve are residences; the nearest sensitive receptors to proposed construction activities are an employee residence approximately 274 feet west of the Highway 35 Parking Project and a residence approximately 400 feet southeast of the North Trail Project.

THRESHOLDS OF SIGNFICANCE

On April 20, 2022, the Bay Area Air District updated its CEQA Guidelines (Bay Area Air District 2022 CEQA Guidelines) establishing new methodologies, protocols, and thresholds of significance for climate impacts; however, this update did not include any updates to air quality thresholds. Air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. Thus, NAAQS and CAAQS are health-based standards.

According to the Bay Area Air District 2022 CEQA Guidelines, a project would have a significant impact related to air quality if it would (BAAD 2023)

- cause construction-generated criteria air pollutant or precursor emissions to exceed an average 54 pounds per day (lb/day) of reactive organic gases (ROG) and nitrogen oxides (NO_X), 82 lb/day for respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less (PM_{10}) exhaust and 54 lb/day for fine particulate matter with an aerodynamic resistance diameter of 10 micrometers or less ($PM_{2.5}$), or substantially contribute to emissions concentrations (e.g., PM_{10}, $PM_{2.5}$) that exceed the applicable NAAQS or CAAQS;

- result in a net increase in long-term operational criteria air pollutant or precursor emissions that exceed and average 54 lb/day or 10 tons per year (tpy) of ROG and NO_X, 82 lb/day or 15 tpy for PM_{10} exhaust, and 54 lb/day or 10 tpy for $PM_{2.5}$ exhaust, or substantially contribute to emissions concentrations (e.g., PM_{10}, $PM_{2.5}$) that exceed the applicable NAAQS or CAAQS;
- not implement the Bay Area Air District's Basic Construction Mitigation Measures for dust emissions (e.g., PM_{10} and $PM_{2.5}$);
- result in long-term operational local mobile-source carbon monoxide (CO) emissions that would violate or contribute substantially to concentrations that exceed the 1-hour CAAQS of 20 parts per million (ppm) or the 8-hour CAAQS of 9 ppm;
- result in an incremental increase in cancer risk (i.e., the risk of contracting cancer) greater than 10 in one million at any off-site receptor and/or a noncarcinogenic hazard index of 1.0 or greater; or
- result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Projects which generate air pollution emissions below the thresholds and meet the identified standards listed above would have a less than significant impact related to air quality, according to the Bay Area Air District.

3.3.2 Discussion

Would the project:

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

Less than significant. The Bay Area Air District's most recently adopted plan is the 2017 Clean Air Plan, which is the applicable air quality plan for the near-term projects. Large projects that exceed regional employment, population, and housing planning projections have the potential to be inconsistent with the regional emissions inventory compiled as part of Bay Area Air District's 2017 Clean Air Plan. Projects that involve major new transit lines, highway expansions, large-scale roadway improvements, and land use development that could significantly affect transportation patterns within the region would require an Intergovernmental Review by Metropolitan Transportation Commission (MTC). As discussed in Section 3.17, "Transportation," the near-term projects would not result in increases in housing, employment, or extra-regional visitor trips to the Preserve that would generate a significant increase in vehicle miles travelled (VMT) in the region. Further, as identified in Section 3.11, "Land Use and Planning," the San Mateo County General Plan designates the Preserve as Open Space, Public Recreation, and Timber Production, which allow for resource management, recreation, and agricultural uses. The Preserve is zoned RM, RM-CZ/CD, TPZ, TPZ-CZ/CD, and PAD/CD. These zoning designations provide for park, open space, recreation, resource management, and agriculture uses. The near-term projects are consistent with the zoning designations. Thus, the near-term projects would not exceed the level of growth foreseen in the General Plan or regional air quality planning efforts or have the potential to substantially affect housing, employment, and population projections within the region, which inform the air quality projections and emissions reduction strategy of 2017 Clean Air Plan. In addition, the near-term projects involve the development of expanded trails and parking areas, new trailheads, and trail connections, and include the construction of enhanced shuttle, pedestrian, and bicycle supportive facilities; none of these would conflict with the Clean Air Plan. Therefore, this impact would be **less than significant**.

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

Less than significant. Construction and operational emissions as a result of the near-term projects are described in detail below.

Construction

Construction activities related to the near-term projects could commence as early as Spring 2027 and are anticipated to conclude in 2030. As a conservative estimate overall project construction was assumed to last a total of 24 months across three calendar years. This assumption is conservative because shortening a construction schedule's duration while the amount of proposed construction activity remains the same increases the quantity of emissions that are generated each day that construction occurs.

Construction activities associated with the near-term projects would result in emissions of ROG, NO_X, PM_{10} (respirable particulate matter), and $PM_{2.5}$ (fine particulate matter) from construction activities, including demolition, grading, construction of vertical structures, painting (architectural coatings), paving, and construction worker commute trips. Construction emissions were estimated using a combination of project-specific information (e.g., approximations of overall construction schedule, construction crew sizes, excavation and hauling quantities, land use size, and equipment types) and California Emissions Estimator Model (CalEEMod) Version 2022.1.1.35 default values for model inputs such as worker trips, heavy-duty equipment numbers, and construction phasing were used.

Of the six proposed near-term projects, two were not included in the estimation of construction emissions. First, the Purisima Multimodal Access Implementation Project focuses on implementing Transportation Demand Management (TDM) concepts, such as coordinating shuttle services and updating parking information, and implementing minor capital improvement projects. Minor construction activities would be conducted to implement cellular infrastructure, a new automatic gate at the Purisima Creek Trailhead and ADA-accessible landing pads, benches with shelters, and signage for the Purisima Creek Trailhead. These activities would primarily be accomplished with hand tools with relatively small construction crews in light– to medium-duty vehicles such as pickup trucks. Installation of the cellular infrastructure could require the use of an auger, boom lift, and a few construction materials delivery trucks. However, active construction would last no more than 5 working days. Given the short-term and light intensity of construction activities related to implementation of the Purisima Multimodal Access Implementation project, emissions associated with the construction phase of the Purisima Multimodal Access Implementation Project would be negligible and would represent a small fraction of the near-term projects' overall construction emissions. Second, the Irish Ridge Restoration Project would involve vegetation management and maintenance activities over a 5-year period, or until restoration objectives have been achieved. Project maintenance would be required to ensure effectiveness of restoration treatments. Thus, the Irish Ridge Restoration Project would not have a distinction between a construction or operational phase of the project. Given the types of activities proposed in implementing the Irish Ridge Restoration Project (e.g., vegetation treatment, monitoring and reporting, maintenance activities in the form of weeding and irrigation, and seasonal land clearing and management activities), these emissions are addressed in the discussion of operational emissions, below.

According to the Bay Area Air District's 2022 CEQA Guidelines, for a project to have a less-than-significant criteria air pollutant impact related to construction-related fugitive dust emissions, it must implement all Air District basic best management practices (BMPs) listed in Table 5-2 of the Bay Area Air District 2022 CEQA Guidelines. As described in Chapter 2, "Project Description," all proposed construction activities would comply with the Bay Area Air District's BMPs to minimize dust PM emissions. In addition to compliance with the Bay Area Air District's dust BMPs, all construction activities associated with the near-term projects that occur within the Coastal Zone would be required to adhere to the Coastal Service Plan's Implementation Action G.6J(i) to reduce fugitive dust emissions. The reduction measures contained within Implementation Action G.6j(i) are very similar to the most current Bay Area Air District basic dust BMPs, as both sets of measures avoid construction dust emissions through onsite dust control mechanisms such as watering active construction areas at least twice daily and more often during windy periods; covering all trucks hauling soil, sand and other loose materials; paving or watering all unpaved access roads, parking areas and staging areas for construction sites; sweeping all paved access roads, parking areas and staging areas daily; suspending excavation and grading activity during periods of high wind; and limiting traffic speeds on unpaved roads. Given the similarities in type and application of measures within Implementation Action G.6j(i) and Bay Area Air Districts dust BMPs, the two sets of measures, applied as applicable based on the location of the construction activity, would result in similar reductions in dust PM emissions.

Table 3.3-3 provides a summary of average daily emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the near-term projects (without the Purisima Multimodal Access Implementation Project and the Irish Ridge Restoration Project for the reasons described above).

Table 3.3-3 Average Daily Emissions from Project Construction

Year[1]	ROG (lbs/day)	NO_X (lbs/day)	PM_{10} Exhaust (lbs/day)	$PM_{2.5}$ Exhaust (lbs/day)
2027	1	8	<1	<1
2028	2	13	<1	<1
2029	0	1	<1	<1
Maximum	**2**	**13**	**<1**	**<1**
Bay Area Air District Thresholds	**54**	**54**	**82**	**54**
Exceeds Bay Area Air District Thresholds?	No	No	No	No

Notes: lbs/day = pounds per day, ROG = reactive organic gasses, NOx = nitrogen oxides, PM_{10} = respirable particulate matter, $PM_{2.5}$ = fine particulate matter.

[1] Construction was conservatively assumed to last a total of 24 months across three calendar years

Source: Modeled by Ascent in 2025.

As indicated in Table 3.3-3, estimated construction emissions would not exceed the Bay Area Air District significance thresholds. See Appendix B for detailed modeling calculations.

Operations

Criteria pollutant emissions related to visitor use and operations/maintenance of the proposed near-term projects would primarily occur from passenger vehicles trips visiting the Preserve. Other emissions sources include equipment and vehicles used for trail maintenance activities and as part of the implementation of the Irish Ridge Restoration Project.

The *California Air Pollution Control Officers Association* (CAPCOA) *Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (Handbook) quantifies VMT reductions associated with specific transportation measures. The implementation of a shuttle service could encourage more people to use transit, resulting in less VMT associated with people driving to other trailheads at the Preserve. Although the CAPCOA Handbook does not quantify VMT reductions associated with providing local shuttle service, it does identify that such service could result in VMT reductions (CAPCOA 2021: Table 3-1). Therefore, given that potential VMT reductions would be speculative, VMT reductions and associated mobile-source emissions reductions related to the proposed shuttle service were not quantified.

Regarding operational emissions related to implementation of the Irish Ridge Restoration Project, emissions would result from crew vehicle trips and equipment use. Crew sizes would vary depending on the specific activity being performed. Vegetation removal may require up to 20 crew members to efficiently clear and manage the designated areas. Planting activities are expected to involve approximately 10 crew members, while pile burning operations would be conducted by teams ranging from five to 10 individuals, depending on site conditions and safety requirements. Therefore, the greatest number of trips that would occur on any given day during implementation of the Irish Ridge Restoration Project would be 40 vehicle trips (20 workers each making a two-way trip to and from the project site). In addition, some heavy equipment such as dozers, excavators, woodchippers, and masticators would be used in addition to the use of hand tools during implementation of the Irish Ridge Restoration Project. As described in Chapter 2, "Project Description," activities involving heavy equipment for the Irish Ridge Restoration Project would be carried out during standard seasonal windows outside of bird nesting season (September 1 through the onset of winter rains) over a 3-year period. Thus, heavy equipment use would occur over a relatively short period of time throughout each year (approximately 3-4 months/year). Furthermore, given that the combined emissions of the construction phases of the near-term projects shown in Table 3.3-3 would be far below the Bay Area Air District's thresholds, the emissions from implementation of the Irish Ridge Restoration Project, which proposes limited heavy-equipment use distributed over a 3-year period, would be negligible. For these reasons, activities related to implementation of the Irish Ridge Restoration Project would not be expected to generate substantial air pollutant emissions.

Mobile source emissions would also be generated by workers accessing the Preserve to conduct routine maintenance activities and as part of the near-term projects. Routine maintenance would involve small trail crews performing activities that could include trash and debris removal, vault restroom servicing, weed and dust control, path clearing, vegetation trimming, sign maintenance, servicing restrooms, and other regular maintenance activities. Trail maintenance crews would likely access various parts of the Preserve using methods such as walking, biking, all-terrain vehicles, utility task vehicles, or light-duty trucks, depending on location. Due to the use of small crews, light equipment, light-duty vehicles, and that these types of activities already occur throughout the Preserve, criteria pollutant emissions from routine maintenance activities are not expected to generate substantial air pollutant emissions.

Regarding operational mobile-source emissions from visitors to the Preserve, as discussed in Section 3.17, "Transportation," the proposed near-term projects would mostly involve the expansion and/or enhancement of facilities which already exist within the Preserve and it is thus reasonable to assume that the proposed near-term projects would not be an extra-regional attraction (i.e., an event or location which attracts a considerable number of visitors from outside of the region where the attraction is located [for example, a national park or large festival]) that would generate substantial new trips from other parts of the state. In addition, the project would not substantially increase VMT compared to existing conditions, as the Preserve's location is fixed and it provides open space access for users who would otherwise be traveling to other similar locations. Because the project would not substantially increase VMT relative to existing conditions, it is likely that mobile-source emissions would similarly not substantially increase compared to existing conditions.

Furthermore, as part of the Purisima Multimodal Access Implementation Project, Midpen would implement a pilot shuttle service connecting the proposed Verde Road parking area to the Purisima Creek Trailhead that would operate at varying levels of service throughout the year (see Table 2-5 for Maximum Shuttle Service Frequency by Season and Time of Day). The *California Air Pollution Control Officers Association Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (Handbook) quantifies VMT reductions associated with specific transportation measures. Providing increased transit service reduces waiting and overall travel times which can result in mode shift from single occupancy vehicles to transit and reduces VMT (CAPCOA 2021: 187). The CAPCOA Handbook identifies that increased transit service frequency can incentivize more people to use transit, result in less traffic, and reduce VMT by approximately 11 percent (CAPCOA 2021: 187).

Lastly, as discussed under criterion a above, the near-term projects would not result in increases in housing, employment, or extra-regional visitor trips to the Preserve that would generate a significant increase in VMT in the region. The project would also not exceed the level of growth foreseen in the General Plan or regional air quality planning efforts or have the potential to substantially affect housing, employment, and population projections within the region, which inform the air quality projections and emissions reduction strategy of 2017 Clean Air Plan.

Summary

The estimated construction emissions provided in Table 3.3-3 would not exceed the Bay Area Air District's construction thresholds and Midpen would implement the Bay Area Air District's dust BMPs by-design. Therefore, construction emissions would not result in a cumulatively considerable net increase of any criteria pollutants.

Mobile source emissions related to visitors to the Preserve, operations/maintenance crews, and implementation of the Irish Ridge Restoration Project would not exceed Bay Area Air District operational thresholds given the relatively few worker trips associated with these activities that would occur on a daily basis. Also, the near-term projects would be consistent with the San Mateo County General Plan's housing, employment, and population projections which inform the air quality projections and emissions reduction strategy of 2017 Clean Air Plan. Because the Bay Area Air District's numerical thresholds were developed to attain and maintain the NAAQS and CAAQS, which are themselves scientifically substantiated to be protective of human health, the project's non-exceedance of these thresholds indicates that the project would not generate air pollutant emissions that would result in adverse health outcomes. For these reasons, this impact would be **less than significant**.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant. This analysis focuses specifically on the potential for sensitive receptors to be exposed to project-generated toxic air contaminates (TACs). This is because sensitive receptors (e.g., children, elderly, asthmatics, and others whose are at a heightened risk of negative health outcomes due to exposure to air pollution) are the population at the greatest risk of experiencing negative health effects related to exposure to these pollutants, which themselves are considered to pose the highest risk to human health among air pollutants. TACs from diesel PM are of particular importance because the potential cancer risk from inhalation of diesel PM outweighs the risk for all other health impacts (i.e., noncancer chronic risk, short-term acute risk) and health impacts from other TACs (CARB 2022). Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations and the project would not include any industrial sources. Therefore, construction-related TACs from the combustion of diesel fuel used to operate heavy equipment and on-road trucks are the primary focus of this analysis. The sensitive receptors nearest to the proposed construction activities are an employee residence approximately 274 feet west of the Highway 35 Parking Project and a residence approximately 400 feet southeast of the North Trail Project.

Residential receptors are typically of primary concern when discussing TAC exposure, as they would generally be exposed to project-generated TACs for extended periods of time. Construction activities would occur intermittently over an approximately 3-year construction period. As described above, construction could commence as early as Spring 2027 and conclude in 2030. However, it is conservatively assumed that overall project construction would last 24 months, as a condensed construction schedule provides a conservative estimate of the quantity of emissions that would be generated on each day of construction. Thus, construction-related activities would result in temporary, intermittent emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, clearing, grading); paving; on-road truck travel; and other miscellaneous activities. On-road diesel-powered haul trucks traveling to and from the construction areas to deliver materials and equipment are less of a concern because they would not stay on the site for long periods of time and would thus not expose any one receptor to TACs for a prolonged period.

During this period, construction activities (and their associated emissions) related to each of the proposed near-term projects have the potential to overlap where near-term projects are in nearby proximity to one another. However, none of the sensitive receptors identified above are located near points where near-term project construction may overlap. With regards to exposure of diesel PM, the dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher level of health risk for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period. According to guidance from the California Office of Environmental Health Hazard Assessment's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, a 30-year exposure duration is used for estimating cancer risk at residential land uses (OEHHA 2015). Given that the use of heavy-duty off-road diesel equipment would be limited to an overall construction phase duration of up to 4 construction seasons, and construction activities would not occur in a single location for an extended period of time (i.e., would move around a project site or trail alignment), receptors would not be exposed to TAC emissions for any extended period of time. In addition, the use of diesel equipment would primarily occur during demolition, clearing, and grading activities occurring at each near-term project site and not throughout the entire construction period.

Therefore, considering the highly dispersive properties of diesel PM, the relatively low mass of diesel PM emissions that would be generated during project construction, the relatively short period during which diesel PM-emitting construction activity would take place in the same location near the same receptors, construction-related TACs would not expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in one million or a hazard index of 1.0 or greater.

Thus, given the temporary and intermittent nature of construction activities in the Preserve (compared to a 30-year exposure duration) and the expected low intensity of construction activities due to the land use type and size, the dose of diesel PM at any one receptor would be limited. There are no operational sources of TACs (e.g., stationary

sources such as refineries or diesel generators, or uses associated with high volumes of truck activity such as shipping centers) proposed as part of the near-term projects and there would not be the potential for the exposure of receptors to substantial operational TAC concentrations. Therefore, the impacts related to the exposure of sensitive receptors to high concentrations of TACs would be **less than significant**.

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

Less than significant. None of the proposed near-term projects involve the operation of any of the common types of facilities known to produce odors (e.g., landfills, wastewater treatments plants). Odors could occur during construction of the near-term projects associated with diesel exhaust emissions from the use of construction equipment, which may be noticeable occasionally by nearby receptors. However, odors would be intermittent, temporary, and would dissipate rapidly from the source with an increase in distance as construction activities progress. Application of architectural coatings and asphalt would also be a source of offensive odors from volatile organic compounds (VOCs). However, the near-term projects would be required to comply with Bay Area Air District Regulation 8, Rule 3, Architectural Coatings, and Rule 15, Emulsified Asphalt, which establish VOC content limits for these construction materials. VOCs are the main sources of odors from these sources. Further, as required by 13 CCR Section 2449(d)(3), no off-road diesel vehicles may idle for more than 5 consecutive minutes. Therefore, it is not expected that any substantial odors would be produced during construction and substantial numbers of people would not be adversely affected.

With respect to operational odors, the Bay Area Air District's CEQA Guidelines identifies land uses associated with odor complaints to include, but not limited to, wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants. The near-term projects would include operation of parking lots, road crossings, and recreational trails, none of which are associated with generating nuisance odors during operations. Therefore, the project would not generate objectionable odors affecting a substantial number of people, and impacts would be **less than significant.**

3.4 BIOLOGICAL RESOURCES

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

3.4.1 Environmental Setting

VEGETATION AND LAND COVER

Vegetation and land cover mapping for the Preserve was derived using the Vegetation – San Mateo County Dataset. The vegetation dataset is the result of the San Mateo Fine Scale Veg Map project, a collaborative effort of a consortium of funders including Midpen, to produce fine-scale mapping of vegetation and land cover in San Mateo County. Mapping includes both fine-scale vegetation alliances and more general lifeform mapping, as well as LiDAR-derived information about stand height, canopy cover, and forest health (Golden Gate National Parks Conservancy 2022). Table 3.4-1 below provides the general land cover by near-term project based on lifeform mapping, and finer-scale details regarding vegetation communities are included in the individual descriptions below Table 3.4-1. Linear

projects (e.g., Purisima-to-the-Sea Trail) were buffered by 50 feet to provide an impression of surrounding vegetation, and the land cover identified may not be directly impacted by project activities (e.g., the North Trail Project would occur along existing ranch road easements, and would not remove surrounding cropland); however, species associated with these land cover types may be indirectly impacted (e.g., noise disturbance). In cases where overlap occurred between near-term projects, acreage was assigned to the non-linear project (i.e., when the 50-foot buffer for the Purisima-to-the-Sea Trail Project overlapped the Irish Ridge Restoration Project, those acres were included as part of the Irish Ridge Restoration Project). The Purisima Multimodal Access Implementation Project would not include the conversion of existing land cover and was not included in acreage calculations.

Table 3.4-1 Vegetation and Land Cover Types for Near-Term Projects[1]

Land Cover Types by Project	Total Acreage
Highway 35 Parking Project	
Conifer Forest	1.3
Developed	1.5
Evergreen Hardwood Forest	0.1
Major Road	0.2
Highway 35 Parking Project Total	**3.1**
Purisima-to-the-Sea Trail (Improve Existing Road/Trail)	
Herbaceous	6.7
Riparian Forest	3.0
Shrub	17.9
Purisima-to-the-Sea Trail Project (Improve Existing Road/Trail) Total	**27.6**
Purisima-to-the-Sea Trail (New Trail)	
Conifer Forest	6.1
Developed	0.2
Herbaceous	15.9
Nonnative Forest	4.1
Riparian Forest	2.8
Shrub	27.8
Purisima-to-the-Sea Trail Project (New Trail) Total	**56.9**
Verde Road Parking Project	
Herbaceous	4.0
Nonnative Forest	0.4
Verde Road Parking Project Total	**4.4**
North Trail Project (New Trail)	
Annual Cropland	1.5
Developed	0.4
Herbaceous	1.8
Major Road	0.1
North Trail Project (New Trail) Total	**3.8**

Land Cover Types by Project	Total Acreage
Irish Ridge Restoration Project	
Conifer Forest	3.9
Evergreen Hardwood Forest	0.4
Herbaceous	0.1
Non-native Forest	19.3
Riparian Forest	<0.1
Shrub	7.0
Irish Ridge Restoration Project Total	**30.7**
Total	**126.4**

[1] The Purisima Multimodal Access Implementation Project occurs along existing roadways and a previously disturbed parking area and does not include the potential conversion of land cover types and is not included in the vegetation and land cover description.

Notes: Totals may not sum exactly due to independent rounding.

Source: Downloaded from CDFW in 2026; adapted by Ascent in 2026.

Developed/Major Road

Developed/Major Road land cover types are defined as human-made developed areas greater than 0.2 acres, and major roads (e.g., Skyline Boulevard, existing paved parking at the Purisima Creek North Ridge Trailhead). Developed areas and major roads are less likely to provide habitat suitable for plant and wildlife species; however, plants and animals tolerant of disturbance may use microhabitats within or along the margins of developed land cover, such as ditches or ornamental trees.

Agricultural

Agricultural land cover types in the near-term project areas consist of annual cropland, specifically defined as an area of irrigated annual cropland., which may include scrub land cover and ranch roads in place of active cropland. Approximately 1.5 acres of annual cropland are present within the North Trail Project (Table 3.4-1), where the new trail would be constructed between Verde Road and Highway 1. Annual cropland is unlikely to provide habitat suitable for special-status plants but may provide foraging habitat suitable for special-status birds and invertebrates (e.g., Bryant's savannah sparrow [*Passerculus sandwichensis alaudinus*], Crotch's bumble bee [*Bombus crotchii*]), or habitat suitable for burrowing species (e.g., American badger [*Taxidea taxus*]).

Conifer and Evergreen Hardwood Forests

Native forest vegetation types in the project area include conifer and evergreen hardwood forest. Forest land cover is defined as areas where trees are at least 10 percent absolute cover and further defined by fine scale map class (conifer or evergreen hardwood). Specific conifer forest species present in the project area include Douglas fir (*Pseudotsuga menziesii*) and coast redwood (*Sequoia sempervirens*). Specific evergreen hardwood forest species present in the project area include coast live oak (*Quercus agrifolia*) and tanoak (*Notholithocarpus densiflorus*). Native forest vegetation may provide habitat suitable for a wide variety of special-status plant and wildlife species including marbled murrelet (*Brachyramphus marmoratus*), as well as common nesting birds.

Riparian Forest

Riparian Forest vegetation types are areas where obligate riparian trees comprise greater than 50 percent of the relative tree cover. Specific riparian forest species present in project areas include bigleaf maple (*Acer macrophyllum*) and Arroyo willow (*Salix lasiolepis*), and this vegetation types occurs along the Purisima-to-the-Sea Trail Project and within the Irish Ridge Restoration Project. Riparian forest provides habitat for a wide variety of special-status plants, special-status wildlife species, and common species, and is often considered a sensitive natural community depending on the vegetation alliances and associations present.

Nonnative Forest

Nonnative Forest vegetation types are defined as areas where ornamental nonnative species (e.g., eucalyptus [*Eucalyptus* spp.]) comprise greater than 50 of the relative tree cover. Approximately 19 acres of nonnative forest is present in the Irish Ridge Restoration Project, with smaller amounts present in the vicinities of the Purisima-to-the-Sea Trail Project and Verde Road Parking Area Project. Specific nonnative forest types in project areas include Australian blackwood (*Acacia melanoxylon*), eucalyptus species, and Monterey pine (*Pinus radiata*) plantations. Nonnative forests may provide many of the same resources as native forests, including nesting locations for special-status and native nesting birds and roosting bat species.

Herbaceous

Herbaceous vegetation types are defined as areas where herbaceous vegetation is at least 10 percent absolute cover, and absolute tree and shrub cover is less than 10 percent. Herbaceous land cover includes both annual and perennial grasslands, including native grasslands and those used for grazing along the Purisima-to-the-Sea Trail Project. Herbaceous vegetation in and near the vicinity of project areas is likely to be anthropogenically disturbed by both human and livestock but may provide high-quality habitat in areas more isolated from disturbances, supporting rare plant species, wildlife, and overall biodiversity.

Shrub

Shrub vegetation types are defined as areas where native woody shrubs are at least 10 percent absolute cover, and absolute tree cover is less than 10 percent. In the project area, shrub vegetation is present within the Irish Ridge Restoration Project and along the Purisima-to-the-Sea trail Project, and the predominant species is coyote brush (*Baccharis pilularis*). Shrub vegetation is important for many special-status plant and wildlife species, as well as common nesting birds.

Aquatic Resources

In addition to the above land cover types, the Purisima-to-the-Sea Trail project area includes and is adjacent to Lobitos Creek, a freshwater forested/shrub wetland (NWI 2026), and its tributaries. The project area also includes irrigation, drainages, and ditches, which may be considered waters of the state.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive Natural Communities

Sensitive natural communities are of limited distribution statewide or within a county or region that provide important habitat to native species and include many communities within the Preserve (Midpen 2021a). Sensitive natural communities may be present within the Irish Ridge Restoration Project and, depending on final alignment, the Purisima-to-the-Sea Trail Project, and include riparian forest, bigleaf maple–Arroyo willow alliance, the Douglas fir–tanoak/evergreen huckleberry (*Vaccinium ovatum*) association, and the coast redwood and tanoak communities.

Special-Status Species

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

- officially listed by California or the federal government as endangered, threatened, or rare;
- a candidate for state or federal listing;
- taxa (i.e., taxonomic categories or groups) that meet the definitions of rare and endangered under the CEQA; CEQA Guidelines Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists;

- species identified by CDFW as a "species of special concern," which is a term applied by CDFW to animals not listed under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA), but that are declining at a rate that could result in listing or that historically occurred in low numbers and face known threats to their persistence;
- species listed as fully protected under the California Fish and Game Code;
- species afforded protection under local planning documents; and
- plant taxa considered by the CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B. The CRPR system includes five rarity and endangerment ranks for categorizing plant species of concern:
  - CRPR 1A—plants presumed to be extinct in California
  - CRPR 1B—plants that are rare, threatened, or endangered in California and elsewhere
  - CRPR 2—plants that are rare, threatened, or endangered in California but more common elsewhere
  - CRPR 3—plants about which more information is needed (a review list)
  - CRPR 4—plants of limited distribution (a watch list);
- species specifically identified by Midpen that do not otherwise meet one of the above categories.

Special-Status Plants

Appendix C provides a list of special-status plants that have potential to occur in the vicinity of the Preserve based on reported occurrences (CNPS 2025; CNDDB 2025a) and describes their regulatory status, CRPR ranking, habitat associations, and potential for occurrence in the Preserve. A total of 25 special-status plant species were identified as having potential to occur in the Preserve and include:

- bent-flowered fiddleneck (*Amsinckia lunaris*),
- Anderson's manzanita (*Arcostaphylos andersonii*),
- King's Mountain manzanita (*Arctostaphylos regismontana*),
- pappose tarplant (*Centromadia parryi* ssp. *parryi*),
- Franciscan thistle (*Cirsium andrewsii*),
- fountain thistle (*Cirsium prateriens*),
- lost thistle (*Cirsium praeteriens*),
- western leatherwood (*Dirca occidentalis*),
- Hoover's button-celery (*Eryngium aristulatum* var. *hooveri*),
- Jepson's coyote-thistle (*Eryngium jepsonii*),
- minute pocket moss (*Fissidens pauperculus*),
- Central Coast iris *(Iris longipetala),*
- San Mateo tree lupine *(Lupinus arboreus var. eximius),*
- woodland woollythreads (*Monolopia aracilens*),
- Dudley's lousewort (*Pedicularis dudleya*),
- white-flowered rein orchid (*Piperia candida*),
- Choris' popcornflower (*Plagiobothrys chorisianus* var. *chorisianus*),
- Hickman's popcornflower *(Plagiobothrys chorisianus var. hickmanii),*
- Hickman's cinquefoil (*Polemonium carneum*),
- Sanford's arrowhead (*Sagittaria sanfordii*),
- San Francisco campion (*Silene verecunda* ssp. *verecunda*),
- northern slender pondweed (*Stuckenia filiformis* ssp. *alpina*),
- Santa Cruz clover (*Trifolium buckwestiorum*),
- saline clover (*Trifolium hydrophilum*), and
- San Francisco owl's-clover (*Triphysaria floribunda*).

Special-Status Wildlife

Appendix C provides a list of the special-status wildlife species determined to have potential to occur in the vicinity of the Preserve based on existing records (CNDDB 2025a; USFWS 2025) and describes their regulatory status, habitat, and potential for occurrence on the Preserve. Two special-status fish, Coho salmon – central California coast evolutionarily significant unit (ESU) (*Oncorhynchus kisutch* pop. 4) and steelhead – central California coast distinct population segment (DPS) (*Oncorhynchus mykiss irideus* pop. 8) are not expected to occur in any of the near-term project sites but may occur downstream of the Purisima-to-the-Sea Trail Project along Lobitos Creek and could be adversely affected by project activities. Additionally, native birds without special status but protected by the California Fish and Game Code and the federal Migratory Bird Treaty Act (MBTA) may nest in the Preserve. Thirty-one special-status species were identified as having potential to occur in the Preserve:

- Crotch's bumble bee (*Bombus crotchii*),
- monarch butterfly (*Danaus plexiuppus*),
- Coho salmon – central California coast ESU,
- steelhead – central California coast DPS,
- Santa Cruz black salamander (*Aneides niger*),
- California giant salamander (*Dicamptodon ensatus*),
- California red-legged frog (*Rana draytonii*),
- northwestern pond turtle (*Actinemys marmorata*),
- grasshopper sparrow (*Ammodramus savannarum*),
- golden eagle (*Aquila chrysaetos*),
- short-eared owl (*Asio flammeus*),
- long-eared owl (*Asio otus*),
- burrowing owl (*Athene cunicularia*),
- marbled murrelet (*Brachyramphus marmoratus*),
- Vaux's swift (*Chaetura vauxi*),
- northern harrier (*Circus hudsonius*),
- olive-sided flycatcher (*Contopus cooperi*),
- black swift (*Cypseloides niger*),
- white-tailed kite (*Elanus leucurus*),
- saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*),
- bald eagle (*Haliaeetus leucocephalus*),
- yellow-breasted chat (*Icteria virens*),
- loggerhead shrike (*Lanius ludovicianus*),
- Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*),
- yellow warbler (*Setophaga petechia*),
- pallid bat (*Antrozous pallidus*),
- northern California ringtail (*Bassariscus astutus raptor*),
- Townsend's big-eared bat (*Corynorhinus townsendii*),
- western red bat (*Lasiurus frantzii*),
- mountain lion (*Puma concolor*), and
- American badger (*Taxidea taxus*).

Critical Habitat

Critical habitat is defined in ESA as specific geographic areas that contain features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that may be needed for its recovery. A critical habitat designation only applies to activities performed by federal agencies or that involve a federal permit, license, or funding. If a federal agency's action may affect critical habitat, consultation with US Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) is required. The Purisima-to-the-Sea Trail project area includes or is adjacent to Lobitos Creek, which is designated as critical habitat for the Central California coast (ESU) of steelhead (*Oncorhynchus mykiss*).

Wildlife Nursery Sites

Nursery sites are locations where fish or wildlife concentrate for hatching and/or raising young, such as nesting rookeries for birds (e.g., herons, egrets), spawning areas for native fish, fawning areas for mule deer (Odocoileus hemionus), and maternal roosts for bats. Trees in the project area may provide roosting habitat potentially suitable for special-status bats (e.g., pallid bat, western red bat) or common bat species (e.g., big brown bat [Eptesicus fuscus], silver-haired bat [*Lasionycteris noctivagans*]) as well as heron rookeries.

3.4.2 Regulatory Setting

FEDERAL

Endangered Species Act

Pursuant to ESA (16 US Code [USC] Section 1531 et seq.), USFWS and NOAA Fisheries regulate the taking of species listed in ESA as threatened or endangered. In general, people subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." NOAA Fisheries and USFWS have also interpreted the definition of "harm" to include significant habitat modification that could result in take. ESA requires that recovery plans be developed that describe the steps necessary to restore the species. Similarly, the act provides for the designation of "critical habitat" when prudent and determinable.

Section 10 of ESA applies if a nonfederal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting the action. Section 7 of ESA applies if a federal discretionary action is required (e.g., a federal agency must issue a permit), in which case the involved federal agency consults with USFWS and NOAA Fisheries.

Programmatic Biological Opinion

On June 18, 2014, USFWS issued a Programmatic Biological Opinion (PBO) to US Army Corps of Engineers (USACE) for projects issuing permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, including authorizations under 22 Nationwide Permits, that may affect the threatened California red-legged frog in nine San Francisco Bay Area counties in California. USACE will implement this programmatic consultation with USFWS when USACE makes a determination that a proposed project qualifies for authorization under one of the 22 Nationwide Permits that may affect the California red-legged frog and/ or its critical habitat, as required by Section 7 of ESA. Actions authorized by USACE that may be appended to the PBO consist of a variety of activities that may result in the incidental take of the California red-legged frog on 1.0 acre or less per project of suitable upland red-legged frog habitat, including areas within 300 feet of the top of bank of a creek, stream, waterbody, or wetland, or up to 1.0 acre of aquatic habitat/waters of the United States, or a combination of uplands and wetlands that is not larger than 1.0 acre (USFWS 2014). USACE and USFWS may determine on a case-by-case basis that projects larger than 1 acre can be appended to this programmatic biological opinion. Based on the following criteria: the project has minimal effects on the frog, the action is consistent with the intent of the biological opinion, and appropriate conservation measures are included.

Clean Water Act

Section 404

Section 404 of the Clean Water Act (CWA) (33 USC Section 1344) prohibits the discharge of dredged or fill material into waters of the United States, including wetlands, except as permitted under separate regulations by USACE and US Environmental Protection Agency (EPA). Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land or changing the bottom elevation of any portion of a water of the United States. To discharge dredged or fill material into waters of the

United States, including wetlands, Section 404 requires projects to receive authorization from the Secretary of the Army, acting through USACE. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters that are relatively permanent standing or continuously flowing bodies of water; and wetlands adjacent to and with a continuous surface connection to these waters. Wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of the CWA pending USACE verification.

Section 401

Under Section 401 of the CWA (33 USC Section 1341), 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 authority to grant water quality certification is delegated by the State Water Resources Control Board (SWRCB) to the regional water quality control boards (RWQCBs).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times, prohibits the taking of bald and golden eagles without a permit from the Secretary of the Interior. Similar to ESA, the Bald and Golden Eagle Protection Act defines "take" as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 USC 668–668c). Under the act, disturbance that would injure an eagle, decrease productivity, or cause nest abandonment, including habitat alterations that could have these results, is considered take and can result in civil or criminal penalties.

Migratory Bird Treaty Act

The MBTA, first enacted in 1918, provides for the protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. MBTA provides that to pursue, take, or kill any migratory bird or any part, nest, or egg of any such bird is unlawful except as permitted by regulations. Under MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." Take does not include habitat destruction or alteration as long as birds, nests, eggs, or parts thereof are not directly taken. The current list of species protected by MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

In accordance an April 15, 2025, memorandum issued by the US Department of the Interior, the MBTA's prohibition on taking migratory birds and their active nests applies only to direct, purposeful actions, and does not include take incidental to other activities. Despite this update, as a standard practice, Midpen continues to design and implement projects to avoid impacts to nesting birds.

STATE

California Endangered Species Act

Pursuant to CESA, a permit from CDFW is required for projects that could result in the "take" of a plant or animal species that is listed by the state as threatened or endangered. Section 2080 of CESA prohibits unauthorized take of state-listed species. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but does not include "harm" or "harass," as does the federal definition. As a result, the threshold for take is higher under CESA than under ESA.

California Fish and Game Code

Protection of Bird Nests and Raptors

Section 3503 of the 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 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs or young.

Fully Protected Species

The regulation of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and generally do not provide for authorization of incidental take unless the species is covered and conserved in a natural community conservation plan (NCCP) or the project activities qualify for incidental take permitting under Section 2080.15 of the California Fish and Game Code. CDFW's fully protected status was California's first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as threatened or endangered under CESA; however, some species remain listed as fully protected but do not have simultaneous listing under CESA.

Lake and Streambed Alteration

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 CDFW under Section 1602 of the California Fish and Game Code. Section 1602 makes it unlawful for any person, governmental agency, or public utility to do the following without first notifying CDFW:

- substantially divert or obstruct the natural flow of or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation (California Code of Regulations [CCR] Title 14, Section 1.72). CDFW jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A CDFW streambed alteration agreement must be obtained for any action that would result in an impact on a river, stream, or lake.

Non-Game Mammals

Sections 4150–4155 of the California Fish and Game Code protects non-game mammals, including bats. Section 4150 states "A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission. The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected under the California Fish and Game Code, in addition to being protected if they are a listed species.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed CDFW to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. CESA expanded on the original NPPA and enhanced legal protection for plants. CESA established threatened and endangered species categories and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, three listing categories for plants are employed in California: rare, threatened, and endangered. Sixty-four species, subspecies, and varieties

of plants are protected as rare under NPPA. The act prohibits take of endangered or rare native plants but includes exceptions for agricultural and nursery operations; for emergencies; and, after proper notification to CDFW, for vegetation removal from canals, roads, and other building sites; changes in land use; and other situations.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act) requires that each of the nine RWQCBs in California prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The jurisdiction of the RWQCBs includes waters of the United States, as well as areas that meet the definition of "waters of the state." "Waters of the state" is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under CWA Section 404 provided they meet the definition of waters of the state. SWRCB published a new set of procedures for discharges of dredged or fill material into waters of the state that went into effect on May 28, 2020, which are described below. Mitigation requiring no net loss of wetlands functions and values of waters of the state typically is required by the RWQCB.

State Wetland Procedures

The State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Wetland Procedures), as prepared by the SWRCB, went into effect on May 28, 2020. The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a wetland feature is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. The Procedures include a definition for wetland waters of the state that include (1) all wetland waters of the United States; and (2) aquatic resources that meet both the soils and hydrology criteria for wetland waters of the United States but lack vegetation (less than 5 percent areal coverage at the peak of the growing season).

Wetlands that meet the current definition, or any historic definition, of waters of the United States are waters of the state. In 2000, the SWRCB determined that all waters of the United States are also waters of the state by regulation, prior to any regulatory or judicial limitations on the federal definition of waters of the United States (CCR title 23, Section 3831(w)). This regulation has remained in effect despite subsequent changes to the federal definition. Therefore, waters of the state include features that have been determined by EPA or USACE to be "waters of the United States" in an approved jurisdictional determination; "waters of the United States" identified in an aquatic resource report verified by USACE upon which a permitting decision was based; and features that are consistent with any current or historic final judicial interpretation of "waters of the United States" or any current or historic federal regulation defining "waters of the United States" under CWA.

The SWRCB has adopted the following definition of wetlands:

> An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

California Coastal Act

The California Coastal Act (CCA), administered by the California Coastal Commission (Commission), includes policies for development proposed within the coastal zone and recognizes California ports, harbors, and coastline beaches as important coastal-dependent uses and resources. The Commission regulates all jurisdictional wetlands that are under the joint jurisdiction of USACE and the RWQCBs, as well as riparian habitat under the jurisdiction of CDFW. The act also defines "environmentally sensitive [habitat] area" (ESHA) as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5). The act requires that such

areas be protected and that development projects within or adjacent to such areas be limited only to uses dependent on the ESHA resources and be planned and sited to prevent significant disruption or degradation of habitat values.

The California Coastal Zone is defined as the land and water area of California from the Oregon border to the border of Mexico, extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea, but is specifically designated on maps held by the legislature. In significant coastal estuarine habitat and recreational areas, it extends inland to the first major ridgeline paralleling the sea or 5 miles from the mean high tide line of the sea, whichever is less, and in developed urban areas, the zone generally extends inland less than 1,000 yards. The Coastal Zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission or any area contiguous thereto, including any river, stream, tributary, creek, or flood control or drainage channel flowing into such area. Portions of the Preserve, including some of the near-term projects, are within the Coastal Zone and subject to permitting under the CCA.

State and Local Requirements to Control Construction-Phase and Post-Construction Water Quality Impacts

Construction Phase

The CWA has nationally regulated the discharge of pollutants to the waters of the United States from any point source since 1972. In 1987, amendments to the CWA added Section 402(p), which established a framework for regulating nonpoint source storm water discharges under the National Pollutant Discharge Elimination System (NPDES). The NPDES is a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. In California, this permit program is administered by the RWQCBs. The NPDES General Construction Permit requirements apply to clearing, grading, and disturbances to the ground such as excavation. Construction activities on one or more acres are subject to a series of permitting requirements contained in the NPDES General Construction Permit. This permit requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP) that includes BMPs to be implemented during project construction. The project sponsor is also required to submit a Notice of Intent (NOI) with the State Water Resources Control Board Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site.

Post-Construction Phase

In many Bay Area counties, including San Mateo County, projects must also comply with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit* (MRP) (Water Board Order No. R2-2009-0074). This MRP requires that all projects implement BMPs and incorporate Low Impact Development practices into the design that prevents stormwater runoff pollution, promotes infiltration, and holds/slows down the volume of water coming from a site. To meet these permit and policy requirements, projects must incorporate the use of green roofs, pervious surfaces, tree planters, bioretention and/or detention basins, among other methods.

LOCAL

San Mateo Local Coastal Program

The San Mateo County Local Coastal Program (LCP) prohibits any land use or development that would have significant adverse impact on sensitive habitat areas. Development in areas adjacent to sensitive habitats shall be sited and designated to prevent impacts that could significantly degrade the sensitive habitats. The LCP defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable and any area that meets one of the following criteria:

- habitats containing or supporting rare and endangered species as defined by the State Fish and Game Commission,

- all perennial and intermittent streams and their tributaries,
- coastal tide lands and marshes,
- coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding,
- areas used for scientific study and research concerning fish and wildlife,
- lakes and ponds and adjacent shore habitat,
- existing game and wildlife refuges and reserves, and
- sand dunes.

Sensitive habitat areas include riparian corridors, wetlands, and habitats supporting rare, endangered, and unique species. The LCP defines wetlands as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground. Such wetlands can include mudflats (barren of vegetation), marshes, and swamps. Such wetlands can be either fresh or saltwater, along streams (riparian), in tidally influenced areas (near the ocean and usually below extreme high water of spring tides), marginal to lakes, ponds, and man-made impoundments. Wetlands do not include areas which in normal rainfall years are permanently submerged (streams, lakes, ponds, and impoundments), nor marine or estuarine areas below extreme low water of spring tides, nor vernally wet areas where the soils are not hydric.

In San Mateo County, wetlands typically contain the following plants: cordgrass (*Spartina* spp.), pickleweed (*Salicornia pacifica*), *Jaumea* spp., *Frankenia* spp., marsh mint (*Mentha aquatica*), tule (*Schoenoplectus acutus*), narrow-leaf cattail (*Typha angustifolia*), broadleaf cattail (*Typha latifolia*), pacific silverweed (*Argentina pacifica*), salt rush (*Juncus lesueurii*), and bog rush (*Juncus hesperius*). To qualify, a wetland must contain at least a 50 percent cover of some combination of these plants, unless it is a mudflat. In San Mateo County, riparian corridors typically contain red alder (*Alnus rubra*), *Jaumea*, pickleweed, big leaf maple (*Acer macrophyllum*), narrow-leaf cattail, arroyo willow (*Salix lasiolepis*), broadleaf cattail, horsetail (*Equisetum arvense*), creek dogwood (*Cornus sericea*), black cottonwood (*Populus trichocarpa*), and box elder (*Acer negundo*). Such a corridor must contain at least a 50 percent cover of some combination of the plants listed.

Portions of the Preserve, including some of the near-term projects, are within the San Mateo LCP and may include sensitive habitats, and as such would be subject to permitting under the LCP.

San Mateo County Heritage Tree Ordinance

According to the Heritage Tree Ordinance of San Mateo County (Ordinance No. 2427), a permit is required for the removal, destruction, or trimming of any Heritage Tree on public or private property, with Heritage Trees defined as: (a) Class 1 trees designated by the Board of Supervisors and (b) Class 2 - any one of 16 designated species of trees of specified DBH (36-inch DBH big leaf maple; 48-inch DBH madrone [*Arbutus menziesii*]; 20-inch DBH golden chinquapin [*Chrysolepis chrysophylla*]; all Santa Cruz cypress [*Hesperocyparis abramziana*]; 12-inch DBH Oregon ash [*Fraxinus latifolia*]; 48-inch DBH tan oak [*Notholithocarpus densiflorus*]; 48-inch DBH coast live oak [*Quercus agrifolia*]; 40-inch DBH canyon live oak [*Quercus chrysolepis*]; all Oregon white oak [*Quercus garryana*]; 32-inch DBH black oak [*Quercus kelloggii*]; 40-inch DBH interior live oak [*Quercus wislizenii*]; 48-inch DBH valley oak [*Quercus lobata*]; 30-inch DBH blue oak [*Quercus douglasii*]; 48-inch DBH California bay [*Umbellularia californica*]; 30-inch DBH California nutmeg [*Torreya californica*]; or 84-inch DBH coast redwood (*Sequoia sempervirens*), healthy and generally free from disease.

San Mateo County Significant Tree Ordinance

According to the Significant Tree Ordinance of San Mateo County (Part Three of Division VIII of the Municipal Code), a permit is required for the removal or destruction of any "Significant Tree" within Design Review Districts or Scenic Corridors. A Significant Tree is any tree over 38 inches in circumference (12-inch DBH) measured at 4-1/2 feet above the ground or immediately below the lowest branch. In zoning areas for residential hillside/design review districts

(RH/DR) the definition of a significant tree is any tree over 19 inches in circumference (6-inch DBH). In the RH/DR zone, permits are required for trimming indigenous trees (native to San Mateo County) as well as cutting trees. This ordinance is not the same as the Heritage Tree Ordinance and is listed separately in the General Plan for San Mateo County (1986).

San Mateo County Significant Tree Regulations may provide exemptions from the requirement to secure a permit to remove a significant tree when a specified official determines that removal is necessary to "remove a hazard to life and personal property." Previous exemptions have included the removal of hazardous trees that present a significant fire hazard risk, including eucalyptus (*Eucalyptus* spp.), pine (*Pinus* spp.), acacia (*Acacia* spp.), tan oak (*Notholithocarpus densiflorus*), and bay trees (*Laurus nobilis*).

Midpeninsula Regional Open Space District – Resource Management Policies

Midpen's resource management includes the management of natural, cultural, and agricultural resources. Midpen recognizes the protection of biological resources as one of the primary benefits of open space (Midpen 2022). Midpen's resource management goals and policies adhere to a strategy of protecting and restoring known rare, endangered, special-status species and sensitive habitats, as well as seriously degraded or deteriorating areas. Further, Midpen's resource management policies give priority to sensitive habitats and consider the relative scarcity of the specific resources involved. Goals relevant to biological resources include:

- **Goal VM:** Sustain and promote viable and diverse native plant communities characteristic of the region.
- **Goal WM**: Maintain and promote healthy and diverse native wildlife populations.
- **Goal IPM**: Control pests by consistent implementation of IPM principles to protect and restore the natural environment and provide for human safety and enjoyment while visiting and working on District Lands.
- **Goal WR**: Protect and restore natural water courses, wetlands, and hydrologic processes.
- **Goal GM**: Manage District land to retain and promote biologically diverse, dynamic forest conditions; maintain and enhance high quality forest and aquatic habitat; encourage and enhance the development of late-seral conifer forest; provide for visitor experiences within diverse forest habitat; and promote District and regional fire management objectives.
- **Goal HC**: Protect ecosystem integrity by maximizing habitat connectivity.
- **Goal M**: Avoid and minimize adverse impacts to natural and cultural resources to the maximum feasible extent and use mitigation for all other unavoidable impacts. Couple mitigation with high priority restoration when feasible.

Full descriptions of these goals, and related policies, are available in *Resource Management Policies* (Midpen 2022).

Midpeninsula Regional Open Space District – Open Space Maintenance and Restoration Program Manual

The District's OSMRP Manual provides guidance and practices to avoid and minimize potential environmental impacts (Midpen 2021a). The Manual describes BMPs for impact mitigation approaches and monitoring and reporting activities. In addition, the Manual serves as a basis for Midpen to comply with CEQA and other resource agency permitting requirements. Activities for which BMPs exist include routine maintenance activities (e.g., grading and shaping of roads and trails, vegetation management), new facilities and improvements (e.g., wildlife crossing construction, installation of interpretive facilities and signage), and restoration and enhancement activities (e.g., native vegetation plantings and seeding, treatment of invasive species).

Midpeninsula Regional Open Space District – Vision Plan

Midpen prepared the Vision Plan to articulate the core values for conservation and management of open space over the next 40 years or more. The themes and goals were developed based on Midpen's mission statement and adopted policies (Midpen 2014). The following themes and goals pertain to the biological resources within Midpen lands that the proposed Program must be consistent with and support:

Stewardship
- Restore the natural environment, control invasive plants and animals, and limit the spread of pathogens.
- Promote natural ecosystem processes.
- Protect watersheds and restore stream flow to improve habitat for fish and wildlife.

Biodiversity
- Protect large contiguous areas of intact habitat that represent the Peninsula and South Bay's full mosaic of natural communities.
- Conserve sensitive species and special natural communities.

Connectivity
- Increase connectivity between protected areas to support natural wildlife movement patterns.

3.4.3 Discussion

NOT DISCUSSED FURTHER

Purisima Multimodal Access Implementation Project

The Purisima Multimodal Access Implementation Project would be implemented on existing roadways, parking areas, and trailheads regularly disturbed by existing anthropogenic activity (e.g., parked cars, hiking, biking). In addition, Midpen regularly conducts operations and maintenance activities in this area. New development proposed as part of this near-term project (e.g., cellular infrastructure, an automatic gate, ADA compliant landing pads, benches, and new signage) would not result in loss of natural habitat. These activities would be consistent with what Midpen already does for operations and maintenance of parking areas and trailheads, and the construction activities and equipment required to install these features would be minimal and short-term (e.g., installation would occur over no more than 5 working days). Therefore, there would be no impacts on biological resources associated with this near-term project, and the Purisima Multimodal Access Implementation Project is not considered in the following discussion.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the US Fish and Wildlife Service?

Special-Status Plants

Less than significant with mitigation. As described above under "Environmental Setting," 25 special-status plants have potential to occur in the Preserve. These special-status plants have the potential to occur in a variety of land cover types found throughout the proposed near-term projects, including riparian land cover (e.g., Hickman's cinquefoil), woodland and forest land cover (e.g., Anderson's manzanita), shrub or herbaceous land cover (e.g., Choris' popcorn flower), and along disturbed areas such as roads (e.g., Hoover's button celery) (see Table C-1 in Appendix C). During construction of the near-term projects, ground disturbing activities have the potential to destroy or otherwise harm special-status plant species if they are present in the work area (e.g., excavation, grading, construction vehicle and equipment staging in undisturbed areas). In addition, implementation of the Irish Ridge Restoration Project as well as ongoing maintenance activities could result in ground disturbance and vegetation removal, which could also damage special-status plants, if present. Therefore, the impact on special-status plants would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-1: Conduct Special-Status Plant Surveys, and Implement Avoidance Measures and Mitigation

The following requirements apply to all ground-disturbing activities (e.g., grading, vegetation removal) associated with the near-term project activities, with the exception of the Purisima Multimodal Access Implementation Project, which does not include new ground disturbance.

- Before implementation of project construction or vegetation removal activities, and during the blooming period for the special-status plant species with potential to occur on the project site, a District approved qualified botanist shall conduct protocol-level surveys for special-status plants in the project areas following survey methods from CDFW's Protocols for Surveying and Evaluating Impacts on Special-Status Native Plant Populations and Natural Communities (CDFW 2018 or most recent version). The qualified botanist shall (1) be knowledgeable about plant taxonomy; (2) be familiar with plants of San Mateo County, including special-status plants and sensitive natural communities; (3) have experience conducting floristic botanical field surveys as described in CDFW's protocol document; (4) be familiar with the California Manual of Vegetation (Sawyer et al. 2009 or current version, including updated natural communities data at http://vegetation.cnps.org/); and (5) be familiar with federal and state statutes and regulations related to plants and plant collecting. Surveys shall be conducted within 5 years prior to vegetation disturbance.
- If special-status plants are not found, the botanist shall document the findings in a report, and no further mitigation shall be required.
    - If special-status plants are found during special-status plant surveys and cannot be avoided, the District shall, in coordination/consultation with CDFW or USFWS, and as appropriate depending on species status, develop and implement a site-specific mitigation strategy to compensate for loss of occupied habitat or individuals. Mitigation measures shall include, at a minimum, preserving existing populations to the greatest extent possible to avoid/reduce impacts, recreating populations through seed collection or transplantation from the site that is to be affected, and/or restoring or creating habitat in sufficient quantities to offset loss of occupied habitat or individuals. Potential mitigation sites could include suitable locations within or outside the project site. Habitat and individual plants lost shall be mitigated at a minimum 1:1 ratio, considering acreage as well as function and value, and may include enhancement of occupied habitat at a minimum 1:1 ratio, or of potentially occupied habitat at a minimum 1:3 ratio. All compensatory mitigation projects shall include a mitigation plan outlining the strategy, and the plan must be approved by CDFW, including identification of the success thresholds established depending on the population and site conditions. If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other similar off-site conservation measures, the details of these measures shall be included in the mitigation plan, including designating responsible parties for long-term management, conservation easement holders, long-term management requirements and duration, success criteria, including at a minimum, those listed above and other details, as determined appropriate by a District approved qualified biologist to target the preservation of long-term viable populations.

Significance After Mitigation

Implementation of Mitigation Measure 3.4-1 would reduce significant impacts on special-status plants by requiring protocol-level surveys for special-status plants and implementation of avoidance measures if they are present on near-term project sites and compensation for impacts on special-status plants. As a result, impacts on special-status plants would be **less than significant with mitigation.**

Special-Status Invertebrate Species

Less than significant with mitigation. Two special-status invertebrate species, Crotch's bumble bee and monarch butterfly, have the potential to occur in near-term project sites and each are discussed in detail below.

Crotch's Bumble Bee

Crotch's bumble bee, along with three other bumble bee species, was designated as a candidate for listing as endangered under CESA by the California Fish and Game Commission on May 31, 2022. In June of 2023, CDFW released *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species,* which included survey and mitigation guidance for the four candidate species, as well as updated current range maps for each species (CDFW 2023). Crotch's bumble bee has recently undergone declines in abundance (Xerces Society 2018); the current range of the species includes the Preserve (CDFW 2023), and the species has been reported near the Preserve, at the Thornewood Open Space Preserve (Bumble Bee Watch 2026).

Although the life history characteristics of Crotch's bumble bees are not well understood, bumble bees have three basic habitat requirements: suitable nesting sites for the colonies, availability of nectar and pollen from floral resources during the colony period (spring, summer, and fall), and suitable overwintering sites for queens. Crotch's bumble bees are generally believed to overwinter near the ground surface in loose soil or under leaf litter or other debris, and nest typically in abandoned rodent burrows or other animal nests. Nesting and overwintering habitat potentially suitable for this species may be present on near-term project sites within herbaceous, shrub, forested, and riparian land cover types, and floral resources in these areas may additionally provide foraging opportunities. Vegetation removal and ground-disturbing activities could result in direct mortality of Crotch's bumble bees while they are foraging, nesting, or overwintering. Therefore, the impact on Crotch's bumble bee would be **potentially significant.**

Monarch Butterfly

Monarch butterflies are known to occur as migrating individuals in the Preserve; additionally, the Purisima Uplands property in the Preserve contains habitat potentially suitable for overwintering monarchs (e.g., tree groves of pine, cypress, fir, or eucalyptus within 2 miles of the coast) (Xerces Society 2025). Although no priority wintering sites have been previously identified in the Preserve (Xerces Society 2016), vegetation removal in project areas may result in changes to wind or sunlight patterns at nearby wintering sites, if present. Additionally, floral resources in near-term project sites may provide foraging resources for monarch butterflies and include milkweed (*Aslepias* spp.) host plants greater than 5 miles from the coast (Xerces Society 2025) for breeding monarchs that may contain eggs, larvae, or pupae of monarch butterflies. Removal of milkweed host plants or foraging resources could result in direct mortality of monarch butterflies if present. Disturbance of overwintering habitat during the overwintering period through pruning, tree removal, or activity in close proximity to the overwintering habitat, could result in loss of individuals or habitat. Therefore, impact on monarch butterfly would be **potentially significant.**

Mitigation Measures

Mitigation Measure 3.4-2: Conduct Focused Surveys for Crotch's Bumble Bee and Implement Avoidance Measures

- Initial ground-disturbing work (e.g., grading, vegetation removal, staging) shall take place between August 15 and March 15, if feasible, to avoid impacts on nesting Crotch's bumble bees.
- Regardless of the feasibility of the above limited operating period, a District approved qualified biologist familiar with bumble bees of California and experienced using survey methods for bumble bees shall conduct a habitat assessment and focused survey for Crotch's bumble bee, in suitable habitats and where there is reasonable potential to occur, before the start of ground-disturbing activities. Surveys shall be conducted when Crotch's bumble bee is most likely to be identified, typically April through August (e.g., the colony active period) when floral resources and ideal weather conditions are present. The methodology in *Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species* (CDFW 2023) should be referenced and applied, as applicable. Surveys shall be conducted during the colony active period closest to the start of planned construction activities. Survey results shall be submitted to Midpen no fewer than 7 days before construction begins.
- If no Crotch's bumble bees are detected during the surveys, the biologist shall prepare a survey report summarizing the survey results and submit the report to Midpen, and further mitigation shall not be required.

- If Crotch's bumble bees are detected during the focused survey, Midpen shall notify CDFW and submit a survey report to CDFW after survey completion. Midpen's Special Status Pollinator Guide and Best Management Practices (Midpen n.d.) should be referenced, and mitigation measures should be implemented as applicable based on findings and potential for species occurrence. Avoidance measures shall include, but not be limited to, the following:
  - Protective buffers shall be implemented around active nest colonies until these sites are no longer active. A qualified biologist, in coordination with CDFW, shall determine the appropriate buffer size to protect nesting colonies; however, the buffer shall be a minimum of 50 feet.
  - If impacts on Crotch's bumble bees cannot be avoided, Midpen shall consult with regulatory agencies to ensure requisite permit coverage and follow associated avoidance measure.
- If a final determination on the candidacy of Crotch's bumble bee prior to project implementation, Midpen shall adhere to all updated guidance as provided by CDFW, which may expand or replace the above mitigation.
- If CDFW determines that listing of Crotch's bumble bee under CESA is not warranted, or the species is not listed prior to project completion, then the above measures related to consultation with CDFW would not be applicable.

Mitigation Measure 3.4-3a: Avoid Monarch Butterfly Wintering Habitat

- Prior to any project activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a District approved qualified biologist or biological monitor working under a District approved qualified biologist will survey the grove for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol (Xerces Society 2024).
- At least three surveys shall be conducted during the overwintering season (October through March) including at least one survey during each of the early-, mid-, and late-season.
- Each survey will be conducted by two surveyors to provide multiple independent estimates of monarch numbers.
- Surveys will be conducted in the morning while temperatures are below 55 degrees Fahrenheit (13 degrees Celsius) when monarchs are more likely to be clustered.
- Surveys will not be conducted during rain or strong winds due to poor visibility and the chance that individual monarchs would be scattered on the ground.
- If no monarch overwintering aggregations are observed, project activities may proceed as long as they occur prior to November 1. If project activities are delayed beyond November 1, then the grove will be re-surveyed.
- If a monarch overwintering aggregation of any size is detected, then no project activities may take place inside the tree canopy within 200 feet of the aggregation, when present. Activities outside of the canopy line but within 200 feet may proceed (e.g., treatment of low-growing vegetation outside of the tree grove) if a District approved qualified biologist or monitor determines that the activity does not pose a threat to the monarch aggregation.
- If monarch overwintering aggregations are detected in eucalyptus removal areas, then a long-term tree planting strategy is necessary (see Protecting California's Butterfly Groves [Xerces Society 2017]). A long-term tree planting strategy will also be used for those stands which have historically been used as monarch overwintering habitat.
- Native tree species suitable for monarchs must be planted many years prior to eucalyptus removal with the understanding that they may not reach functional heights to provide wind protection and suitable dappled lighting for 15-30 years. Planting of nonnative or non-local trees including eucalyptus will be prohibited. Removal of eucalyptus may proceed once native replacement trees have reached sufficient size to provide wind protection from the grove.
- Standing dead trees may be removed within the grove between April 1 and August 31, outside of the overwintering period, as determined appropriate by a District approved qualified biologist or monitor. Sites

where invasive dead trees have been removed may create opportunities for native tree planting within the interior of the grove.

- If a eucalyptus grove where a monarch overwintering aggregation was previously detected is re-surveyed using the Western Monarch Count Protocol (Xerces Society 2025) and found to be unoccupied for five consecutive years, then the grove may be removed before native replacement trees have reached full size.

Mitigation Measure 3.4-3b: Avoid Monarch Butterfly Host Plants

- For all project activities that only have incidental vegetation removal further than 5 miles from the coast (Xerces Society 2025), Midpen will conduct a pre-construction worker training to identify milkweeds (*Asclepias* spp.), the host plant for monarch butterflies, and survey for eggs/larvae. Following the training, workers will survey the site for milkweed.
- For project activities that have more than incidental vegetation removal, a District qualified biologist or biological monitor working under a District approved qualified biologist will conduct pre-construction surveys for milkweed.
- Host plants containing eggs, larvae, or pupae of monarch butterflies will be avoided, and will be protected with an appropriately sized buffer, as determined by a District approved qualified biologist, taking into account the characteristics of the plant species and the nature of the proposed project activity.
- Project activities may proceed if a District approved qualified biologist determines that the host plants are not occupied by monarchs.

Significance After Mitigation

Implementation of Mitigation Measure 3.4-2 would reduce impacts on Crotch's bumble bees by implementing work windows to avoid Crotch's bumble bee overwintering season, where individual Crotch's bumble bees may be difficult to detect. Additionally, Mitigation Measure 3.4-2 would require preconstruction surveys for individuals and habitat, implementing avoidance measures if Crotch's bumble bees are detected, and requiring an ITP and possibly compensation if avoidance of Crotch's bumble bees is determined to be infeasible. Implementation of Mitigation Measures 3.4-3a and 3.4-3b would reduce impacts on migrating, breeding, and overwintering monarch butterflies by requiring surveys for overwintering habitat near near-term project sites and monarch host plants in work areas prior to project activities, requiring pre-construction worker training for the identification of monarch host plants, avoiding habitat suitable for monarch butterflies, and restricting the removal of suitable overwintering sites until such sites have been replaced by native trees of sufficient size to provide protection to overwintering monarchs. Therefore, impacts on special-status invertebrate species and their habitat would be **less than significant with mitigation.**

Special-Status Fish Species

Two special-status fish have the potential to occur near the Purisima-to-the-Sea Trail and Irish Ridge Restoration Project: Central California Coast DPS steelhead and Central California Coast Coho salmon. Additionally, the Purisima-to-the-Sea Trail Project study area (i.e., the alignment with a 50-foot buffer as described above in Section "Vegetation and Landcover" in the Environmental Setting) overlaps with designated critical habitat for Central California Coast DPS steelhead along Lobitos Creek (NMFS 2023).

Spawning habitat suitable for Central California Coast steelhead is present in the Preserve (e.g., Purisima Creek, Lobitos Creek; Midpen 2021a); however, despite the presence of this habitat, the species is not expected to occur in the Preserve. This is because passage into Purisima Creek is naturally blocked downstream by a waterfall (Passage ID 8054 in the CalFish Passage Assessment Database, CNDDB 2025b), while passage into Lobitos Creek is blocked by a 325-foot-long concrete arch culvert at SR 1 (Passage ID 26958, CNDDB 2025b), and a culvert at Verde Road.

Although special-status fish are not expected to occur in the creeks intersecting the Purisima-to-the-Sea Trail Project or the Irish Ridge Restoration Project, activities along waterways, such as bridge and culvert construction and maintenance, streambank stabilization, and vegetation management could result in downstream impacts (e.g., increased sediment or debris entering the waterways), which could result in adverse impacts on downstream special-status fish species and their habitat. Therefore, impacts on special-status fish or designated critical habitat would be **potentially significant.**

Mitigation Measures

Mitigation Measure 3.4-4: Implement Aquatic Habitat Setbacks for Water Quality Protection

The following shall apply to all near-term projects prior to implementation of project activities.

- Where feasible, setbacks from streams and other jurisdictional waters shall be a minimum of 30 feet for trails and 50 feet for staging areas and other ground-disturbing project activities.

Mitigation Measure 3.4-5: Consult with NOAA Fisheries for In-Water Project Activities

No new construction of in-stream infrastructure (e.g., bridges, culverts) or activities requiring dewatering shall be undertaken in waterways where special-status salmonids may be present, including downstream of the project site unless 1,000 feet or more upstream of discharge points into such drainages. If such activities are required to implement near-term projects, the District shall consult with NOAA Fisheries to determine the need to obtain a permit for in-water activities and shall abide by the conditions of the permit.

Mitigation Measure 3.4-6: Implement Seasonal Work Periods within Federally Designated Salmonid Critical Habitat

Prior to conducting any project activities in an area that is federally designated critical habitat for central California coast coho salmon or central California coast steelhead (portions of the Purisima-to-the-Sea Trail Project and Irish Ridge Restoration Project), or within near-term project sites with jurisdictional waters that may discharge into designated critical habitat, the District shall implement the following:

- Seasonal Work Period for Salmonids: Work within and adjacent to NOAA designated critical habitat for steelhead and Coho salmon streams that provide habitat for salmonids shall be limited to June 15 to October 31.
- Alternative Seasonal Work Period: Work within and around creeks that do not provide habitat for salmonids and reaches that are 1,000 feet or more upstream of discharge points which do not discharge directly into such drainages will be limited to April 15 to October 31, or is permissible from November 1 to April 14 under the following conditions:
  - Work will not occur until the site has received no rainfall for a period of 10 days and there is no rain in the forecast for a period of 7 or more days.
  - Work started during this period must reach a winterization-ready condition, defined as completing at least 50 percent of the planned disturbance or achieving a level of progress that allows full stabilization within 24 hours within 2.5 days of beginning work.
  - Winterization materials must be on hand and ready to be installed if unanticipated rainfall begins (defined as 0.5 inches of rain in a 24-hour period).
- Corrective Actions: Corrective actions are allowable year-round (including within the seasonal work period) within and adjacent to designated critical habitat for steelhead and Coho salmon and within and around creeks that do not provide habitat for salmonids for the following situations:
  - To correct improperly installed and/or unauthorized work on Midpen lands that occurred during the same calendar year that result in sediment delivery.
  - To correct damage from winter storms that threatens homes, ponds, water systems, and other critical infrastructure or sensitive habitat.

Significance After Mitigation

With implementation of Mitigation Measure 3.4-4, the District would avoid impacts on downstream special-status fish that may be present outside of near-term project work areas. Implementation of Mitigation Measure 3.4-5 would require agency consultation for activities taking place in areas where NOAA Fisheries has determined special-status salmonids may be present. Mitigation Measure 3.4-6, which incorporates, where appropriate, elements of BMP-21: Salmonid (Coho and Steelhead) Protection Measures found in the OSMRP Manual (Midpen 2021a), would avoid impacts on designated critical habitat by requiring consultation with regulatory agencies, implementing work

windows for project activities near habitat suitable for special-status salmonids, or activities along waterways which may discharge into such habitat. With implementation of these measures, impacts on special-status fish would be **less than significant with mitigation.**

Special-Status Amphibian and Reptile Species

Less than significant with mitigation. Three special-status amphibians and one special-status reptile have potential to occur in near-term project sites: Santa Cruz black salamander, California giant salamander, California red-legged frog, and northwestern pond turtle.

Santa Cruz Black Salamander and California Giant Salamander

Streamside forest, woodland, and riparian vegetation, present in the Purisima-to-the-Sea Trail Project and Irish Ridge Restoration Project may provide habitat suitable for Santa Cruz black salamanders and California giant salamanders. Both species are known to occur on Midpen preserves, and California giant salamander has been previously observed in Purisima (Midpen 2021a). Both species may be found in forested, grassland, or riparian habitats, including under rocks and woody debris. Ground-disturbing activities and vegetation removal associated with development in all near-term projects may disrupt upland dispersal habitat for the species, and kill or injure individuals if present, or destroy breeding habitat and eggs, if present. Therefore, impact on Santa Cruz black salamander and California giant salamander would be **potentially significant.**

California Red-Legged Frog

California red-legged frogs are known to be widespread in Purisima (H. T. Harvey and Associates 2021). Areas of habitat suitable for the species include streams and waterbodies, which are used for breeding, foraging, and dispersal. They may also occur in coniferous and hardwood forests, but are unlikely to, especially during the dry season (H. T. Harvey and Associates 2021; Midpen 2021a). Impacts on individuals may occur as a result of near-term project activities, including the removal of vegetation and breeding substrate, and during construction associated with all the near-term projects, injury or mortality from vehicle traffic, or the crushing of upland burrows. Midpen has previously operated under a USFWS recovery permit without injury or mortality to California red-legged frogs (Midpen 2021a).

Based on available data and habitat mapping, the likelihood of California red-legged frog occurrence in the Preserve has been defined as containing areas of both lower density/lower frequency of occurrence and higher density/higher frequency of occurrence, defined as follows (H. T. Harvey and Associates 2021):

- Lower Density/Lower Frequency of Occurrence: The Preserve is located within the range of the California red-legged frog, but there are no known recent breeding occurrences within or adjacent to the preserve, records of the species are limited to infrequent encounters of nonbreeding individuals (e.g., along roads), red-legged frogs have not been detected during years of monitoring work by Midpen and/or the preserve is predominantly vegetated by dense coniferous and/or hardwood forest (within which California red-legged frogs are not expected to occur regularly, especially during the dry season). California red-legged frogs may be present in these preserves in low densities and are primarily expected to occur during the wet-season when individuals are dispersing across the landscape.
- High Density/Higher Frequency of Occurrence: California red-legged frogs are known to occur in the Preserve or in nearby areas, one or more known breeding ponds are present within the Preserve or in nearby areas, the Preserve supports one or more streams or waterbodies that provide potential breeding habitat and/or the Preserve supports suitable upland habitat in close proximity to breeding areas nearby. California red-legged frogs are expected to be present in these Preserves in higher densities and may be encountered year round.

The Highway 35 Parking Project is located in the portion of the Preserve identified as Lower Density/Lower Frequency of Occurrence, where California red-legged frogs are primarily expected to occur during the wet season. The North Trail, Verde Road Parking Area, Purisima-to-the-Sea Trail, and Irish Ridge Restoration projects are located in the portion of the Preserve identified as High Density/Higher Frequency of Occurrence, where California red-legged frogs are expected to be encountered year-round. Additionally, the Irish Ridge Restoration Project, and the northeast end

of the Purisima-to-the-Sea Trail Project, overlap with areas of designated critical habitat for California red-legged frog. Therefore, impacts on California red-legged frog would be **potentially significant**.

Northwestern Pond Turtle

Waterways in the Preserve, including ponds, rivers, streams, and irrigation ditches, may provide habitat suitable for northwestern pond turtle. Upland habitat near these features, particularly grasslands, may additionally provide nesting and overwintering habitat for the species (e.g., burrows, leaf litter). Impacts on northwestern pond turtles that may occur as a result of near-term project activities include injury or mortality from construction vehicle traffic, removal of basking habitat near culvert or bridge installation, or the crushing of upland burrows in grassland habitat. Therefore, impact on northwestern pond turtle would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-7: Conduct Pre-Construction Surveys for Santa Cruz Black Salamander and California Giant Salamander and Implement Avoidance

- No more than 14 days prior to any ground-disturbing activities (e.g., grading, vegetation removal) in areas of habitat suitable for Santa Cruz black salamander and/or California giant salamander (e.g., riparian areas, upland habitat with small mammal burrows, talus rocks, woody debris), a District approved qualified biologist familiar with the life history and ecology of Santa Cruz black salamanders and California tiger salamanders shall conduct pre-construction surveys for the species.
- In areas of suitable habitat where Santa Cruz black salamander and/or California giant salamander are known to occur:
  - A biological awareness training provided by a District approved qualified biologist or biological monitor shall be provided prior to starting work.
  - A District approved qualified biologist and biological monitor will be available and on-call for the duration of the project.
  - A biological monitor will be present onsite when working within or immediately adjacent to wetted areas including stream channels, seeps, and springs.
  - For Santa Cruz black salamander only, a biological monitor shall also be required in areas of talus slopes or areas having human stacked rocks and other suitable materials acting as talus.
  - The biologist and/or biological monitor shall have the authority to stop work at any time.
  - Dismantling of talus and human-stacked rocks and other suitable materials acting as artificial talus shall be avoided and minimized wherever possible. If removal is required to meet project objectives, these materials will be dismantled by hand whenever possible.
  - When possible individual Santa Cruz black salamanders and California giant salamanders shall be allowed to leave the area on their own.
  - Individual Santa Cruz black salamanders and California giant salamanders (i.e., those without eggs) that aren't in harm's way or do not leave the work site on their own may be relocated by a District approved qualified biologist or biological monitor with requisite permit to predetermined sites located outside of the work area but within the same watershed.
  - Work in wetted areas, talus slopes, or human stacked rocks and other suitable materials acting as artificial talus should be completed prior to July to avoid displacement of Santa Cruz black salamander females laying eggs and attending to clutches.
  - If heavy equipment is required to remove talus, human stacked rocks, or other suitable materials acting as artificial talus, this shall be done in the presence of a District approved qualified biological monitor.

- If at any time Santa Cruz black salamander or California giant salamander eggs are found, the area shall be flagged for avoidance. If the area cannot be avoided to meet project objectives, Midpen will coordinate with CDFW to determine the best course of action.

- In all other areas of suitable habitat for Santa Cruz black salamander and California giant salamander:
  - A pre-survey of the project site is required immediately prior to starting work. If no Santa Cruz black salamanders or California giant salamanders are observed, work may proceed.
  - If an individual Santa Cruz black salamanders or California giant salamanders are observed at any time, all project work shall stop and the biologist and/or biological monitor will be notified and the above measures shall be implemented.

Mitigation Measure 3.4-8: Implement General California Red-Legged Frog Survey and Avoidance Measures

General California Red-Legged Frog Protection Measures

The District shall implement the following general California red-legged frog protection measures for all near-term projects:

- Biological awareness training shall be provided to all project personnel prior to beginning work.
- During all work, project personnel will contact a District approved qualified biologist or biological monitor immediately if a California red-legged frog, or an individual frog that could potentially be a California red-legged frog, is observed. All work that may harm the frog shall stop until the animal is confirmed to have left on its own, unless it is determined by the qualified biologist that the benefits of relocation outweigh potential impacts to the individual frog (e.g., the individual is at immediate risk or isolated from safe, suitable habitat).

Higher Density/Higher Likelihood of Occurrence Protection Measures

For near-term project activities occurring in areas with a higher density/higher frequency of occurrence of California red-legged frogs, (the Purisima-to-the-Sea Trail, Verde Road Parking Area, North Trail, and Irish Ridge Restoration projects), the District shall implement the following additional measures:

- Prior to implementation of near-term project activities (i.e., construction and vegetation treatment/removal), Midpen will identify streams, waterbodies, riparian habitats, and other features that support perennial water within the work area and a surrounding buffer of 100 feet, as well as refugia for California red-legged frogs (e.g., woody debris, burrows) in the work area. Areas within 100 feet of perennial water will be identified as areas where California red-legged frogs are most likely to occur during the dry season.
- If the near-term project activity is not located within 100 feet of perennial water, or the activity is located within 100 feet of perennial water but is not likely to result in take of California red-legged frogs (e.g., activity consists of hand work or is located entirely in a developed area where vegetation cover for California red-legged frogs is not present), no additional mitigation shall be necessary.
- If the near-term project activity is located in wet areas or riparian areas, or in upland areas within 100 feet of these areas, and/or refugia for California red-legged frogs are present in the work area, and/or take of California red-legged frog individuals may occur due to the proposed activities, the District shall additionally implement the following:
  - Prior to and within 48 hours of the planned start of project activities, a focused survey for California red-legged frogs using an agency-approved protocol will be conducted by a District approved qualified biologist or biological monitor to determine if frogs are present in the project area. In work areas containing emergent vegetation (e.g., tules, cattails), vegetation will additionally be inspected for California red-legged frog egg masses prior to the start of project activities.
  - If egg masses are found in during focused surveys, work will be postponed until eggs are no longer present in the project area. If work cannot be postponed, a buffer of vegetation at least 10 feet in diameter shall be left around any egg masses found.

- A District approved qualified biologist or biological monitor shall be present onsite for all initial ground disturbing activities (e.g., grading, vegetation removal).
- Any vehicle parked onsite for more than 15 minutes shall be inspected by the District approved qualified biologist, biological monitor, and/or individuals who have received the requisite environmental awareness training before it is moved to ensure that a California red-legged frog has not moved under the vehicle. Any parking areas must be checked in advance by the District approved qualified biologist or biological monitor.
- For vegetation removal within or adjacent to wetted/perennial aquatic sites where California red-legged frog are not found during focused surveys, if vegetation is too tall or dense to allow adequate detection of frogs, vegetation shall be cut to 3 to 6 inches above the ground surface to facilitate surveying, and an additional survey shall be conducted.
- If vegetation is short or sparse enough that any frogs present can be detected by the District approved qualified biologist or biological monitor without the need for removal of vegetation by hand tools, mowing may proceed after the biologist/monitor has thoroughly surveyed the areas to be mown.
- Vegetation removed shall be placed directly into a disposal vehicle and removed from the site. Vegetation shall not be piled on the ground unless it is later transferred, piece by piece, under the direct supervision of the biological monitor or District approved qualified biologist, unless the vegetation is going to remain on site for erosion control or slash and not be moved or disturbed.

- Soil shall not be stockpiled on the ground unless it is on a paved surface or staging area where no burrows are present.

Exclusion Fencing

- If a District approved qualified biologist determines that the benefits of installing wildlife exclusion fencing around a work area (i.e., in terms of reducing the potential for take of individuals) outweigh any impacts on habitat, exclusion fencing will be installed around the work area prior to the initiation of maintenance. USFWS and CDFW approved exclusion fencing shall be installed around sediment removal sites, staging areas, and any areas where fill may be dumped. After installation of the fence barrier, the District approved qualified biologist shall inspect the fenced area daily prior to the commencement of activities. If the qualified biologist determines that California red-legged frogs are not within the work area, equipment or materials may be moved into the work area and project activities may commence under observation of the qualified biologist.

Handling and Relocation

- If a District approved qualified biologist determines that the benefits of relocation of a California red-legged frog outweigh the potential impacts to the individual, handling and relocation shall be conducted as follows:
- Handling of California red-legged frogs shall be conducted by a District approved qualified biologist, with the requisite permits, in an expedient manner with minimal harm to the individuals being handled. Handling shall be done with wet hands. The hands and arms of all workers handling California red-legged frogs shall be free of lotions, creams, sunscreen, oils, ointment, insect repellent, or any other materials that may harm the frogs. Larval California red-legged frogs will not be handled out of the water for longer than 30 seconds unless rewetted, and will not be retained for longer than 5 minutes. If captured California red-legged frogs exhibit signs of distress (e.g., erratic behavior or lack of response to stimuli) they will be immediately released at the point of capture. All captured California red-legged frogs will be released at the point of capture unless that location puts them in imminent danger, in which case they will be placed in a nearby refugium sufficient to protect them. Amplexing pairs of California red-legged frog will not be captured, handled, or disturbed. Following handling and relocation, field gear will be disinfected to minimize the spread of pathogens as follows:
  - Field gear will be disinfected after exiting one aquatic habitat and before entering the next aquatic habitat, unless the waters are hydrologically connected to one another.

- All organic matter will be removed from nets, traps, boots, vehicle tires, and all other surfaces that have come into contact with water or potentially contaminated sediment. These items will then be rinsed with clean water before leaving each work area.
- Boots, nets, traps, hands, etc. that may come in contact with California red-legged frogs shall be scrubbed with a bleach solution of 0.5 to 1.0 cup per 1.0 gallon of water, Quat-128™ (1:60 solution), or a 3 to 6 percent sodium hypochlorite solution, or other methods approved by the District's IPM Program, and thoroughly rinsed with clean water between work areas. Other field equipment will be rinsed with water between work areas. Cleaning in the vicinity of aquatic habitats will be avoided by at least 100 ft. Care shall be taken so that all traces of the disinfectant are removed before entering the next work area.
- Used cleaning materials will be disposed of safely, and if necessary taken outside of the work area for proper disposal. Used disposable gloves shall be retained for safe disposal outside of the work area in sealed bags.
- California red-legged frogs shall not be removed from the wild and held in captivity for any reason unless prior written approval is acquired by the appropriate USFWS Office or unless severe injury to a California red-legged frog obviates immediate care. Frogs shall be transported according to accepted methods of the requisite permit, in most cloth bags or in terrariums with moisture gel or non-cellulose sponges to minimize desiccation.

Agency Consultation

- Prior to implementation of project activities in areas identified as having higher density/higher likelihood of occurrence, Midpen shall initiate consultation with USFWS. If it is determined, in consultation with USFWS, that take of California red-legged frog could occur after implementation of the conservation measures described above, then Midpen may be required to obtain incidental take authorization through Section 7 consultation or a Section 10 permit pursuant to ESA. Incidental take authorization may be obtained through a programmatic biological opinion (PBO) if the project qualifies for use of the PBO. Some projects may also qualify for the use of Midpen's existing permit coverage (e.g., USFWS Midpen's 10(a)(1)(A) recovery permit). Additional conservation measures may be recommended by CDFW or USFWS during the consultation process and these measures shall be implemented by the project applicant.

Mitigation Measure 3.4-9: Conduct Pre-Construction Surveys for Northwestern Pond Turtle, Implement Avoidance Measures, and Relocate Individuals

- Prior to and within 48 hours of the planned start of project activities commencement of ground-disturbing activities and any dewatering activities, a District approved qualified biologist familiar with the life history of northwestern pond turtle and experienced in performing surveys for northwestern pond turtle shall conduct a focused survey of aquatic and upland habitat suitable for the species on the project site. The qualified biologist shall inspect the project site for western pond turtles, as well as suitable terrestrial nesting or overwintering habitat (i.e., burrows).
- If a northwestern pond turtle nest is observed within a near-term project site during the pre-construction survey, the nest shall be fenced off and avoided until the eggs hatch or the nest is no longer active, as determined by a District approved qualified biologist. The fenced area shall be open on one side with the opening facing the nearest aquatic habitat so that hatchling turtles can freely travel from the nest to the aquatic habitat. A District approved qualified biologist shall monitor the nest area to ensure that hatchlings do not disperse into the construction area. Monitoring shall occur until the qualified biologist determines that the nest is no longer active. If any hatchlings are observed on the project site, relocation of hatchlings shall occur as described in the encounter protocol below.
- A District approved qualified biologist shall be present during all dewatering activities and initial ground-disturbing activities to monitor these activities. If a northwestern pond turtle is encountered, work shall be suspended in a 100-foot radius of the animal until the animal leaves the project site on its own volition. If necessary, a District approved qualified biologist shall notify CDFW to determine the appropriate procedures related to relocation, which shall include, but not be limited to, obtaining a valid and applicable CDFW Scientific Collecting Permit or working under an existing CDFW Scientific Collecting Permit. Any worker who inadvertently

injures or kills a northwestern pond turtle or who finds a northwestern pond turtle dead, injured, or entrapped must immediately report the incident to the District, who must immediately notify CDFW. Entrapped northwestern pond turtles shall be relocated by a District approved qualified biologist under a valid and applicable CDFW scientific collecting permit if approved by CDFW.

- Because northwestern pond turtle is proposed for listing under ESA, if the species is listed before the completion of near-term project construction activities that could result in injury to or mortality of turtles (i.e., dewatering, ground disturbance, grading), then Midpen may be required to consult with USFWS under Section 7 or Section 10 of ESA. If it is determined, in consultation with USFWS, that take of this species could occur after implementation of the measures described above, then Midpen may be required to obtain incidental take authorization through Section 7 consultation or a Section 10 permit pursuant to ESA. In this case, the project shall not proceed until a Biological Opinion is issued by USFWS.
  - Any conservation measures developed in coordination with USFWS during the course of formal or informal consultation under Section 7 or during Section 10 consultation would supersede the measures listed here.
  - Such conservation measures could include, but would not be limited to, seasonal work restrictions for initial ground disturbance, preconstruction surveys by a District approved qualified biologist, installation of wildlife exclusion fencing, biological monitoring, and worker environmental awareness training. Additional measures could include preservation, restoration, or enhancement of habitat on or offsite; purchase of habitat credits from an agency-approved mitigation/conservation bank; work with a local land trust to preserve land; or any other method acceptable to USFWS.
- If a final determination on the candidacy of northwestern pond turtle is made prior to project implementation, Midpen shall adhere to all updated guidance as provided by USFWS, which may expand or replace the above mitigation.
- If USFWS determines that listing of northwestern pond turtle under ESA is not warranted, or the species is not listed prior to project completion, then the above measures related to consultation with USFWS would not be applicable.

Significance After Mitigation

With implementation of Mitigation Measures 3.4-7, 3.4-8, and 3.4-9, which incorporate where appropriate aspects of OSMRP BMPs BIO-15: California Giant Salamander, Santa Cruz Black Salamander Protection Measures, BIO-12: California Red-Legged Frog Protection Measures, and BIO-14: Western Pond Turtle Protection Measures (Midpen 2021a), respectively, impacts on special-status amphibians and reptiles would be avoided by conducting pre-construction surveys of suitable habitat, providing for biological monitoring of near-term project activities in areas of suitable habitat, relocating individuals in work areas that do not or are unable to leave work areas of their own accord, and by postponing work when relocation is determined to be infeasible. With implementation of these measures, impacts on special-status amphibians and reptiles would be **less than significant with mitigation.**

Special-Status Bird Species

Less than significant with mitigation. Table C-2 in Appendix C lists the special-status bird species known to occur or that may occur in the Preserve. Two species, burrowing owl and marbled murrelet, are described in detail because of their unique life history characteristics, while impacts on other special-status or otherwise protected birds are described more broadly together below.

Burrowing Owl

Grassland habitat suitable for overwintering burrowing owls is present in the Preserve, as well as suitable burrowing structures which currently include American badger or fossorial rodent burrows, and may include artificial burrows in the future (Diamond et al. 2022). The species has been reported within the Preserve, but outside of the near-term project sites, south of Lobitos Creek in 2017 (CNDDB 2025a), and only between September and March, consistent with overwintering owls but not breeding owls (Diamond et al. 2022). Ground-disturbing activities, including grading

and vegetation removal, have the potential to collapse occupied burrows and crush adults and remove overwintering habitat features. Therefore, the impact on burrowing owls would be **potentially significant.**

Marbled Murrelet

Breeding habitat suitable for marbled murrelets is present in some areas of the near-term project footprints, and the species is known to occur within some areas of the Preserve (Midpen 2021a). Breeding habitat is restricted to old-growth forests, particularly redwood and Douglas-fir forest, and along known creek corridors used as flyways. Although near-term project activities are not expected to result in a loss of marbled murrelet habitat, disturbances such as noise, vibrations from moving equipment, or increased human presence near active nests could result in abandonment of nests and loss of eggs or young, if present nearby. Therefore, the impact on marbled murrelets would be **potentially significant.**

Other Special-Status Birds, Common Raptors, and Other Common Native Birds

Fourteen additional special-status bird species may occur in the Preserve (Appendix C). Additionally, common nesting birds with protection under California Fish and Game Code and MBTA are known to occur in and around the Preserve (Midpen 2021a). Although adult birds are likely to fly away to avoid direct impacts from project activities, activities such as tree and vegetation removal and ground disturbance have the potential to remove or destroy nests, as well as eggs or young if present. Additionally, increased disturbances including noise and vibrations from moving equipment could result in nest abandonment, and loss of eggs or young if present. Therefore, the impact on special-status birds would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-10: Conduct Pre-construction Surveys for Over Wintering Burrowing Owls and Implement Protective Buffers

- District lands do not currently support breeding burrowing owls. The following Mitigation Measures are described for over wintering burrowing owls only. Required pre-work nesting bird surveys (Mitigation Measure 3.4-12) are sufficient to detect the potential presence of burrowing owl during the breeding season.
- A District approved qualified biologist familiar with burrowing owls shall conduct surveys in areas of suitable over wintering habitat on and within 1,640 feet (500 meters) of the near-term project sites prior to implementation of project activities. Inaccessible areas (e.g., adjacent private property, steep slopes) will not be surveyed directly, but the biologist may use binoculars or a spotting scope to survey these areas. A survey for non-breeding burrowing owl shall be conducted no more than 14 days before initiating ground disturbance activities to verify that take of burrowing owl would not occur.
    - If no burrowing owls are found, the qualified biologist shall submit a report documenting the survey methods and results to Midpen, and no further mitigation shall be required.
    - If a burrow occupied by an over wintering burrowing owl is found during the surveys, Midpen shall establish and maintain a buffer around the occupied burrow to prevent damage to important habitat features.
        - During the non-breeding season (September 1 through January 31), the minimum buffer distance shall be 164 feet (50 meters).
        - The buffer may be adjusted if, in consultation with CDFW, a District approved qualified biologist determines that an alternative buffer shall not result in disturbance to burrowing owls because of particular site features (e.g., topography, natural line-of-sight barriers), level of project disturbance, or other considerations. If the buffer is reduced, a District approved qualified biologist shall monitor the behavior of the burrowing owls during all project activities within 164 feet of the burrow. If the owls are disturbed or show signs of agitation (e.g., vocalizations, bill snaps, fluffing feathers to increase body size appearance, drooping wings and rotating them forward, crouching and weaving back and forth) by the project activities, the biologist shall have the authority to halt the activities and reestablish the 164-footbuffer until the agitated behavior ceases and normal behavior resumes.

- The buffer shall remain in place around the occupied burrow until a District approved qualified biologist has determined through noninvasive methods that the burrows are no longer occupied by burrowing owls. A previously occupied burrow will be considered unoccupied if surveys demonstrate that no owls have used the burrow for seven consecutive days.
- Locations of burrowing owls detected during surveys shall be reported to the CNDDB.

Mitigation Measure 3.4-11: Implement Marbled Murrelet Nest Protection Measures

- Prior to ground-disturbing or noise generating near-term project activities within the proximity of marbled murrelet habitat, as identified in the Midpen 2007 maps and/or updated habitat assessment information (Midpen 2026a), Midpen shall conduct a survey of habitats suitable for marbled murrelets with 0.25 miles of the near-term project sites for trees that meet the Pacific Seabird Group definition of potential marbled murrelet nesting trees found in *A Revised Protocol for Surveying Marbled Murrelets in Forests* (Pacific Seabird Group 2024). If such trees are present within 300 feet of a near-term project site or if a marbled murrelet nest is detected, Midpen will coordinate with CDFW and USFWS before proceeding. If habitat trees are present beyond 300 feet from the work area and within 0.25 miles of a near-term project site, Midpen will implement the following conditions:
- Work within the project site shall be confined to the period of September 16 to March 23. If project activities cannot be conducted during the seasonal work period, Midpen will coordinate with CDFW and USFWS and implement the following conditions:
  - If construction activities occur during the marbled murrelet breeding season (March 24 to September 15), seasonal disturbance minimization buffers as identified in the October 28, 2020 document *Revised Transmittal of Guidance: Estimation of the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (USFWS 2020) shall be followed. Midpen shall conduct a sound level monitoring study to determine the level of ambient and construction activity noise anticipated during construction activities to calculate seasonal disturbance minimization buffer widths. Disturbance distances shall apply to noise generating activities that are not within 2 hours of sunrise or sunset, and project generated noise impacts shall be calculated accordingly. Midpen shall provide a description of methods and results of the study to USFWS and CDFW to coordinate site-specific avoidance measures 30 days prior to commencement of near-term project activities at the applicable location(s). To alert work crews to their presence, marbled murrelet seasonal disturbance buffers, as determined by the sound study and USFWS 2020, shall be flagged in the field where they enter the project sites. If Midpen does not conduct the sound study, no project activities shall occur within 0.25 miles of potential nest trees during the marbled murrelet breeding season (March 24 to September 15).
  - If noise generating construction activity takes place during the breeding season (March 24 to September 15) within suitable redwood and redwood/Douglas-fir forests, construction activities will be restricted to 2 hours after sunrise to 2 hours before sunset to minimize disturbance of potential nesting marbled murrelets using forest habitat as a travel corridor between inland nesting and coastal foraging habitat.
  - Midpen or its contractor(s) shall not conduct near-term project activities within a visual line-of-sight distance of approximately 130 feet (40 meters) or less from a suitable nest tree, as designated by a District approved qualified biologist or biological monitor. Additionally, Midpen or its contractor(s) will not conduct near-term project activities within a visual line-of-site distance of approximately 330 feet (100 meters) or less from a known or active nest tree confirmed by a District approved qualified biologist.
  - If marbled murrelet protocol-level surveys are conducted and do not indicate that the habitat is occupied by marbled murrelets, the seasonal and distance work restrictions may be lifted with approval from CDFW and USFWS.
  - If Midpen conducts protocol-level surveys, Midpen will coordinate with CDFW and USFWS regarding the survey stations to ensure all contiguous suitable habitat is covered and good visuals of the sky and nearby flyways, if present, are provided. If marbled murrelet protocol level surveys are conducted, Midpen will submit the report to CDFW and USFWS consistent with *A Revised Protocol for Surveying Marbled Murrelets in*

Forests (Marbled Murrelet Technical Committee, Pacific Seabird Group 2024), or an updated protocol as approved by CDFW and USFWS.

Mitigation Measure 3.4-12: Conduct Focused Surveys for Other Special-Status Birds, Nesting Raptors, and Other Native Nesting Birds, and Implement Protective Buffers

- To avoid potential impacts to tree or shrub-nesting birds, any trimming or pruning of trees or shrubs will be conducted during the time period of September 1 to February 14 unless a preconstruction nesting bird survey has been conducted by a qualified biologist or biological monitor. Work will be done during the non-breeding season whenever possible. The bird nesting seasons are defined as follows: March 15 to August 30 for smaller bird species such as passerines; February 15 to August 30 for raptors.
- If project-related activities are scheduled during the nesting season of raptors and/or migratory birds, a focused survey for active nests of such birds will be conducted by a District approved qualified biologist or biological monitor within 15 days prior to the beginning of project-related activities. Surveys will be conducted in all suitable habitat located at project sites and in staging and storage areas. The minimum survey radii surrounding the work area shall be the following: 250 feet for passerines; 500 feet for other small raptors such as accipiters; 1,000 feet for larger raptors such as buteos and eagles.
- If an active nest is found and work cannot be postponed, the District approved biologist or biological monitor will designate active nest sites as "Ecologically Sensitive Areas" and protected (while occupied) during Program activities with the establishment of flagging or a fence barrier surrounding the nest site. No trees or shrubs that contain active bird nests will be disturbed until all eggs have hatched, and young have fully fledged (are no longer being fed by the adults, and have completely left the nest site). No habitat removal or modification shall occur within the Ecologically Sensitive Area fenced nest zone even if the nest continues to be active beyond the typical nesting season for the species, until the young have fully fledged and will no longer be adversely affected by the project. The minimum distances of the protective buffers surrounding each identified nest site will be the following, with some considerations depending on nest location and substrate: 500 feet for large raptors such as buteos; 250 feet for small raptors such as accipiters and passerines; and 1,000 feet for eagles.
- A District approved qualified biologist or biological monitor will monitor the behavior of the birds (adults and young, when present) at the nest site to ensure that they are not disturbed by project-related activities. Nest monitoring will continue during project-related construction work until the young have fully fledged, are no longer being fed by the parents and have left the nest site and surrounding area, as determined by a biological monitor. If a protective buffer must be modified, the District will coordinate with CDFW and/or the USFWS as appropriate prior to resumption of project-related activities.
- If a lapse in project-related work of 15 days or longer occurs, another focused survey will be conducted before project work is reinitiated.
- Activities unlikely to affect nesting birds (such as minimal work with hand tools) do not require a nesting bird survey.
- Pre-work nesting bird surveys may be waived or survey and nest buffers may be reduced to 100 feet, without coordination with CDFW, in areas where wildlife have acclimated to ambient disturbance (e.g., residential structures, parking areas, trail heads) or for low impact work unlikely to affect nesting birds, as long as a physical nest or building structure that a nest is attached to will not be damaged or removed.

Significance After Mitigation

Implementation of Mitigation Measure 3.4-10 would avoid impacts on burrowing owls by requiring surveys, avoiding active burrows, and compensating for unavoidable loss if avoidance were determined to be infeasible. Mitigation Measures 3.4-11 and 3.4-12, which incorporate where appropriate aspects of OSMRP BMPs BIO-17 Migratory Bird Nest Protection Measures (excludes Marbled Murrelet) and BIO-18: Marbled Murrelet Nest Protection Measures (Midpen 2021a), would avoid impacts on marbled murrelets and other special-status and native nesting birds by implementing work windows outside of the breeding season, requiring nesting bird surveys during the breeding

season, and implementing disturbance buffers around and biological monitoring of identified nests. Therefore, this impact would be **less than significant with mitigation**.

Special-Status Mammal Species

Less than significant with mitigation. Six special-status mammal species have potential to occur in the Preserve: northern California ringtail, mountain lion, American badger, pallid bat, Townsend's big-eared bat, and western red bat. Each of these species are discussed in detail below.

Northern California Ringtail

Northern California ringtails may be present in areas that contain dense woodland and/or rocky outcroppings; however, the species is expected to be rare and local (Midpen 2021a). If present, the removal of trees and snags may remove maternal denning sites, as well as injure or kill individuals if present. Therefore, the impact would be **potentially significant**.

Mountain Lion

Mountain lions are present throughout much of the Santa Cruz Mountains in low densities and have previously been recorded in Midpen lands and could potentially occur within the Preserve (Midpen 2021a). Although the species may occasionally occur in Preserve, individuals are likely to avoid areas of human activity and are not expected to be affected by project activities. Mountain lions are unlikely to den in the near-term project sites due to anthropogenic disturbances, and normal movements of the species are likely to occur at night when equipment and vehicles would not be operating; however, there remains potential that a mountain lion could den in the proximity of near-term project sites, and near-term project activities could disrupt movement and feeding of young. Disturbance to a mountain line den would be **potentially significant**.

American Badger

American badger dens are known to be present in the Preserve, and the species may be present in herbaceous or agricultural land cover with suitable soils for burrowing (Diamond et al. 2022). Near-term project activities are largely limited to areas that currently experience anthropogenic disturbances (e.g., foot and vehicle traffic, parking, domestic grazing) and are unlikely to contain active burrows. However, if burrows are present, they may be crushed by heavy equipment, injuring or killing the occupants. Additionally, project activities may cause temporary disturbances to foraging and dispersal. Therefore, the impact on American badgers would be **potentially significant**.

Special-status Bat Species

Three special-status bat species have potential to occur on the Preserve: Pallid bat, Townsend's big-eared bat, and western red bat. Pallid bats and Townsend's big-eared bats may be present in old buildings or large trees with large cavities. Western red bats are not known to breed within the Preserve (Midpen 2021a); however, the species may roost in the foliage of trees in the near-term project sites. Exfoliating bark of large trees, such as is commonly found on *Eucalyptus* species, may also provide roost habitat suitable for special-status bats. Removal of buildings (i.e., removal of the existing restroom associated with the Highway 35 Parking Project) or removal of trees (i.e., Highway 35 Parking Project, Vede Parking Area Project, Irish Ridge Restoration Project, and possibly Purisima-to-the-Sea Trail and North Trail Projects) could potentially remove special-status bat roost sites. Therefore, the impact on special-status bat species would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-13: Avoid the Ringtail Maternity Season, Conduct Surveys, and Implement Avoidance Measures

- Within seven days prior to the removal of trees or snags with a DBH of 12 inches or greater during the ringtail maternity season (April 15 to June 30), a District approved qualified biologist shall conduct a survey for ringtail dens. No mitigation is required for project activities outside of the ringtail maternity season, or for activities during the maternity season which would not remove trees with a DBH of 12 inches or greater.

- If active ringtail dens are detected during project activities or during pre-activity surveys, a no-disturbance buffer of at least 1,000 feet shall be established around the den, and Midpen will consult with CDFW to determine whether additional protective measures would be necessary.

Mitigation Measure 3.4-14: Conduct Mountain Lion Awareness Training and Pre-Activity Surveys, and Establish Protective Buffers

- Biological awareness training shall be provided to all project personnel prior to beginning work.
- Within 14 days before commencement of project activities, a District approved qualified biologist familiar with mountain lions shall conduct focused surveys of habitat suitable for denning mountain lions on the project site and identify any active dens. If no dens are found, no further mitigation is required.
- If an active den or evidence of an active den is found during focused surveys, impacts on mountain lions shall be avoided by establishing exclusion zones around the den, the size of which shall be determined by the District approved qualified biologist, and shall be a minimum of 2,000 feet. No project activities (e.g., vegetation removal, ground disturbance, staging) shall occur within the exclusion zone until 10 weeks have passed, or until the den is no longer used, as confirmed by the District approved qualified biologist. When the den is no longer occupied or 10 weeks have passed, project activities within the exclusion zone may occur.

Mitigation Measure 3.4-15: Conduct Focused American Badger Surveys, and Establish Protective Buffers

- Within 14 days before commencement of ground-disturbing activities or vegetation removal, a District approved qualified wildlife biologist familiar with American badger and experienced using survey methods for the species shall conduct focused surveys of habitat suitable for the species on the project site to identify any American badger dens/burrows. The District's Avoidance and Minimization Measures and Best Management Practices for American Badger (Midpen 2025c) shall be referenced and applied, as applicable, to the specific project area.
- If occupied dens/burrows are not found, the qualified biologist shall submit a report summarizing the results of the survey to Midpen, and further mitigation shall not be required.
- If occupied dens/burrows are found, impacts on badgers shall be avoided by establishing exclusion zones around all active badger dens/burrows, the size of which shall be determined by the qualified biologist, but shall be a minimum of 100 feet. Additionally, a 100-foot no-work pathway of suitable habitat shall be established around the work area to ensure safe passage of breeding badgers to and from the active den. No project activities (e.g., vegetation removal, ground disturbance, staging) shall occur within the exclusion zone until denning activities are complete or the den/burrow is no longer used, as confirmed by a District approved qualified biologist. Special care should be taken during the badger pupping season (February through July). The qualified biologist shall monitor each den/burrow once per week to track the status of the den and to determine when it is no longer occupied. When it is no longer occupied, project activities within the exclusion zone may occur.

Documentation of compliance with this mitigation measure shall be provided to Midpen before commencement of any near-term project ground-disturbance or vegetation removal activities.

Mitigation Measure 3.4-16 Conduct Focused Bat Surveys, and Implement Avoidance Measures

- Avoid removal of structures or trees greater than sixteen inches dbh during the April through August maternity roosting season as well as between the November 16 through February 15 winter torpor season whenever possible.
- If removal of structures or trees greater than sixteen inches dbh during the nursery season cannot be avoided, within 14 days before any tree removal (all near-term projects), or removal of the restroom associated with the Highway 35 Parking Project, a District approved qualified biologist familiar with bats and bat ecology, and experienced in conducting bat surveys, shall conduct surveys for bat roosts in suitable habitat (e.g., large trees, crevices, cavities, exfoliating bark, foliage, buildings) on and adjacent to the project site. Surveys will consist of daytime pedestrian surveys to look for visual signs of bats (e.g., guano), and if determined to be necessary, evening emergence surveys to note the presence or absence of bats.

- If no evidence of bat roosts is found, the qualified biologist shall submit a report summarizing the results of the survey to Midpen, and no further study shall be required.
- If evidence of bat maternity roosts or hibernacula is observed, the species and number of bats using the roost shall be determined by a District approved qualified biologist using noninvasive methods. Bat detectors (i.e., acoustic monitoring), infrared detectors, and/or evening emergence surveys can be used to supplement survey efforts by the qualified biologist but are not required.
- A no-disturbance buffer of 150 feet shall be established around active pallid bat, Townsend's big-eared bat, or western red bat maternity roosts or hibernacula, as well as substantial maternity roosts or hibernacula of other bat species considered to be a wildlife nursery by the qualified biologist, for any work beyond non-mechanical handwork that would produce substantial noise. Project activities shall not occur within this buffer until after the roosts are unoccupied as determined by a District approved qualified biologist.
- If roosts of pallid bat, Townsend's big-eared bat, or western red bat are determined to be present and must be removed, the bats shall be excluded from the roosting site before the structure or tree is removed. A program addressing compensation, exclusion methods, and roost removal procedures shall be developed in coordination with CDFW before implementation. Exclusion methods may include use of one-way doors at roost entrances (bats may leave but not reenter) or sealing roost entrances when the site can be confirmed to contain no bats. Exclusion efforts may be restricted during periods of sensitive activity (e.g., during hibernation or while females in maternity colonies are nursing young). The loss of each roost (if any) resulting from the project shall be replaced in coordination with CDFW and may require construction and installation of bat boxes suitable to the bat species and colony size excluded from the original roosting site. If determined necessary during coordination with CDFW, replacement roosts shall be implemented before bats are excluded from the original roost sites. After the replacement roosts are constructed and it is confirmed that bats are not present in the original roost site by a District approved qualified biologist, the roost tree or structure may be removed. For roost trees, a two-step tree removal process supervised by a District approved qualified biologist shall be implemented, including removal of all branches that do not provide roosting habitat on the first day, and removal of the remaining portion of the tree on the following day.

Significance After Mitigation

With implementation of Mitigation Measure 3.4-13, the District would avoid impacts on northern California ringtail by performing pre-work surveys and avoiding dens, if found, in consultation with CDFW. Implementation of Mitigation Measures 3.4-14 and 3.4-15 would avoid impacts on mountain lions and American badgers by requiring surveys for individuals and dens, and implementing avoidance buffers around such features. Mitigation Measure 3.4-16 would avoid impacts on roosting bats by implementing focused surveys, a no-disturbance buffer around active roost sites, and requiring coordination with CDFW if roost exclusion or replacement would be necessary. As a result, the impact on special-status mammals would be **less than significant with mitigation**.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the US Fish and Wildlife Service?

Less than significant with mitigation. Riparian communities and other sensitive forest communities are present in the Preserve and provide a wide range of biological functions for fish and wildlife species. Near-term project construction, such as trail and trail bridge construction and vegetation treatment and removal may occur within riparian habitat along channel banks. Specifically, the Irish Ridge Restoration Project, as well as portions of the Purisima-to-the-Sea Trail may contain or intersect sensitive natural communities (e.g., riparian forest, bigleaf maple-Arroyo willow alliance, see: "Sensitive Natural Communities" under "Environmental Setting" above). Vegetation removal could result in a loss of these communities, or degradation of habitat function. Therefore, the impact on riparian habitat and sensitive natural communities would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-17: Conduct Protocol-Level Surveys for Sensitive Natural Communities and Riparian Habitat and Implement Avoidance Measures

The following measures shall be implemented before implementation of all ground disturbing near-term project activities:

- A District approved qualified botanist will perform a protocol-level survey of the project site for sensitive natural communities and sensitive habitats (including riparian habitat) following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018). Sensitive natural communities will be identified using the best available and current data, including keying them out using the most current edition of *A Manual of California Vegetation* (including updated natural communities data at http://vegetation.cnps.org/), or referring to relevant reports (e.g., reports found on the VegCAMP website).
- Before implementation of all ground disturbing near-term project activities, development setbacks will be established around all sensitive habitats identified during surveys, and these setbacks will be flagged or fenced with brightly visible construction flagging and/or fencing under the direction of the qualified biologist and no project activities (e.g., vegetation removal, ground disturbance, staging) will occur within these areas. Setback distances will be dependent on various factors (e.g., presence of special-status wildlife or plant species) and determined by a District approved qualified biologist, but will generally be at minimum of 30 feet. Foot traffic by personnel will also be limited in these areas to prevent the introduction of invasive or weedy species or inadvertent crushing of plants. Periodic inspections during construction will be conducted by the monitoring biologist to maintain the integrity of exclusion fencing/flagging throughout the period of construction involving ground disturbance.
- If near-term project implementation cannot avoid and thus may adversely affect the bed, bank, channel, or associated riparian habitat subject to CDFW jurisdiction under California Fish and Game Code Section 1602, Mitigation Measure 3.4-18 shall apply.
- If sensitive natural communities are identified within a project site that cannot be avoided, Mitigation Measure 3.4-19 shall apply.

Mitigation Measure 3.4-18: Avoid or Compensate for Loss of Riparian Habitat

The following measures shall be implemented before vegetation removal or ground-disturbing activities in riparian habitat:

- If project implementation cannot avoid and thus may adversely affect riparian habitat subject to CDFW jurisdiction under California Fish and Game Code Section 1602, the following measures shall apply.
- A Streambed Alteration Notification shall be submitted to CDFW, pursuant to Section 1602 of the California Fish and Game Code. If proposed project activities are determined to be subject to CDFW jurisdiction, the applicant shall abide by the measures to protect fish and wildlife resources required by any executed agreement before any vegetation removal or activity that may affect the resource.
- The District shall compensate for the loss of riparian habitat such that no net loss of habitat function and values occurs by:
  - Restoring and preserving degraded riparian habitat outside the project site or on the project site (at least 1:1);
  - purchasing riparian habitat credits at a CDFW-approved mitigation bank (at least 1:1); or
  - preserving existing riparian habitat of equal or better value to the affected riparian habitat through a conservation easement or designating a conservation management unit (an internal District designation that restricts activities in ecologically sensitive areas) at a ratio sufficient to offset the loss of riparian habitat function (at least 1:1), as approved by CDFW.

- The District shall prepare and implement a Compensatory Mitigation Plan that includes the following elements:
  - For preserving existing riparian habitat outside near-term project sites in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The District shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.
  - For restoring or enhancing riparian habitat outside the project site, the Compensatory Mitigation Plan shall, at a minimum, include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.
  - Compensatory mitigation may be satisfied through compliance with permit conditions, or other authorizations obtained by the applicant (e.g., Lake and Streambed Alteration Agreement), if these requirements are equally or more effective than the mitigation identified above.

Mitigation Measure 3.4-19: Avoid or Compensate for Loss of Sensitive Natural Communities

The following measures shall be implemented before vegetation removal or ground-disturbing activities in sensitive natural communities:

- The District shall compensate for unavoidable loss of sensitive natural communities on the near-term project sites such that no net loss of habitat function occurs by:
  - restoring degraded communities outside the project site or on the project site at a ratio sufficient to offset the loss of habitat function (at least 1:1) or
  - preserving existing sensitive natural communities of equal or better value to the sensitive natural community affected through a conservation easement or designating a conservation management unit at a ratio sufficient to offset the loss of habitat function (at least 1:1), as approved by CDFW.
- Prepare and implement a Compensatory Mitigation Plan that includes the following elements:
  - For preserving existing habitat outside the project sites in perpetuity, the Compensatory Mitigation Plan shall include a summary of the proposed compensation lands (e.g., the number and type of credits, location of mitigation bank or easement, or CDFW approved conservation management unit), parties responsible for the long-term management of the land, and the legal and funding mechanism for long-term conservation (e.g., holder of conservation easement or fee title). The applicant shall provide evidence in the plan that the necessary mitigation has been implemented or that the applicant has entered into a legal agreement to implement it and that compensatory habitat shall be preserved in perpetuity.
  - For restoring or enhancing habitat outside the project sites, the Compensatory Mitigation Plan shall include a description of the proposed habitat improvements, success criteria that demonstrate the performance standard of maintained habitat function (below) has been met, legal and funding mechanisms, and parties responsible for long-term management and monitoring of the restored or enhanced habitat.
  - The following success criteria shall be required to maintain habitat function for preserved and compensatory populations:
    - The extent of occupied area and density of plants associated with the sensitive natural community (number of plants per unit area) in compensatory habitats shall be equal to or greater than the affected occupied habitat.
    - Compensatory and preserved sensitive natural communities shall be self-producing. Populations would be considered self-producing when:

- plants associated with sensitive natural communities reestablish annually for a minimum of 5 years with no human intervention, such as supplemental seeding, and
- reestablished and preserved habitats contain an occupied area and density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

Significance After Mitigation

With implementation of Mitigation Measures 3.4-17, 3.4-18, and 3.4-19, Midpen would identify riparian habitat and sensitive natural communities in a near-term project site, avoid these resources, and compensate for the loss of any riparian habitat and sensitive natural communities lost as a result of project activities. As a result, the impact would be **less than significant with mitigation**.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than significant with mitigation. State or federally protected wetlands are present in the Preserve, and project activities such as puncheon, culvert, and bridge construction and replacement; road and trail drainage maintenance; restoration and enhancement; and vegetation management may occur within riparian habitat along channel banks or within flowing water bodies, which may result in disturbances to wetlands. Such wetlands are most likely to be present in the Purisima-to-the-Sea Trail and Irish Ridge Restoration Project sites, where riparian forest is present; however jurisdictional wetlands, which may include small ponds, wet meadows, and seeps, may be present in or adjacent to any of the near-term project sites. The impact on state or federally protected wetlands would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-20: Delineate State and Federally Protected Wetlands, Avoid Wetlands, or Obtain Permits for Impacts on Wetlands

- Midpen would design all near-term project alignments to avoid impacts to state or federally protected wetlands and other waters. If a formal delineation of a near-term project area has not already been conducted, Midpen would retain a District approved qualified biologist, hydrologist, or wetland ecologist to prepare a formal delineation of the boundaries of potential state or federally protected wetlands within the development area according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and the Arid West regional supplement (USACE 2008), as well as the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2021). The qualified biologist would also delineate the boundaries of wetlands that may not meet the definition of waters of the United States, but would qualify as waters of the state, according to the state wetland procedures (SWRCB 2021). If the project could not be designed to avoid state or federally protected wetlands and other waters, the delineation report would be submitted by the applicant to USACE and a preliminary jurisdictional determination would be requested.
- If state or federally protected wetlands are determined to be present within the development area that can be avoided, the qualified biologist would establish a buffer around wetlands and mark the buffer boundary with high-visibility flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway). The buffer would be a minimum width of 25 feet but may be larger if deemed necessary. The appropriate size and shape of the buffer zone would be determined in coordination with the qualified biologist and would depend on the type of wetland present (e.g., stream, fresh emergent wetland), the timing of project construction activities (e.g., wet or dry time of year), environmental conditions and terrain, and the project activity being implemented.

Project construction activities (e.g., ground disturbance, vegetation removal, staging) would be limited within the established buffer. The qualified biologist would periodically inspect the materials demarcating the buffer to confirm that they are intact and visible, and wetland impacts are being avoided.

- If it is determined that fill of waters of the United States would result from project implementation, authorization for fill of waters of the United States shall be secured from USACE and the RWQCB through the permitting processes for Clean Water Act Sections 401 and 404. In association with Section 404 and before the issuance of any grading permit, Section 401 Water Quality Certification from the San Francisco Bay RWQCB shall be obtained. For impacts on waters of the state that are not also waters of the United States and are therefore not covered by the 401 Water Quality Certification, the applicant shall apply to the RWQCB for Waste Discharge Requirements following the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). Any waters of the United States or waters of the state that are affected by the project shall be replaced on a no-net-loss basis in accordance with the applicable USACE and State Water Resources Control Board mitigation standards in place at the time of construction.
- Before commencing activity that may divert the natural flow or otherwise alter the bed or bank of any lake or stream on the project site or off-site improvement areas, the applicant shall notify CDFW, through issuance of a Lake and Streambed Alteration Notification (notification). If CDFW determines, based on the notification, that project activities trigger the need for a Lake and Streambed Alteration Agreement, Midpen shall obtain an agreement from CDFW before the activity commences. The applicant shall conduct project construction activities in accordance with the agreement, including implementing reasonable measures in the agreement necessary to protect fish and wildlife resources, when working within the bed or bank of waterways or in riparian habitats associated with those waterways. These measures may include, but not be limited to, demarcation of the construction area, biological monitoring, environmental awareness training for construction crews, and compensatory measures (e.g., restoration, long-term habitat management).

Significance After Mitigation

With implementation of Mitigation Measure 3.4-20, any project activities resulting in impacts on state or federally protected wetlands would be conducted with agency approval, and include any additional measures as determined by the appropriate agencies to achieve a no-net-loss standard. As a result, the impact would be **less than significant with mitigation.**

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than significant with mitigation. Near-term project construction and vegetation treatment and removal may cause wildlife to avoid near-term project sites during active work due to noise or increased human presence. Such disturbances would be relatively short in duration and occur in areas already subject to anthropogenic disturbances including public use, hiking, domestic grazing, and preserve patrol, operations, and maintenance. In addition, the near-term projects include new trails and parking areas; however, they would only be operational during daylight hours and none of the near-term projects include new, large, or long structures or other barriers that would interfere substantially with the movement of wildlife.

Implementation of the Purisima-to-the-Sea Trail Project and North Trail Project would require the installation of new fencing: Purisima-to-the-Sea Trail would require the installation of self-closing gates where the proposed trail crosses in and out of grazing lease areas, and the North Trail would include new fence segments along Verde Road. Pursuant to wildlife focus area of the Plan (see Section 2.5.1 "Vegetation and Wildlife" in Chapter 2) the replacement of existing infrastructure and installation of new infrastructure would use wildlife-friendly fencing to establish and maintain safe wildlife movement, including regular maintenance and signage to increase public awareness, and would not result in adverse impacts to wildlife movement.

Aquatic features in the Preserve, including Lobitos Creek, provide potential habitat for native fish species. Project activities, including trail bridge construction and culvert installation associated with the Purisima-to-the-Sea Trail Project, may affect the movement of fish species by altering flow paths or the distribution of stream substrates. These construction activities could result in short-term impacts and/or losses of available habitat for fish species, but would not result in permanent barriers. Culverts in fish-bearing streams would be designed to provide sufficient depth and

velocity of water for passage of native fish and other native aquatic species during high and low flow conditions. These waterways, and associated vegetation, may also provide corridors for both aquatic (e.g., northwester pond turtle, California red-legged frog) and terrestrial (e.g., ringtail, mountain lion) movement and dispersal.

Forest, woodland, and riparian habitats in the Preserve may provide roosting habitat potentially suitable for common bat species, and riparian habitat may provide habitat for heron or egret rookeries; both of which would be considered wildlife nursery sites. Project activities, including restroom removal and vegetation removal, could result in disturbance or removal of wildlife nursery sites.

The impact related to wildlife movement corridors and wildlife nursery sites would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-4: Implement Aquatic Habitat Setbacks for Water Quality Protection

Mitigation Measure 3.4-5: Consult with NOAA Fisheries for In-Water Project Activities

Mitigation Measure 3.4-6: Implement Seasonal Work Periods within Federally Designated Salmonid Critical Habitat

Mitigation Measure 3.4-12: Conduct Focused Surveys for Other Special-Status Birds, Nesting Raptors, and Other Native Nesting Birds, and Implement Protective Buffers

Mitigation Measure 3.4-16 Conduct Focused Bat Surveys, and Implement Avoidance Measures

Significance after Mitigation

With implementation of Mitigation Measures 3.4-4, 3.4-5, and 3.4-6, the District would avoid impacts on the movement of native fish by protecting the water quality of streams and creeks in the Preserve, consulting with NOAA Fisheries to determine the presence of migratory salmonids in Preserve waterways and implementing necessary protections and implementing seasonal work windows to prevent impacts during vulnerable periods. Implementation of Mitigation Measures 3.4-12 and 3.4-16 would require surveys and avoidance of nesting birds and bats, which would in turn result in detection and avoidance of wildlife nursery sites. As a result, this impact would be **less than significant with mitigation.**

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

Less than significant with mitigation. As described in Section 3.4.2 "Regulatory Setting," local policies or ordinances protecting biological resources that apply to the near-term projects include the San Mateo Local Coastal Program and San Mateo Heritage and Significant Tree ordinances due to some of the near-term projects occurring within the Coastal Zone and tree removals that may be required. As described in Section 2.7 "Anticipated Permits and Approvals" in Chapter 2, Midpen would obtain a CDP covering four of the five near-term projects located within the Coastal Zone (i.e., Purisima-to-the Sea Trail Project, Verde Road Parking Project, Purisima Multimodal Access Implementation Project, and Irish Ridge Restoration Project), consistent with the San Mateo Local Costal Program, and comply with all applicable conditions. POST would obtain a CDP covering the North Trail Project consistent with the San Mateo Local Coastal Program, and comply with all applicable conditions. Additionally, Midpen would obtain a Tree Trimming or Removal Permit from the County, if required, consistent the San Mateo Heritage Tree and Significant Tree Ordinances, or any permit exemptions in effect at the time, for near-term projects requiring the removal of trees (i.e., Highway 35 Parking Project, Verde Road Parking Project), and comply with any conditions of the permit including fees and tree replacement, or exemption. For Heritage and/or Significant Trees not targeted for removal, damage to the trees could occur if ground disturbance (e.g., grading, vegetation removal, movement of heavy equipment) occurred over the root systems. Therefore, the impact related to conflicting with local ordinances governing significant trees would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-21: Establish Tree Protection Zones Around Heritage and/or Significant Trees

- The District shall establish Tree Protection Zones (TPZs) around all Heritage and/or Significant Trees present on or with driplines (i.e., the area underneath the outermost branches) extending into near-term project sites that are not proposed for removal.
- The TPZs shall consist of a substantial construction fence (e.g., non-moveable fence) and extend 1 foot beyond the dripline of the Heritage and/or Significant Tree. A laminated sign noting the TPZ and provided contact info for a Midpen point-of-contact shall be placed on the fence.
- No vehicles, construction equipment, materials, debris, paint or paint product, chemicals, contaminated water, or other foreign materials shall be placed, poured, or stored within the TPZ of any tree.

Significance After Mitigation

With implementation of Mitigation Measure 3.4-21, all Heritage and/or Significant Trees, as defined by the San Mateo County Heritage Tree Ordinance and/or San Mateo County Significant Tree Ordinance but not identified for removal or trimming, would be protected from possible root damage associated with construction activities. As a result, this impact would be **less than significant with mitigation**.

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

No impact. The Preserve is not within the boundaries with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan. Therefore, **no impact** would occur.

3.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources.				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Substantially disturb human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

3.5.1 Environmental Setting

REGIONAL PRECONTACT HISTORY

The Preserve lies in what generally is described as the San Francisco Bay Region, which is one of eight arbitrary organizational divisions of the state. This archaeological region includes all of today's San Mateo, San Francisco, and Marin Counties and western, northern, and southern portions of Alameda, Contra Costa, Napa, Santa Clara, Santa Cruz, Solano, and Sonoma Counties bordering the Bay Area. The prehistory of this region is divided into six periods: Early Holocene (Lower Archaic; 8000–3500 BC), Early period (Middle Archaic; 3500–500 BC), Lower Middle period (Initial Upper Archaic; 500 BC–AD 430), Upper Middle period (Late Upper Archaic, AD 430–1050), Initial Late period (Lower Emergent; AD 1050–1550), and Terminal Late period (AD 1550–1776) (SWCA 2021).

HISTORIC SETTING

Post-contact history for the state is generally divided into three periods: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the beginning of Spanish settlement in California occurred in 1769 with a settlement at San Diego and the first (Mission San Diego de Alcalá) of 21 missions established from 1769 to 1823. Word of Mexican victory after a decade of revolt against the Spanish crown reached California in 1822, marking the beginning of the Mexican period. This period was marked by an extensive era of land grants, most of which were in the interior of the state, and by exploration by American fur trappers west of the Sierra Nevada. With the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican–American War, California became a territory of the US (SWCA 2021).

In the 1840s, José Antonio Alvisio's adobe was constructed on the north bank of Purisima Creek on what was later to be conferred as the Rancho Canada Verde Y Arroyo de la Purisima in 1860. Subsequent waves of American settlers and migrant farm laborers comprised of immigrants from Germany, Japan, Ireland, Italy, Mexico, the Philippines, and Portugal began in the 1850s, and the town of Purisima soon developed to support the associated farming and lumber activities. As these industries receded and its participants relocated to the better-situated Half Moon Bay, the town of Purisima steadily declined and was completely abandoned by 1940 (SWCA 2021).

By the early 1900s, the region's redwood trees were in danger of total loss due to deforestation. As a result, in 1918, local citizens dedicated themselves to the preservation of these ancient living resources and founded the Save the Redwoods League. In 1920, the League was incorporated as a California non-profit organization and in 1921

established its first memorial grove in South Fork Eel River. In 1925, the League was a key leader in the founding of the California State Parks Committee. After a century of preservation efforts, the League saved over 200,000 acres of redwood forest and provided funds and aid to establish 66 parks and preserves. In 1982, the League provided a $2 million gift to establish the Preserve. As part of this process, Midpen purchased the 842-acre Whittemore Gulch Redwoods Preserve (Cogstone 2025).

RECORDS SEARCHES AND SURVEYS

On August 30, 2022, a California Historical Resources Information System (CHRIS) records search was conducted at the Northwest Information Center (NWIC), Sonoma State University, Rohnert Park (Cogstone 2023a). The records search covered the Highway 35 Parking Project to identify previously recorded resources (e.g., archaeological sites and built-environment feature). Only one resource, a built-environment feature (P-41-000186), was identified within the Highway 35 Parking Project. P-41-000186 is a 2-story single family Georgian Revival residence, that is listed in the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), and is also a California Historical Landmark (CHL; No. 907). However, the southwest most portion of P-41-000186 is mapped as extending past the resource boundary. Therefore, while the NWIC search results list the P-41-000186 boundaries as overlapping with the Highway 35 Parking Project, this boundary and result is no longer valid. On October 21, 2022, a pedestrian survey was conducted for the Highway 35 Parking Project. No archaeological sites were observed (Cogstone 2023a). However, the residence located at 13130 Skyline Boulevard was recorded and evaluated for the NRHR/CRHR as part of the Highway 35 Parking Project (Cogstone 2023b). The one single-family property is not associated with events significant to history and was recommended not eligible for the NRHP/CRHR under Criterion A/1. Similarly, it is not associated with the lives of a significant person and was recommended not eligible under Criterion B/2. Furthermore, the property is not an exemplary representation of a type, period, method of construction, nor does it represent the work of a master and was recommended not eligible under Criterion C/3. Lastly, the 13130 Skyline Boulevard property does not exhibit a local variation of a standard design or construction technique that can yield important information and was recommended not eligible under Criterion D/4 (Cogstone 2023b). Therefore, there are no known archaeological sites or built-environment features located within the Highway 35 Parking Project area.

On November 11, 2020, a CHRIS records search was conducted at the NWIC (SWCA 2021) for the Purisima-to-the-Sea Trail Project and the Verde Road Parking Area Project, to identify previously recorded archaeological sites and built-environment features. No previously recorded archaeological sites or built-environment features were identified within the boundaries of the Purisima-to-the-Sea Trail Project or the Verde Road Parking Area Project. On August 11, 2021, a pedestrian survey was conducted in these areas. No new archaeological sites or built-environment features were identified as a result of the pedestrian survey (SWCA 2021). In addition, on January 30, 2026, a pedestrian survey was conducted to cover new areas associated with refined trail alignments that were added to the Purisima-to-the-Sea Trail Project; no new archaeological sites or built-environment features were identified as a result of the pedestrian survey (Ascent 2026).

The CHRIS records search conducted for the Purisima-to-the-Sea Trail Project and the Verde Road Parking Area Project also encompassed the North Trail Project area. No previously recorded archaeological sites or built-environment features were identified within the North Trail Project (SWCA 2023). On December 7, 2022, a pedestrian survey was conducted for the North Trail Project. No archaeological sites or built-environment features were identified (SWCA 2023).

On October 29, 2024, a CHRIS records search was conducted at the NWIC for the Irish Ridge Restoration Project (Cogstone 2025). No previously recorded archaeological sites or built-environment features were identified. On March 22, 2025, a pedestrian survey was conducted for the Irish Ridge Restoration Project. No archaeological sites or built-environment features were identified as a result of the pedestrian survey (Cogstone 2025).

The Purisima Multimodal Access Implementation Project would not involve the demolition or alteration of potentially historic structures or buildings. It would involve minor ground disturbance to implement capital improvements, such as cellular infrastructure, a vehicle gate, ADA-accessible landing pads, benches with shelters, and signage within an

existing parking area. Therefore, because the area was previously disturbed and developed, no impacts to cultural resources would occur. For this reason, a cultural resources study was not prepared and the Purisima Multimodal Access Implementation Project is not considered further in the impact discussion below.

3.5.2 Discussion

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No impact. P-41-000186 was identified through the records search for the Highway 35 Parking Project, and the 13130 Skyline Boulevard property was recorded during the pedestrian survey (Cogstone 2023a; Cogstone 2023b). Although current search results indicate that the boundaries of P-41-000186, which is listed in the NRHP/CRHR/CHL, overlap with the Highway 35 Parking Project, the southwestern boundary of P-41-000186 is no longer located within the Highway 35 Parking Project. Therefore, this historical resource would not be affected by the proposed project. Similarly, the 13130 Skyline Boulevard property was recommended not eligible for listing in the NRHP/CRHR and, pursuant to Section 15064.5, does not qualify as a historical resource. No built-environment features were identified through the records searches or pedestrian surveys for the remaining four near-term projects with ground disturbing activities (Ascent 2026; Cogstone 2025; SWCA 2021; SWCA 2023), and the near-term projects do not propose any alternations or demolition of existing buildings or other built resources that have the potential to be historic.

The project would not result in a substantial adverse change in the significance of a historical resource. Therefore, there would be no impact.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than significant with mitigation. No archaeological sites were identified through the records searches or pedestrian surveys for the near-term projects with ground disturbing activities (Ascent 2026; Cogstone 2023a; Cogstone 2023b; Cogstone 2025; SWCA 2021; SWCA 2023). However, project-related ground-disturbing activities (e.g., grading, excavation, or vegetation removal using equipment like masticators, excavators, track chippers, and/or a bulldozer) could result in discovery or damage of unknown archaeological resources as defined in State CEQA Guidelines Section 15064.5. Therefore, this impact would be potentially significant.

Mitigation Measures

Mitigation Measure 3.5-1 Halt Ground Disturbance Upon Discovery Archaeological or Paleontological Features

If archaeological materials (e.g., locally darkened soils [i.e., midden], stone tools, chipped stone, baked clay, or concentrations of shell, bone, charcoal, glass, metal, or ceramics) or paleontological materials are inadvertently discovered during ground-disturbing activities, the contractor shall cease all work within 100 feet (30.5 meters) of the find and Midpen shall immediately retain the services of a qualified professional archaeologist. At that time, Midpen shall coordinate any necessary investigation of the site with the archaeologist (or paleontologist) as needed to evaluate the significance of the resource per PRC Sections 5024.1 and 21083.2(g) and provide proper management recommendations. Possible management recommendations for significant resources could include resource avoidance or data recovery excavations. If the qualified archaeologist determines the archaeological material to be Native American in nature, Midpen shall contact the appropriate Native American tribe(s) for their input on the preferred treatment of the find. Midpen shall implement any measures deemed necessary by the archeologist and/or tribe for the protection of the cultural resources, with preservation in place being the preferred treatment. The archaeologist shall instruct the contractor to not resume work in the area of the discovery until directed to do so.

Significance After Mitigation

Implementation of Mitigation Measure 3.5-1 would reduce impacts to archaeological resources by requiring that steps be taken in the event that archaeological resources are encountered during project construction to avoid direct impacts to the resource. Therefore, the impact to archaeological resources would be **less than significant with mitigation**.

c) Substantially disturb human remains, including those interred outside of formal cemeteries?

Less than significant. Based on the NWIC results and pedestrian survey for the five near-term projects, no evidence suggests that any precontact or historic era marked or un-marked human interments are present within or in the immediate vicinity of the proposed projects (Ascent 2026; Cogstone 2022; Cogstone 2023; Cogstone 2025; SWCA 2021; SWCA 2023). However, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, there is a possibility that unmarked, previously unknown Native American or other graves could be present within the near-term project sites and could be uncovered by project-related construction activities.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains, and discovery of any human remains, are contained in California Health and Safety Code Section 7050.5 and PRC Section 5097.

These statutes require that, if human remains are discovered, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the San Mateo County coroner shall be notified immediately. If the remains are determined by the coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the NAHC-designated most likely descendants and the landowner shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments, if present, are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Compliance with California Health and Safety Code Section 7050.5 and PRC Section 5097, would avoid or minimize the disturbance of human remains, and require the appropriate treatment of any remains that are discovered. Therefore, this impact would be **less than significant**.

3.6 ENERGY

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

3.6.1 Environmental Setting

ENERGY TYPES AND SOURCES

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. One-third of energy commodities consumed in California are natural gas. In 2024, renewable resources, including hydroelectric power and small-scale solar power, supplied 57 percent of California's in-state electricity generation. Natural gas fueled another 35 percent, and nuclear power provided almost all the rest (EIA 2024).

In 2024, San Mateo County consumed 4,261 gigawatt-hours of electricity, 38 percent of which was consumed by the residential sector, while non-residential uses accounted for the remaining 62 percent. Regarding natural gas, San Mateo County consumed a total of 189 million therms, 55 percent of which was consumed by the residential sector, while non-residential uses accounted for the remaining 45 percent (CEC 2025a).

ALTERNATIVE FUELS

A variety of alternative fuels are used to reduce demand for petroleum-based fuel. The use of these fuels is encouraged through various statewide regulations and plans (e.g., Low Carbon Fuel Standard, Assembly Bill [AB] 32 Scoping Plan). Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many transportation fuels, including:

- biodiesel,
- electricity,
- ethanol (E-10 and E-85),
- hydrogen,
- natural gas (methane in the form of compressed and liquefied natural gas),
- propane,
- renewable diesel (including biomass-to-liquid),
- synthetic fuels, and
- gas-to-liquid and coal-to-liquid fuels.

California has a growing number of alternative fuel vehicles through the joint efforts of CEC, the California Air Resources Board (CARB), local air districts, federal government, transit agencies, utilities, and other public and private entities. As of December 2025, California contained over 77,300 alternative fueling stations (AFDC 2025).

ENERGY USE FOR TRANSPORTATION

The transportation sector uses about 86 percent of the petroleum consumed in the state. The industrial sector accounts for about 10 percent of state petroleum use, and the commercial sector consumes about 3 percent. The residential sector uses about 1 percent. A small amount of petroleum is used for electricity generation (EIA 2024). In 2024, San Mateo reported 231 million gallons of gasoline sold, while diesel sales for the year were reported to be 12 million gallons (CEC 2025b).

Long-term energy consumption trends for transportation are generally determined by fuel efficiency trends for motor vehicles because motor vehicles are the predominant modes of transportation for passengers and commercial goods.

SAN MATEO COUNTY CLIMATE ACTION AND ADAPTATION PLAN

In 2022, the County of San Mateo adopted the community climate action plan (CCAP) which includes strategies and actions meant to reduce GHG emissions within the San Mateo County community. The CCAP was developed to achieve a 45 percent reduction in GHG emissions by 2030, exceeding the requirements of SB 32 (i.e., 40 percent reduction by 2030). To achieve this, the CCAP identifies the key strategies of electrifying 16 percent of buildings by 2030 and increasing the percentage of zero emissions vehicles to 18 percent by 2030.

3.6.2 Discussion

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

Less than significant. During construction of the near-term projects, energy would be required to operate and maintain construction equipment, transport workers, and to produce and transport construction materials. Activities related to the construction of near-term projects would occur over a period of approximately 3 years. Most energy consumption would result from the operation of construction equipment and vehicle trips associated with worker commutes and truck trips related to construction activities such as materials delivery and hauling, demolition, cut and fill activities, as well as concrete delivery. The one-time energy expenditure required for construction of the near-term projects would be nonrecoverable. Construction contractors typically strive to complete construction projects in an efficient manner to meet project schedules and minimize cost (to maximize profitability). Therefore, it is assumed that only the necessary amount of fuel would be consumed to complete construction of the project. Construction activities would be short-term in nature and there is no basis to conclude that construction would be wasteful of fuel or other energy resources. Table 3.6-1 provides an estimate of the total gallons of gasoline and diesel fuel that would be consumed during the construction phase of the near-term projects.

Table 3.6-1 Total Construction-related Fuel Consumption

Element	Fuel Assumed	Fuel (Gallons)
Equipment	Diesel	68,266
Vendor and Haul Trucks	Diesel	3,722
Workers	Gasoline	5,353

Source: Calculations performed by Ascent in 2026.

The project would not require the use of electricity or natural gas during operations. As discussed in Section 3.17, "Transportation," the project would not result in increases in housing, employment, or extra-regional visitor trips to

the Preserve that would result in a significant increase in VMT in the region. Thus, mobile-source energy consumption, which is directly related to VMT, would also see a minimal increase from existing conditions. Because the project would provide a high-quality public access and recreation resource for the region and would not considerably increase electrical demand, natural gas use, or substantial new vehicles trips above baseline conditions, the impact would be **less than significant**.

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

Less than significant. As stated above, the CCAP was developed to achieve a 45 percent reduction in GHG emissions by 2030 through the implementation of strategies that include electrifying 16 percent of buildings by 2030 and increasing the percentage of zero emissions vehicles to 18 percent by 2030. As GHG emissions are an inherent result of the generation and consumption of fossil fuel related energy, key GHG reduction actions that reduce fossil fuel–related energy consumption, implement all-electric development, increase renewable energy generation, and improve energy efficiency are also inherently energy-related.

The CCAP targets reductions in the energy and transportation sectors through the implementation of policies and actions which, generally, involve all-electric building development and retrofitting, generation of local renewable energy, increasing EV use and EV charger availability, and various actions to reduce VMT such as increasing transit ridership and developing walking– and biking-friendly infrastructure. These goals reflect those identified in Appendix D, "Local Actions," of the state's 2022 Scoping Plan, which provides lead agencies with guidance for the necessary project design features (or mitigation measures) needed in new development to further the state's long-term energy goals to reduce GHGs consistent with the reduction targets of AB 1279. These design features include the elimination of on-site natural gas infrastructure, incorporation of the most recent version of the CALGreen Code's Tier 2 electric vehicle (EV) charging requirements for residential and nonresidential land uses and increasing VMT efficiency.

The project does not propose any buildings that would require electricity, nor would it introduce any new natural gas infrastructure. Thus, the project would not have the potential to conflict with the CCAP's building electrification goals. The project would not contribute VMT that would conflict with OPR's requirements under SB 743 (see Section 3.17, "Transportation") and therefore would not generate substantial VMT. Rather, as part of the Purisima Multimodal Access Implementation Project, Midpen would implement a pilot shuttle service connecting the proposed Verde Road parking area to the Purisima Creek Trailhead, which would have the potential to reduce overall VMT by approximately 11 percent (CAPCOA 2021: 187). Therefore, the project would support the CCAP's goals to reduce per-capita VMT by increasing the availability and use of transit options. Lastly, because the proposed parking lots would include EV parking spaces, they would support the CCAP's goal of increasing vehicle electrification. For these reasons, no conflicts with the CCAP would occur and the impact would be **less than significant**.

3.7 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Geology and Soils.				
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.7.1 Environmental Setting

The Purisima Creek Redwoods Open Space Preserve is located on the western slopes of the northern Santa Cruz Mountains within unincorporated San Mateo County. The Preserve is located in a seismically-active region of the San Andreas Fault system. The closest active fault is the San Andreas Fault, located approximately 1.8 miles east of the Preserve, as shown in Figure 3.7-1 (DOC 2025).

Elevations range from as low as 150 feet above mean sea level along the creek corridors to over 2,000 feet on the ridge tops. The elevated ridgelines in the northern portion of the Preserve offer expansive views of the Pacific

coastline and Half Moon Bay, notably from designated viewpoints along the Harkins Ridge Trail and Soda Gulch Trails. The Preserve is located within the State's Coast Range geomorphic province. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary strata (CGS 2002). According to the San Mateo County General Plan, approximately 80 percent of the County is covered with sandy loam, clay loam, and clay upland soils, generally on slopes of 30 percent or greater. The Preserve is located in an area of the County that consists of well-drained and somewhat excessively drained moderately deep and shallow upland clay loam and clay soils on ultra basic igneous rock (San Mateo County 1986). As shown in Figure 3.7-2, the Preserve largely contains Butano loam, Butano shaly loam, and Santa Lucia stony loam in the northern portion of the Preserve and Gazos loam and Tierra loam in the southern portion of the Preserve (NRCS 2025).

LIQUEFACTION

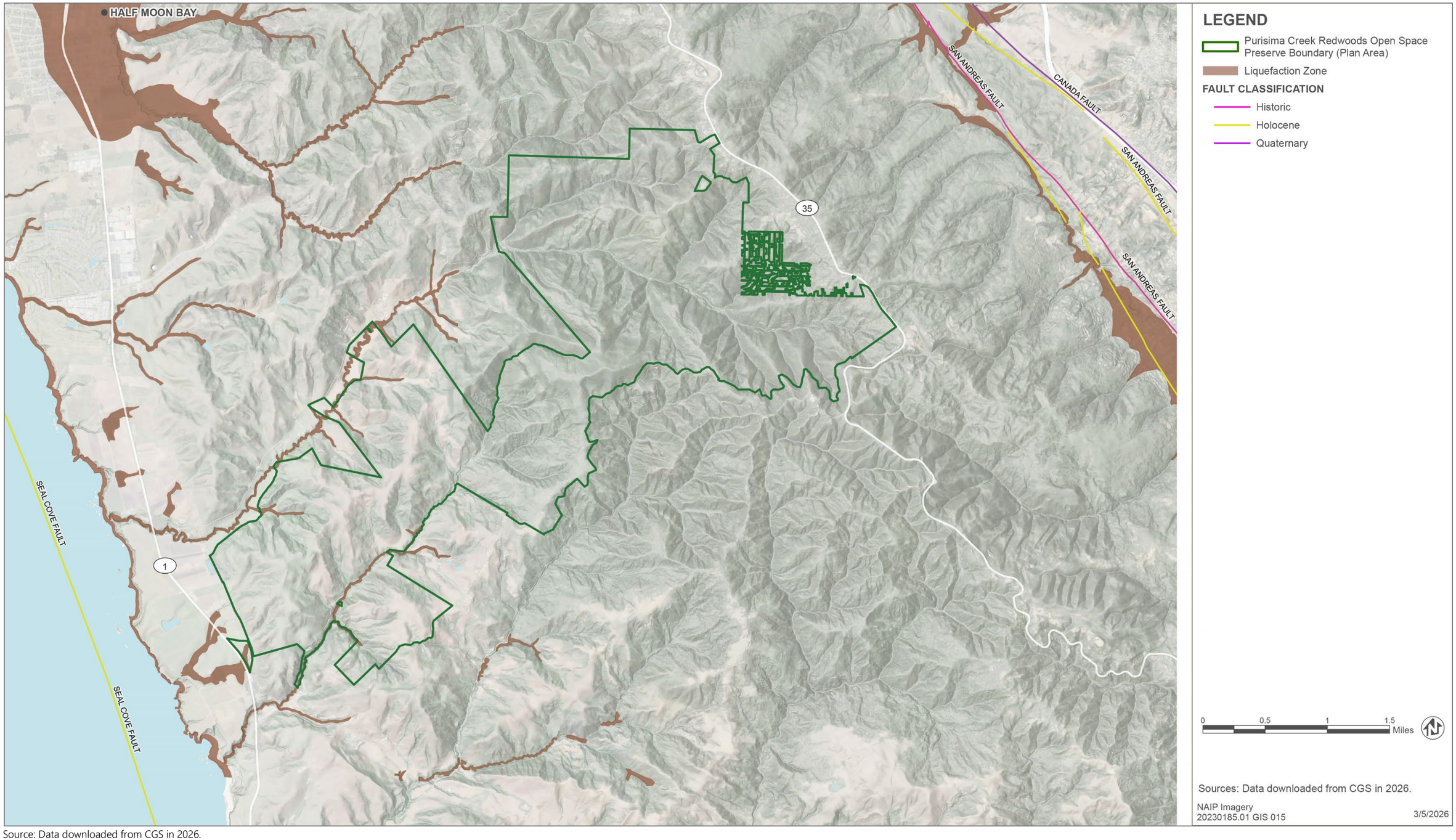
When strong ground shaking results from a nearby or distant earthquake, several secondary seismic hazards could occur. These seismic hazards can include liquefaction. Liquefaction takes place when loosely packed, water-logged sediments at or near the ground surface lose their strength in response to strong ground shaking. Liquefaction occurring beneath buildings and other structures can cause major damage during earthquakes (USGS n.d.-a). Liquefaction potential is highest in fine-grained cohesionless sands. Liquefaction of clay or clay-rich layers is unlikely due to the highly cohesive nature of the clay minerals (San Mateo County 1986). Since saturated soils are a necessary condition for liquefaction, soil layers in areas where the groundwater table is near the surface have high liquefaction potential than those in which the water table is deep. Lands proximate to the San Francisco Bay often have these characteristics (San Mateo County 1986). According to the DOC, Purisima Creek, the southern portion of Lobitos Creek, and other small areas within the Preserve contain liquefaction zones; see Figure 3.7-1 (DOC 2025).

LANDSLIDES

A landslide is the movement of a mass of rock, debris, or earth down a slope. Ther term "landslide" encompasses five modes of slope movement: falls, topples, slides, spreads, and flows. These are further subdivided by the type of geologic material (bedrock, debris, or earth). Debris flows (commonly referred to as mudflows or mudslides) and rock falls are examples of common landslide types (USGS n.d.-b) According to the DOC, a large amount of the Preserve is located within a landslide zone, primarily the northeastern portion of the Preserve, as shown in Figure 3.7-3 (DOC 2025). Additionally, per the San Mateo County General Plan, the Santa Cruz Mountains have steep and unstable slopes which are susceptible to landslides (San Mateo County 1986).

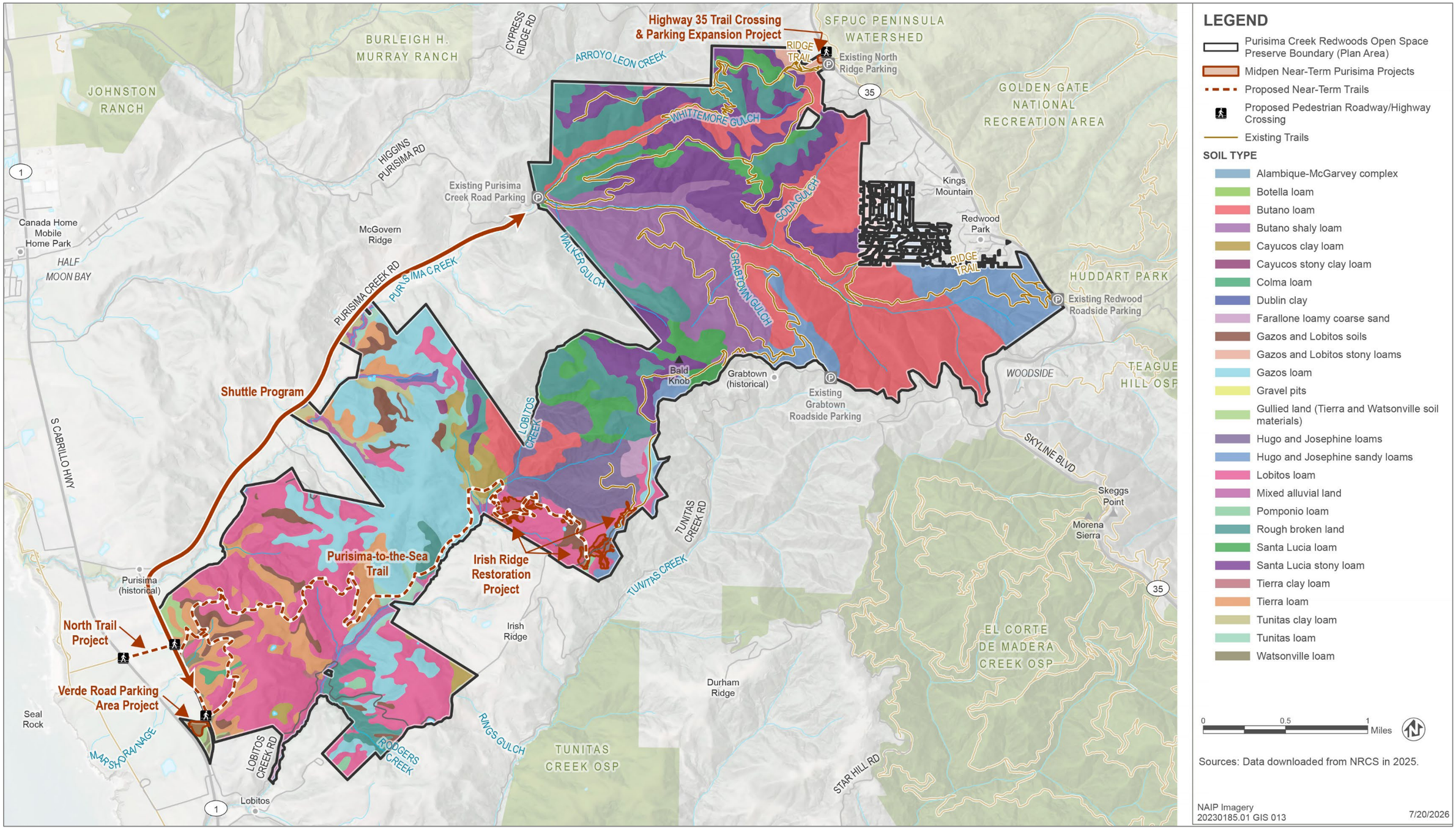
EROSION POTENTIAL

Much of the County is highly susceptible to soil erosion, due to steep slopes and unstable soils. Land within the coastal region, including the Preserve, are generally considered unstable for intensive uses and tend to erode. According to the San Mateo County General Plan, soil erosion is a known problem within the Purisima watershed. The Preserve largely contains loam and clay loam which have moderate erosion potential (San Mateo County 1986). As mentioned above, the Preserve specifically contains Butano loam, Butano shaly loam, and Santa Lucia stony loam in the northern portion of the Preserve and Gazos loam and Tierra loam in the southern portion of the Preserve (NRCS 2025). These soils are well drained and moderately deep, with very slow to moderate permeability (USDA 1997, USDA 1999, USDA 2001, USDA 2006). The soil characteristics of the soils located throughout the Preserve can increase surface runoff and reduce soil stability, increasing potential for soil erosion, particularly under steep slope condition.



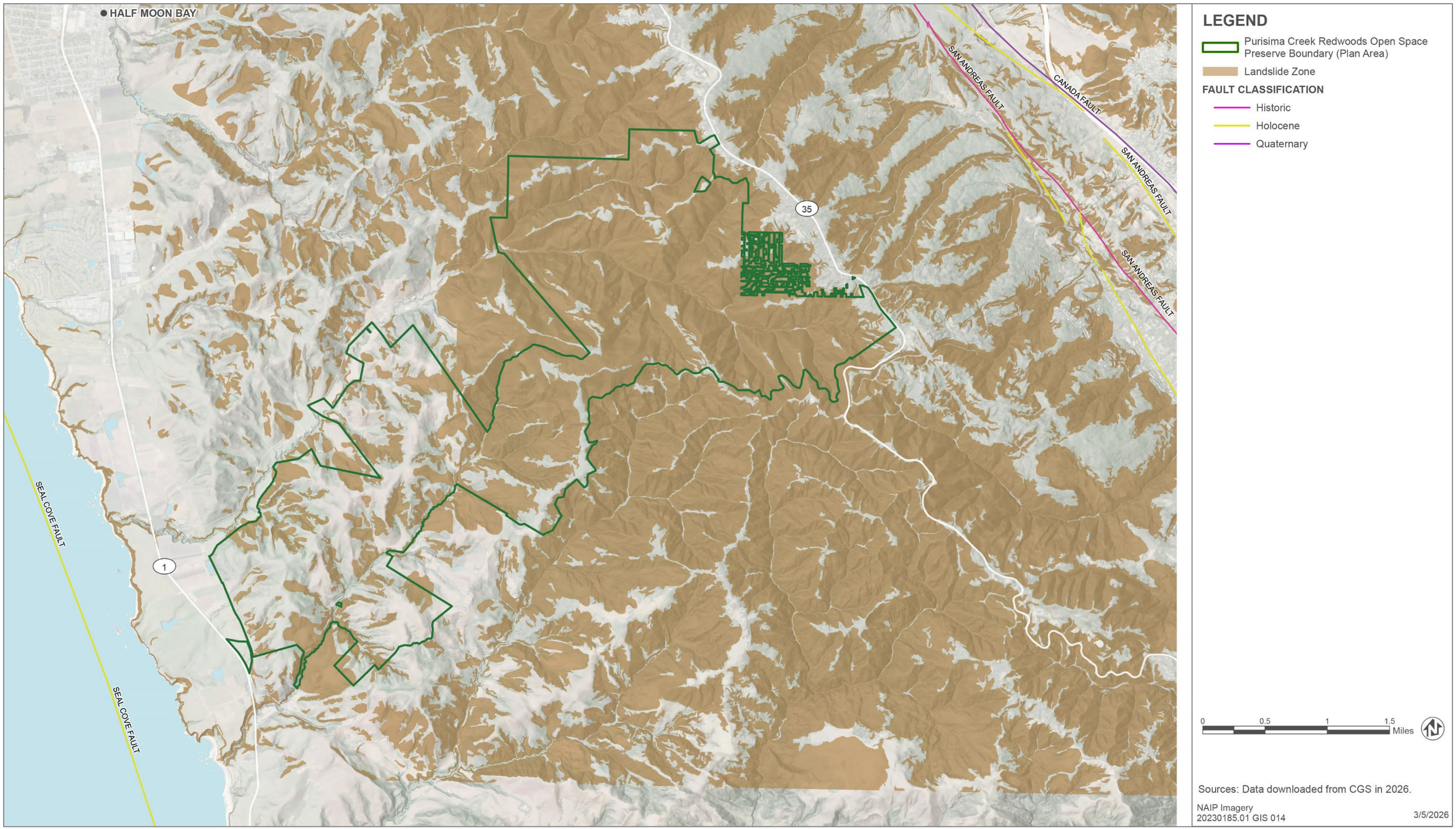
Source: Data downloaded from CGS in 2026.

Figure 3.7-1 Liquefaction and Earthquake Faults in the Vicinity of the Preserve



Source: Data downloaded from NRCS in 2025.

Figure 3.7-2 Soil Types in the Preserve



Source Data downloaded from CGS in 2026.:

Figure 3.7-3 Landslide Zones in the Vicinity of the Preserve

EXPANSIVE SOILS

Expansive soils are associated with the presence of certain types of clay minerals, which expand considerably when wet and shrink, often into fine dusts, when dry (San Mateo County 1986). Expansive soils are deposited in a loose, highly porous state, then harden and remain dry after deposition. Upon contact with moisture, the weak concentration between the loose soil particles soften and can result in settlement or collapse. As mentioned above, the Preserve is located in an area that contains well-drained and moderately deep loam and clay loam soils, with slow to moderate permeability. Since the Preserve has soil types with slow to moderate permeability, causing the soils to retain water longer than soils with higher permeability, as well as the Preserve's soil types containing clay minerals, there is potential for expansion within these soils.

3.7.2 Discussion

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

Less than significant. As mentioned above, the San Andreas Fault is located approximately 1.8 miles east of the Preserve. While the near-term projects could slightly increase the number of visitors to the Preserve, visitors of the Preserve would be outdoors and would not be directly exposed to risk of rupture of an earthquake fault due to the distance of the closest fault line. In addition, the Preserve would be considered a relatively safe place to be during an earthquake event. Although three of the proposed near-term projects—specifically the Highway 35 Parking Project, Verde Road Parking Area Project, and Purisima-to-the-Sea Trail Project—would result in new infrastructure accommodating the public (i.e., restroom facilities, trail bridges), these structures would not create or exacerbate potential risk of rupture of an earthquake fault. Additionally, the restroom facilities and trail bridges would be required to be constructed consistent with current California Building Code (CBC) requirements would require design considerations for seismically active areas. Thus, this impact would be **less than significant**.

ii) Strong seismic ground shaking?

Less than significant. As discussed above, the San Andreas fault is located approximately 1.8 miles east of the Preserve, which could produce strong seismic ground shaking on the near-term project sites. While the near-term projects could slightly increase the number of visitors to the Preserve, visitors already access and recreate on the Preserve, including within the areas proposed for redevelopment (i.e., Highway 35 Parking Project). The new Verde Road Parking Area Project and new and expanded trail systems (i.e., the North Trail, Purisima-to-the-Sea Trail, and Spur Trail) inherently do not present risks associated with strong seismic ground shaking as they are outside and do not involve large structures or other buildings that could present fall hazards during an earthquake. As discussed in criterion i) above, some of the near-term projects would result in new restroom facilities and trail bridges. However, these structures would be small, constructed consistent with current CBC requirements, and would be used for short periods of time by visitors. No buildings or structures accommodating large groups of visitors for extended periods of time are proposed to be developed as part of the near-term projects. For the reasons described, this impact would be **less than significant**.

iii) Seismic-related ground failure, including liquefaction?

Less than significant. As mentioned above, the Preserve is located in an area of the County that contains well-drained and moderately deep loam and clay loam soils (San Mateo County 1986). Liquefaction takes place when loosely packed, water-logged sediments lose their strength in response to strong ground shaking. Liquefaction that occurs underneath buildings and structures could cause major damage during an earthquake event. As shown on Figure 3.7-1, there are areas prone to liquefaction within the Preserve, such as along Purisima Creek and the southern portion Lobitos Creek. The Verde Road Parking Area Project is located immediately adjacent to an area identified as a liquefaction zone, and there could be a small portion of overlap. However, the Verde Road Parking Area Project does not include the development of buildings or large structures that would be prone to structural concerns from liquefaction. None of the proposed near-term projects would result in the construction of large buildings or structures that could accommodate large groups of visitors for an extended period of time. All new structures (e.g., vault toilets, trail bridges) would be small and constructed consistent with CBC requirements and building and architectural permit requirements.

Although the proposed near-term projects could result in a small increase of the number of visitors to the Preserve, the only new structures proposed include restrooms and trail bridges, which would only be intermittently used by visitors for short periods of time. For the reasons described, the near-term projects would not create or exacerbate potential risks associated with seismic-related ground failure include liquefaction and the impact would be **less than significant**.

iv) Landslides?

Less than significant. As previously described, the Preserve is largely located within landslide zones, particularly the northern areas of the Preserve, as shown in Figure 3.7-3. However, only portions of the Purisima-to-the-Sea Trail Project and Irish Ridge Restoration Project would be located within the identified landslide zones. While there could be slightly increased landslide risks while new trail cuts are being made in landslide zones, once operational and open to public access, use by hiker, bicyclist, or equestrian would not exacerbate risks associated with landslides. Furthermore, as described in Chapter 2, "Project Description," the Purisima-to-the-Sea Trail Project would include minor retaining walls along areas of steep cross-slop and unstable areas per District standards, which would help to prevent earth movement onto the trail. Midpen also has an OSMRP Manual, which requires implementation of erosion and slope stabilization measures in areas susceptible to erosion and instability (Midpen 2021a). The Irish Ridge Restoration Project would remove the invasive plants, restore natural communities that are both more fire and climate resilient, and thin some existing woody debris. Much of the project area was historically logged or cleared and features varying degrees of past disturbance. Although some vegetation removal would occur under the project (i.e., removal of invasive plant species), at the completion of the Irish Ridge Restoration Project, a total of approximately 33 acres of habitat would be restored and native vegetation would be left intact to maintain habitat quality and facilitate restoration to the extent possible. Thus, no extensive removal of large trees or vegetation would occur (particularly relative to the historic logging of the area), and with replanting and restoration, stabilization of the treated areas would improve.

Therefore, for the reasons described above, this impact would be **less than significant**.

b) Result in substantial soil erosion or the loss of topsoil?

Less than significant. Construction activities associated with the near-term projects would involve varying degrees of grading and excavation, which would result in soil erosion and the loss the topsoil. However, the Highway 35 Parking Project, North Trail Project, and portions of the Purisima-to-the-Sea Trail would occur within previously disturbed areas, such as on existing parking areas, roads, and trails and therefore; would not result in substantial soil erosion or loss of topsoil. The SPUR Trail and some portions of the Purisima-to-the-Sea Trail would occur in undisturbed or lightly disturbed areas, as well as the Verde Road Parking Area Project. However, the areas where grading would occur would be small relative to the overall size of the Preserve (5,412 acres), and therefore, loss of soil due to construction of these projects would not be substantial. In addition, erosion control and drainage infrastructure would be installed during ground disturbing construction activities as described in Chapter 2, "Project Description." Following construction, Midpen would stabilize all areas of disturbed soil with erosion control measures such as fiber

rolls, coir mats, or brush-packing with native vegetation. Additionally, the District would reduce potential erosion on roads and trails by repairing and stabilizing head cuts of actively eroding gullies and install rock to prevent further erosion, sloping existing roads to the outside edge to allow sheet runoff, installing reverse grade dips to more effectively drain road and trail surfaces, installing rip-rap or other impact reducing mechanisms at the outfall of each waterbar/dip, bridge footing and/or culvert, and installing filter berms to collect sediments. All maintenance activities associated with the near-term projects would be done during low-flow periods to further minimize erosion. Midpen would also follow its OSMRP Manual, which requires implementation of erosion and slope stabilization measures in areas susceptible to erosion and instability (Midpen 2021a). No new activities are proposed or would occur as a result of the near-term projects that could result in substantial erosion or the loss of topsoil. For these reasons, this impact is **less than significant**.

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

Less than significant. As mentioned above in criteria iii) and iv), certain areas of the Preserve are more susceptible to liquefaction and potential landslides, such as along Purisima Creek and Lobitos Creek, and in areas with steep slopes. However, none of the near-term projects include large buildings or structures that could exacerbate risks associated with unstable areas. Although new trails would be developed in areas with steep slopes, as described above in criterion iv) above, the Purisima-to-the-Sea Trail Project would include minor retaining walls along areas of steep cross-slop and unstable areas per District standards. Midpen also has an OSMRP Manual, which requires implementation of erosion and slope stabilization measures in areas susceptible to erosion and instability (Midpen 2021a). For the reasons described, this impact would be **less than significant.**

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

Less than significant. As mentioned above, expansive soils are associated with the presence of clay loam and clay soils, which are present within the Preserve. The effects of expansive soils can damage foundations of above-ground structures, paved roads and streets, and concrete slabs. Substantial risk to life or property would generally occur to habitable buildings. The proposed near-term projects do not propose construction or improvements to any habitable buildings and would not create direct or indirect risks to life or property. Although the Highway 35 Parking Project and Verde Road Parking Area Project would introduce new restroom facilities (e.g., vault toilets), and the Purisima-to-the-Sea Trail Project would introduce new trail bridges, these structures would be small, used intermittingly, and constructed in compliance of existing CBC requirements, reducing potential impacts as a result of expansive soils. Therefore, the near-term projects would not create a substantial direct or indirect risk to life or property and this impact would be **less than significant**.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No impact. The Highway 35 Parking Project and Verde Road Parking Area Project would replace an existing restroom with a double ADA-accessible vault restroom and construct a new vault restroom, respectively. These restroom facilities would not utilize septic tanks. The vault toilets would be watertight and self-contained for the temporary storage of wastewater until it is periodically pumped and disposed of at an appropriate off-site wastewater receiving facility. Thus, there would be **no impact** related to septic tanks or other wastewater disposal systems.

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

Less than significant with mitigation. Some of the near-term projects include ground-disturbing activities such as construction of new parking areas (Highway 35 Parking Project and Verde Road Parking Area), new trails and

trailheads (the Spur Trail, Purisima-to-the-Sea, and North Trail Project), and vegetation removal (Irish Ridge Restoration Project) that could encounter paleontological resources, if present. As noted in the San Mateo County General Plan, paleontological resources have been discovered in the County, with resources being discovered in exposed bluffs above the ocean bench along the coast. In 2026 an isolated fossil was found in Purisima Creek. Paleontological sites throughout the County have been destroyed due to vandalism, urban development, agricultural production, new roadway construction, water resource projects, and similar activities (San Mateo County 1986). Although ground-disturbing activities and most planned excavations and gradings would not exceed 3 feet below current ground surface, discovery of paleontological resources is possible. In addition, excavations associated with the vault restrooms for the Highway 35 Parking Project and Verde Road Parking Area Project would extend up to 8 feet below current ground surface and could encounter paleontological resources, if present. Therefore, this impact is **potentially significant**.

Mitigation Measures

Mitigation Measure CUL-1: Halt Ground Disturbance Upon Discovery Archaeological or Paleontological Features

Significance after Mitigation

Mitigation Measure CUL-1 would require that, if a paleontological resource is uncovered during construction activities, Midpen would halt all ground-disturbing activity within 100 feet of the discovery until a qualified professional paleontologist can assess the nature and importance of the find and recommend appropriate salvage, treatment, and future monitoring and mitigation. Implementation of Mitigation Measure CUL-1 would avoid and minimize project impacts to unknown paleontological resources and the impact would be **less than significant with mitigation**.

3.8 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Greenhouse Gas Emissions.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1 Environmental Setting

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. The likely range of human-induced warming in global-mean surface air temperature in 2010–2019 relative to 1850–1900 is 0.8°C–1.3°C, encompassing the observed warming of 0.9°C–1.2°C, while the change attributable to natural forcings is only −0.1°C to +0.1°C. It is very likely that human-induced greenhouse gas increases were the main driver of tropospheric warming since comprehensive satellite observations started in 1979, and virtually certain that human-induced greenhouse gas forcing is the primary driver of the observed changes in hot and cold extremes on the global scale (IPCC 2021).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 56 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 44 percent of human-caused CO_2 emissions remain stored in the atmosphere (IPCC 2023).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average

temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

Greenhouse Gas Emissions Sources and Sinks

Emissions of CO_2 are byproducts of fossil fuel combustion and decomposition or combustion of organic materials. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from non-metallic substances under ambient or greater pressure conditions) and also results from microbial activity in anaerobic conditions. Methane emissions are largely associated with agricultural practices, landfills, and forest fires. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include soil, vegetation, and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water) and are two of the most common processes for removing CO_2 from the atmosphere.

GREENHOUSE GAS EMISSION SOURCES

In 2023, emissions from statewide emitting activities were 360.4 million metric tons of carbon dioxide equivalent ($MMTCO_2e$), 11.2 $MMTCO_2e$ (3 percent) lower than 2022 levels. Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. Overall trends in the state's GHG inventory continue to demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross state product [GSP]) is declining. From 2000 to 2023, the carbon intensity of California's economy decreased by 56.6 percent while the GSP increased by 81.2 percent. California's GSP increased 2.1 percent from 2022 to 2023 while emissions per GSP declined by 5 percent from 2022 to 2023 (CARB 2025). As discussed previously, GHG emissions are attributable in large part to human activities. In California, the transportation, industry, and electricity generation sectors are the largest GHG emission producers (Table 3.8-1).

Table 3.8-1 Statewide GHG Emissions by Economic Sector (2023)

Sector	Percent
Transportation	38
Industrial	22
Electricity generation (in state)	12
Electricity generation (imports)	4
Agriculture	8
Residential	10
Commercial	7
Not specified	<1

Source: CARB 2025.

San Mateo County completed a community GHG emissions inventory for the year 1990 as part of the preparation of its Community Climate Action Plan in 2022. Table 3.8-2 summarizes San Mateo County's community GHG emissions by sector for 1990.

Table 3.8-2 San Mateo County Community GHG Emissions by Source (1990)

Source	Total Emissions ($MTCO_2e$)	Percent of Total
Transportation Energy Use	185,179	40
Building Energy Use	148,143	32
Solid Waste	120,366	26
Other	9,259	2
Total	**462,947**	**100**

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: City of Richmond 2016.

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

According to the Intergovernmental Panel on Climate Change (IPCC), global mean surface temperature increases by the end of the 21st century (2081–2100), relative to 1986–2005, could range from 0.5 to 8.7 degrees Fahrenheit (°F). Additionally, IPCC projects that global mean sea level rise will continue during the 21st century, very likely at a faster rate than observed from 1901 to 2015. By 2100, the rise will likely range from 18 to 33 inches (0.43 to 0.84 meters), relative to 1986–2005 (IPCC 2023). According to *California's Fourth Climate Change Assessment*, with global GHGs reduced at a moderate rate California will experience average daily high temperatures that are warmer than the historic average by 2.5 °F from 2006 to 2039, by 4.4 °F from 2040 to 2069, and by 5.6 °F from 2070 to 2100; and if GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historic average by 2.7 °F from 2006 to 2039, by 5.8 °F from 2040 to 2069, and by 8.8 °F from 2070 to 2100 (LCI [formerly known as OPR] et al. 2018).

According to *Safeguarding California Plan: 2018 Update*, California experienced the lowest four-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014. The year 2024 was the warmest since global records began in 1850 at 1.29°C (2.32°F) above the 20th-century average of 13.9°C (57.0°F). This value is 0.10°C (0.18°F) more than the previous record set in 2023. The 10 warmest years in the 174-year record have all occurred during the last decade (2014–2024) (NOAA 2025a). The year 2023 ended the state's driest consecutive three-year period with one of the snowiest years on record. California's recent droughts of 2007-2009, 2012-2019, and 2020-2022) were contrasted with 2017 being the state's second wettest in terms of statewide precipitation. Elevated precipitation facilitates more plant growth, which, when directly followed by hot temperatures, dries out, leading to heavy and flammable ground and understory fuels, increasing the potential for large high-severity wildfires.

In November 2018, the Camp Fire destroyed the town of Paradise in Butte County and caused 85 fatalities, becoming the state's deadliest fire in recorded history, and the largest fires in the state's history have occurred in the 2018–2020 period. In 2020, Midpen fire crews responded to the CZU Lightning Complex fire as it burned more than 86,000 acres in the Santa Cruz Mountains, destroying 1,409 buildings, transforming Big Basin State Park, and burning within approximately 3 miles of Midpen land (and to the border of Cloverdale Preserve, not yet owned by Midpen at that time). Most recently in January of 2025, the Los Angeles area fires burned an area of approximately 50,000 acres, killing more than two dozen people, destroying over 15,000 homes and businesses, and creating unhealthy air quality for millions of people (NOAA 2025b).

Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea level rise have the potential to threaten transportation and energy infrastructure, crop production, forests and rangelands, and public health (LCI [formerly known as OPR] et al. 2018). The effects of climate change will also have an indirect adverse impact on the economy as more severe natural disasters cause expensive, physical damage to communities and the state.

2022 BAY AREA AIR DISTRICT JUSTIFICATION REPORT

The Bay Area Air District released the *2022 Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*, which contains recommended thresholds of significance for use in determining whether a project will have a significant impact on climate change. The Bay Area Air District recommends that the thresholds of significance identified in the 2022 Justification Report be used by public agencies for CEQA compliance. In its analysis, the Bay Area Air District found that a new land use development project being built needs to incorporate design elements to do its "fair share" of implementing the goal of carbon neutrality by 2045. If a project is designed and built to incorporate the design elements identified in the 2022 Justification Report, then the project will contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project will not make a cumulatively considerable contribution to global climate change (BAAD 2023).

SAN MATEO COUNTY CLIMATE ACTION AND ADAPTATION PLAN

According to the Bay Area Air District's 2022 CEQA Guidelines, a project may be considered to have a less-than-significant impact related to operational GHG emissions if the project is consistent with a local GHG reduction strategy that meets CEQA Guidelines Section 15183.5(b) requirements (BAAD 2023). As discussed in Section 3.6, "Energy," San Mateo County adopted the CCAP which includes strategies and actions meant to reduce GHG emissions within the San Mateo County community. The CCAP, which underwent environmental review in the form of an Initial Study/Negative Declaration prepared in 2022, was developed to achieve a 45 percent reduction in GHG emissions by 2030, exceeding the requirements of SB 32 (i.e., 40 percent reduction by 2030). Considering the near-term projects would be operational in 2030, the CCAP would be applicable to the project.

MIDPEN CLIMATE ACTION PLAN

Midpen's Climate Action Plan (Midpen CAP), finalized in 2018, outlines efforts for meeting GHG reduction goals to reduce operational emissions by 20 percent by 2022, 40 percent by 2030, and 80 percent by 2050 as compared to 2016 emissions. The most recent GHG inventory shows that GHG emissions in 2022 were 30 percent below the baseline, surpassing the Midpen CAP's goal of 20 percent reductions by 2022. The inventory measures emissions from vehicles, equipment and business travel (25 percent reduction), employee commutes (42 percent reduction), facilities (10 percent reduction), and tenant residences (34 percent reduction). The Midpen CAP did not undergo environmental review as part of its development and thus cannot be used for CEQA streamlining as part of this analysis.

3.8.2 Discussion

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

Less than significant. Construction activities related to the near-term projects could commence as early as Spring 2027 and are anticipated to conclude in 2030. As a conservative estimate, overall project construction was assumed to last 24 months. This assumption is considered conservative because shortening a construction schedule's duration while the amount of proposed construction activity remains the same increases the quantity of GHG emissions that are generated in any year that construction occurs. During construction, GHGs could be generated from a variety of activities and emission sources (e.g., exhaust emissions from off-road construction equipment, material delivery trips, and construction worker-commute trips). These emission types and associated levels fluctuate greatly depending on the type, number, and duration of usage for the varying equipment. It is recognized by the Bay Area Air District in its 2022 CEQA Guidelines that construction-related GHG emissions from projects occur over a relatively short-term period of time and contribute a relatively small portion of the overall lifetime project GHG emissions. Therefore, they are dismissed for consideration in recognition that construction emissions comprise a small fraction of a project's total GHG emissions (BAAD 2023). Nevertheless, the estimated GHG emissions from construction of the near-term projects are provided below in Table 3.8-3 for informational purposes.

Operations and maintenance activities associated with the near-term projects would involve the use of small machinery and hand tools as necessary. Due to their relatively low intensity and frequency, none of these activities would generate significant GHG emissions. GHG emissions would also be generated during project-generated vehicle trips made by visitors to the Preserve. However, as discussed in Section 3.17, "Transportation," the proposed near-term projects would mostly involve the expansion and/or enhancement of facilities which already exist within the Preserve. Although a new parking area and trails would be developed (i.e., Verde Road Parking Project, Purisima-to-the-Sea Trail, the North Trail, and the Spur Trail), it is reasonable to assume that the proposed near-term projects would not create an extra-regional attraction (i.e., an event or location which attracts a considerable number of visitors from outside of the region where the attraction is located [for example, a national park or large festival]) that would generate substantial new trips from other parts of the state. In addition, the project would not substantially increase VMT compared to existing conditions, as the Preserve's location is fixed and it provides open space access for users who would otherwise be traveling to other similar locations. Because the project would not substantially

increase VMT relative to existing conditions, it is likely that mobile-source GHG emissions would similarly not substantially increase compared to existing conditions.

Table 3.8-3 Near-term Project Annual Construction GHG Emissions

Year	$MTCO_2e$/year
2027	288
2028	465
2029	27
Total	**780**

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: Modeled by Ascent in 2025.

As discussed above, the Bay Area Air District 2022 CEQA Guidelines identify that a project may be considered to have a less-than-significant impact related to operational GHG emissions if the project is consistent with a local GHG reduction strategy that meets CEQA Guidelines Section 15183.5(b) requirements (BAAD 2023). Because the CCAP underwent environmental review and was developed to exceed the requirements of SB 32 (i.e., 40 percent reduction by 2030), the CCAP would be applicable to the project as the project would be operational prior to 2030. As shown in Table 3.8-2 above, the transportation and building energy sectors comprise 72 percent of San Mateo County's total GHG emissions, with solid waste accounting for 25 percent of total GHG emissions. Because these sectors have the greatest potential for impactful reductions, the CCAP identifies the key strategies of electrifying 16 percent of buildings by 2030, increasing the percentage of zero-emission vehicles to 18 percent by 2030, and reducing organics in the waste stream by 75 percent by 2030. As the proposed near-term projects do not include facilities which would be applicable to the CCAP's solid waste goals, this strategy would not apply to the project. The CCAP targets reductions in the energy and transportation sectors through the implementation of policies and actions which involve all-electric building development and retrofitting, generation of local renewable energy, increasing EV use and EV charger availability, and various actions to reduce VMT such as increasing transit ridership and developing walking- and biking-friendly infrastructure. These goals reflect those identified in Appendix D, "Local Actions," of the state's 2022 Scoping Plan, which provides lead agencies with guidance for the necessary project design features (or mitigation measures) needed in new development to further the state's long-term GHG reduction goals established in AB 1279. These features include the elimination of onsite natural gas infrastructure, incorporation of the most recent version of the CALGreen Code's Tier 2 EV charging requirements for residential and nonresidential land uses and increasing VMT efficiency.

As discussed in Section 3.6, "Energy," the near-term projects do not introduce any new natural gas infrastructure, would not substantially increase VMT compared to existing conditions, would implement a pilot shuttle service that would have the potential to reduce overall VMT, and would provide EV charging stations despite the near-term projects not being subject to the EV charging requirements of the CalGreen Code. For these reasons, the near-term projects would not generate substantial GHG emissions and the impact would be **less than significant**.

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

Less than significant. The project would be consistent with the CCAP as discussed in item a) above. This impact would be **less than significant**.

3.9 HAZARDS AND HAZARDOUS MATERIALS

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

3.9.1 Environmental Setting

HAZARDOUS MATERIALS

SWRCB's GeoTracker website provides data relating to leaking underground storage tanks and other types of soil and groundwater contamination, along with associated cleanup activities. As of 2025, there is one open remediation site located in the Preserve, off 1002-1100 Verde Road: the Purisima Uplands Property (T10000015423) (SWRCB 2025a). Midpen, in collaboration with the California Geologic Energy Management Division (CalGEM), is actively working to remediate the site with completion anticipated in 2026. Following remediation, Midpen will re-evaluate the area for potential public access in consideration of long-term natural and cultural resource protection. The closest near-term

project to this open remediation site are the Purisima-to-the-Sea Trail Project. This Purisima Uplands Property is located approximately 275 feet south of the Purisima-to-the-Sea Trail. No other hazardous materials sites are within 1,000 feet of the Preserve (SWRCB 2025b). The California Department of Toxic Substances Control's (DTSC) Envirostor website provides data related to hazardous materials spills and clean ups. No hazardous material spills or clean ups are recorded within 1,000 feet of the Preserve (DTSC 2025).

SCHOOLS

The closest school to the Preserve is Kings Mountain Elementary School, located near the southeastern boundary of the Preserve, off Swett Road. Kings Mountain Elementary School is approximately 2.1 miles southeast of the Highway 35 Parking Project and 2.2 miles northeast of the Irish Ridge Restoration Project.

AIRPORTS

No airports or private airstrips are within the project vicinity. The San Carlos Airport is located approximately 6.3 miles northeast of the Preserve.

EMERGENCY RESPONSE AND EVACUATION PLANS

The San Mateo County Department of Emergency Management (SMCEM) coordinates countywide preparedness, response, and protection services, including implementation of the San Mateo County Emergency Operations Plan (EOP). The EOP provides countywide procedures for emergency response and evacuation in unincorporated areas, including the Preserve. The Preserve does not have a site-specific evacuation plan; instead, evacuation direction is issued by County authorities during an emergency, with Midpen rangers supporting on-the-ground response. Emergency services at the Preserve are provided by Midpen Rangers as first responders, with backup from San Mateo County fire agencies, the California Department of Forestry and Fire Protection (CAL FIRE), and County emergency medical services (EMS).

Fire protection within Midpen's boundaries is provided by the jurisdictional local fire departments and CAL FIRE. Midpen works cooperatively with these jurisdictional fire agencies to reduce fire risk. According to the CAL FIRE Fire Hazard Severity Zone Viewer, the Preserve is located within the State Responsibility Area (SRA) within a very high fire hazard severity zone (FHSZ), with portions near Grabtown located within a high FHSZ (CAL FIRE 2025). In May 2021, Midpen released the Wildland Fire Resiliency Program which includes a Vegetation Management Plan, Prescribed Fire Plan, Wildland Pre-Fire Plan/Resource Advisor Maps, and Monitoring Plan. Section 6 of the Program, "Wildland Pre-Fire Plan/Resource Advisor Maps," includes guidance for Open Space Preserves within Midpen's jurisdiction to include in their Wildland Pre-Fire Plan. Specifically, guidance related to emergency access and evacuation elements as well as best management practices to be implemented during and post-fire activities are identified (Midpen 2021b).

NATURALLY OCCURRING ASBESTOS

Asbestos is a term used for a group of naturally occurring silicate minerals found in specific soil and rock types in the form of asbestiform fibers having high tensile strength, flexibility, and heat and chemical resistance. Asbestos is a known carcinogen and inhalation of asbestos may result in the development of lung cancer or mesothelioma. Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by CARB. NOA is located in many parts of California, and is commonly associated with ultramafic rocks and serpentinite, according to a special publication published by the California Geological Survey (DOC 2000). Ultramafic rocks form in high-temperature environments well below the surface of the earth. By the time they are exposed at the surface by geologic uplift and erosion, ultramafic rocks may be partially to completely altered into a type of metamorphic rock called serpentinite. Sometimes the metamorphic conditions are right for the formation of chrysotile asbestos or tremolite-actinolite asbestos in the bodies of these rocks, along their boundaries, or in the soil. Except for a few counties in the southeast portion of the state, most counties in California contain some amount of ultramafic rock.

Asbestos could be released from serpentinite or ultramafic rock if the rock is broken or crushed. Asbestos could also be released into the air due to vehicular traffic on unpaved roads on which asbestos-bearing rock has been used as gravel. At the point of release, asbestos fibers can become airborne, causing air quality and human health hazards. Natural weathering and erosion processes act on asbestos bearing rock and soil, increasing the likelihood for asbestos fibers to become airborne if disturbed. As long as NOA fibers remain bound in rock or soil, they pose very little health threat (UCANR 2009).

According to statewide NOA mapping prepared by the California Department of Public Health (CDPH) and the California Department of Conservation (DOC), the Preserve is not located within any mapped zones with potential for NOA (CDPH 2025). Consistent with this, DOC geologic mapping indicates that ultramafic rock units—areas most likely to contain NOA—are not present within the Preserve (DOC 2000).

REGULATORY SETTING

California Department of Toxic Substances Control

DTSC, a division of the California Environmental Protection Agency (CalEPA), has primary regulatory responsibility over hazardous materials in California, working in conjunction with 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 Account (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in the CCR Title 26. The state program is similar to, but more stringent than, the federal program under the Resource Conservation and Recovery Act. 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 on EnviroStor, an online database that contains hazardous material sites that meet the criteria to be on the Cortese List. Hazardous material sites listed on EnviroStor include federal and state response sites, voluntary, school, and military cleanups and corrective actions, and permitted sites.

California's Secretary for Environmental Protection has established a unified hazardous waste and hazardous materials management regulatory program (Unified Program) as required by SB 1082. 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 (UST) program;
- hazardous materials release response plans and inventories;
- California Accidental Release Prevention Program;
- Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans; and
- California Uniform Fire Code 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. San Mateo County Environmental Health Services was designated by the State Secretary for Environmental Protection as the CUPA for San Mateo County in 1996 (CalOES 2014, San Mateo County Environmental Health Services 2025).

DTSC regulations would be applicable to the near-term projects through the enforcement of spill prevention requirements that construction contractor would need to comply with during construction.

State Water Resources Control Board and Regional Water Quality Control Boards

SWRCB and nine RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal CWA and the State Porter-Cologne Act. The Porter-Cologne Act of 1969 is California's statutory authority for the protection of water quality. Along with the SWRCB and RWQCBs, water quality protection is the responsibility of numerous water supply and wastewater management agencies, as well as city and county governments, and requires the coordinated efforts of these various entities.

The SWRCB maintains GeoTracker, an online database used to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from USTs. GeoTracker was initially developed in 2000 pursuant to a mandate by the California State Legislature (AB 592 and SB 1189) to investigate the feasibility of establishing a statewide geographic information system (GIS) for leaking underground storage tank (LUST) sites (SWRCB 2026). The GeoTracker database tracks regulatory data for designated Cortese List sites including LUST cleanup sites, solid waste disposal sites, and active Cease and Desist Orders and Cleanup and Abatement Orders.

3.9.2 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than significant. Construction activities associated with the proposed near-term projects would vary, but would generally consist of initial site preparation, grading, excavation, material laydown and placement, and site cleanup. These activities would require the use of limited quantities of common hazardous materials, such as fuels, oils, lubricants, or other fluids associated with the operation and maintenance of vehicles or mechanical equipment. The transport, use, or disposal of hazardous materials could result in accidents that could create hazards to people or the environment. However, the use of common hazardous materials would be temporary and intermittent, occurring only during the project construction period and would not involve the routine use, transport, or disposal of hazardous materials. In addition, all hazardous materials would be used, stored, and disposed of in accordance with applicable federal, state, and local laws.

During operation, the only routine use or transport of hazardous materials would relate to operation of vehicles and equipment to conduct site maintenance activities, the use of herbicides for the Irish Ridge Restoration Project, and during servicing of the vault toilets at the Highway 35 Parking Project and the Verde Parking Area Project. However, Midpen regularly uses vehicles and equipment in the Preserve for operations and maintenance activities, and implementation of the proposed near-term projects would not substantially increase those activities such that a significant hazard could be created. In addition, herbicides are used under existing conditions by Midpen and all use would be consistent with Midpen's IPM Program, which considers the potential harm to the public, workers, and the environment and includes specific requirements for herbicide use to prevent harm. Servicing the vault toilets would involve the removal and transport of wastewater, which is a hazardous material. Accidental spills during these servicing events could lead to hazards to the public or environment. However, this would be conducted by professionals with proper training in servicing vault toilets and immediately responding to spills should they occur. Therefore, the risk of an accidental spill and substantial contamination would be low. For the reasons described above, the proposed near-term projects would not create a significant hazard to the public or environment through the transport, use, or disposal of hazardous materials and the impact would be **less than significant**.

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

Less than significant. Construction of the proposed near-term projects would involve ground-disturbing activities including grading, excavation, and vegetation removal, which could potentially release hazardous materials into the environment if present. The SWRCB's Geotracker database identified one open remediation site within the Preserve;

however, it is not within or adjacent to any of the near-term projects. No other hazardous materials sites are known to occur in the Preserve, as discussed below under criterion d). Because the Preserve is generally undeveloped, with the exception of the existing recreational features, parking areas and conservation grazing operation, it is unlikely that unknown hazardous materials are present within the project area. However, if an unknown hazardous waste site is uncovered, it could create a significant hazard to the environment or public if accidentally released during ground-disturbing activities. In the unlikely event that evidence of hazardous waste is encountered during construction, the District would implement the applicable requirements of the Comprehensive Environmental Release Compensation and Liability Act and the California Code of Regulations Title 22 regarding the safe handling and disposal of waste.

As discussed in Section 3.9.1, "Environmental Setting," above, statewide mapping by the CDPH and DOC shows no NOA or ultramafic rock units or serpentine soils within the project area. Although no NOA is mapped, if ultramafic rock, serpentine, or NOA is discovered during any project operation or activity, then CARB's ATCMs would apply and the District would implement all required actions to minimize emissions of dust during construction (e.g., limiting vehicle speeds, watering prior to and during ground disturbance), which would avoid and minimize the release of NOA during construction. For the reasons described above, the project would not create a significant hazard to the public or environment and this impact would be **less than significant**.

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

No impact. As previously discussed, the closest school to the Preserve is Kings Mountain Elementary School, located near the southeastern boundary. The Kings Mountain Elementary School is located over 2 miles away from the closest near-term project boundary. Because the near-term projects are located over 2 miles from the nearest school, no hazardous emissions would be emitted or handled within 0.25 miles of an existing or proposed school. Therefore, **no impact** would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No impact. As previously discussed, there are no hazardous material spills or clean ups are recorded within 1,000 feet of the project area (DTSC 2025). There is one open remediation site within the Preserve, the Purisima Uplands Property (T10000015423), located off 1002–1100 Verde Road (SWRCB 2025a). The closest near-term project to this open remediation site is the Purisima-to-the-Sea Trail; Purisima Uplands is situated approximately 275 feet south of the proposed trail. Midpen is actively working to remediate the site with completion anticipated in 2026. Nonetheless, all proposed construction and operations associated with the near-term projects would occur entirely outside the boundaries of the Purisima Uplands site and no soil disturbing construction, grading, or maintenance activities would take place within or adjacent to the remediation area. Given the substantial separation distance and the absence of any physical overlap with the open remediation site, and that remediation is expected to be complete in 2026, the proposed near-term projects would not encounter contaminated soil or groundwater, nor would it interfere with any remediation activities. Therefore, **no impact** would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No impact. The San Carlos Airport is located approximately 6.3 miles northeast of the Preserve. The Preserve is not located within an airport land use plan or within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip, and implementing the project would not result in an aviation-related safety hazard for people residing or working in the project area. Therefore, **no impact** would occur.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than significant. There is no adopted, preserve-specific emergency evacuation plan. Emergency evacuation for the County is governed by the EOP, which provides countywide procedures for evacuation and interagency coordination. Evacuation direction within the Preserve is issued by County authorities based on real-time conditions, with Midpen rangers assisting in field operations. The near-term projects include roadway modifications (e.g., new driveways, pedestrian roadway crossings), expansion of existing parking facilities, and the construction of new trail connections and a new parking lot. However, as discussed in criterion d) in Section 3.17, "Transportation," these improvements would not impede emergency access or evacuation.

The Highway 35 Parking Project may affect the use of the site as a helicopter landing zone currently designated for the evacuation of critically injured patients. However, as described in Chapter 2, "Project Description," three alternative helicopter landing zones are available in the area within 2 miles of the Preserve. The Kings Mountain Volunteer Firefighters and San Mateo County Fire Department indicated that they did not have concerns regarding the loss of this landing zone because other suitable landing zones are available nearby (Sullivan, pers. comm., 2023). Therefore, while the project could eliminate one existing helicopter landing location, it would not substantially reduce emergency response capabilities.

Additionally, the Purisima Multimodal Access Implementation Project would include installation of cellular communication infrastructure at the existing Purisima Creek Trailhead to support shuttle operations. While intended primarily to support shuttle operations, the infrastructure would also improve communication capabilities at the trailhead, which could improve emergency related communications and response.

In addition, all parking and access improvements would be designed and constructed consistent with applicable engineering and design standards, including those in the Midpen Parking Area and Trailhead/Staging Area Design Guidelines (Midpen 2024), which provide for adequate emergency vehicle access through features such as turnarounds and drive through layouts. Accordingly, the proposed improvements would not interfere with emergency response or evacuation. Furthermore, the Preserve is already open to the public, and the near-term projects would not substantially increase visitation or change circulation patterns in a way that affects emergency operations, as discussed in criterion b) and d) in Section 3.17, "Transportation." All proposed improvements, including new and expanded parking areas, trail connections, and roadway access improvements would be designed and constructed to maintain required emergency access and would not introduce features that block, restrict, or otherwise impede established emergency response or evacuation routes. The near-term projects would not introduce features that block or restrict emergency routes, would maintain required access during construction, and would not substantially increase visitation in a way that affects evacuation. Therefore, implementation of the proposed near-term projects would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and the impact would be **less than significant**.

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

Less than significant. As discussed above, the Preserve is located within a very high FHSZ, with portions near Grabtown located within a high FHSZ (CAL FIRE 2025). The high and very high FHSZ indicate that the Preserve is subject to elevated wildfire risk due to its vegetation, topography, and regional fire history.

Implementation of the proposed near-term projects would improve access and connectivity within the Preserve through new and expanded parking areas (Highway 35 Parking Project and Verde Road Parking Area Project), trailheads (Highway 35 Parking Project and Verde Road Parking Area Project), and trail connections (North Trail Project and Purisima-to-the-Sea Trail Project), while also promoting sustainable transit and visitor management (Purisima Multimodal Access Implementation Project) and enhancing ecological stewardship (Irish Ridge Restoration Project).

The Preserve already experiences regular visitation under existing conditions. The proposed near-term projects would support the same types of recreation currently occurring at the Preserve. The near-term projects would result in a net increase in 151 parking spaces for the preserve, and as a result, could slightly increase the number of visitors to the

Preserve, but would not substantially alter the risk of wildfire, i.e., not exacerbate the existing risk, considering that the types of recreation activities would not change. Project structures would be limited to constructing new (or replacing existing) restroom facilities and bridges, and providing other basic and non-habitable improved amenities such as benches, an open-air educational area, and informational and wayfinding signage. The limited addition of improved amenities and facilities within the Preserve would not increase the risks associated with wildland fires. In addition, smoking is prohibited in all Midpen preserves, which would minimize the risk of ignition during operations. Furthermore, as described in Section 2.5.4, Wildfire Resiliency," in Chapter 2, "Project Description," Midpen would close trail access points within the Coastal Service Area during red flag days and post notice of closures on the District's website.

Portions of the Irish Ridge Restoration Project area contain excessive woody debris that could serve as fuel ladders, thereby increasing the risk of high-intensity wildfire. Midpen intends to remove the invasive plants, restore natural communities that are both more fire and climate resilient, and to thin some of the woody debris. The restoration activities proposed as part of the Irish Ridge Restoration Project are designed to reduce, rather than increase, wildfire risk. Furthermore, all internal combustion equipment would be required to be equipped with a spark arrester maintained in effective working order when working on any forest-covered, brush-covered, or grass-covered lands, consistent with PRC Section 4442. Therefore, the project would not expose people or structures to significant hazards involving wildfires and the impact would be **less than significant**.

3.10 HYDROLOGY AND WATER QUALITY

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

3.10.1 Environmental Setting

SURFACE WATER

The Preserve is located on the western slopes of Santa Cruz Mountains in San Mateo County, within a coastal watershed draining toward the ocean. The Preserve is defined by steep canyon terrain, dense second-growth redwood forest cover, and a network of perennial streams that shape its hydrologic character. The central feature is Purisima Creek, which flows westward through the Preserve and supports extensive riparian corridors. Purisima Creek is fed by several tributaries, including Grabtown Gulch, Whittemore Gulch, Soda Gulch, and Walker Gulch, that drain the surrounding slopes and contribute to the surrounding watershed system. While most of the Preserve lies within

the Purisima Creek watershed, portions also drain into the Tunitas Creek and Lobitos Creek watersheds, creating a multi-basin drainage network that routes runoff through steep forested headwaters before ultimately discharging to the Pacific Ocean (San Mateo County n.d.-a.; USGS n.d.-c; USGS n.d.-d; USGS n.d.-e).

GROUNDWATER BASIN

According to the California Department of Water Resources Bulletin 118 groundwater basin boundary dataset, the western edge of the Preserve lies within the Half Moon Bay Terrace Groundwater Basin (Basin 2-22). The Half Moon Bay Terrace Groundwater Basin is located along the northern San Mateo coast about 20 miles south of San Francisco and 90 miles southwest of the Sacramento Valley. The Terrace is bound by Martini Creek on the north, by the Pacific Ocean on the west, by Tunitas Creek on the south, and by the Montara Mountains on the east. Elevations within the basin range from sea level at the ocean to nearly 300 feet along the eastern boundary. Many creeks flow through the basin toward the Pacific Ocean, including Montara, San Vicente, Denniston, Pilarcitos, Purisima, and Lobitos Creeks. The region has a Mediterranean climate with most of the precipitation in the region occurring as rain during the winter and spring. Although the summer is generally dry, regional fog helps moderate the average temperature, reduces evapotranspiration, and meets some moisture demands from plants (MWSD 2014).

The Half Moon Bay Terrace Groundwater Basin is classified as a very low-priority groundwater basin and therefore is not subject to Sustainable Groundwater Management Act (SGMA) planning requirements (DWR 2025).

WATER QUALITY

The SWRCB and nine RWQCBs are responsible for ensuring implementation and compliance with the provisions of the federal Clean Water Act and the State Porter-Cologne Act. The Preserve is within the jurisdiction of the San Francisco Bay RWCQB, which prepared and periodically updates the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) The Basin Plan describes beneficial uses of water bodies within the San Francisco Bay RWQCB's jurisdiction including the services and qualities of these aquatic systems. The beneficial uses of inland surface waters described within the Basin Plan include municipal and domestic supply, agricultural supply, commercial and sport fishing, freshwater replenishment, industrial process supply, groundwater recharge, preservation of rare and endangered species, water contact recreation, noncontact water recreation, wildlife habitat, cold freshwater habitat, warm freshwater habitat, fish migration, and fish spawning (San Francisco Bay RWQCB 2025).

In addition to preparing and updating the Basin Plan, the San Francisco Bay RWQCB administers the adoption of waste discharge requirements, manages groundwater quality, and approves projects within its boundaries under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities.

Impaired water bodies are surface waters that do not meet water quality standards established by the EPA (303(d) list). Purisima Creek, Lobitos Creek, and Tunitas Creek are not designated under Section 303(d) of the Clean Water Act as an impaired waterbody (SWRCB 2017a; SWRCB 2017b).

FLOOD HAZARDS

The Preserve is located on the western slope of the Santa Cruz Mountains, less than a mile inland but at higher elevations than the Pacific coastline. Although the Pacific Ocean lies approximately 0.5 miles west of the Preserve, the Preserve is separated from the shoreline by steep coastal topography, and the Preserve is situated outside of the mapped tsunami hazard zone (CGS 2025). As a result, a tsunami would not be capable of reaching any portion of the Preserve. Most of the Preserve is designated by the Federal Emergency Management Agency (FEMA) as located within Zone X, which represents areas outside the 1-percent annual-chance (100-year) floodplain and therefore considered to have minimal flood hazard. Portions of Purisima Creek and its immediate riparian corridor are mapped within Zone A, indicating areas subject to the 1-percent annual-chance flood (FEMA 2024).

REGULATORY SETTING

Federal

Clean Water Act

The EPA is the lead federal agency responsible for water quality management. The 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. These are discussed below.

CWA Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the US. 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 regulation below, the SWRCB and its nine RWQCBs have designated authority in California to identify and adopt applicable water quality objectives.

CWA Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that states develop a total maximum daily load (TMDL) for pollutants that caused a water body to become listed. TMDL is the amount of the pollutant that the water body can receive and still be in compliance with water quality objectives.

In California, implementation of TMDLs is achieved through water quality control plans, known as basin plans. Basin plans contain specific water quality standards, as well as a program of implementation for how those water quality standards may be achieved. A TMDL might be one component of that program. Basin plans, their contents, and the applicability of Section 303(d) are discussed in further detail in the section on state regulations below.

CWA Section 401 and 402 National Pollutant Discharge Elimination System

The NPDES permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the US. NPDES permit regulations have been established for broad categories of discharges including point source 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: discharges caused by general construction activities and 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).

State

California Porter-Cologne Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Act. The Porter-Cologne Act grants the SWRCB and each of the nine RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the CWA. The SWRCB and individual RWQCBs have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites, and require cleanup of

discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

The Porter-Cologne Act requires that each RWQCB formulate and adopt a water quality control plan (basin plan) for watersheds within its region. The basin plans act as the primary regulatory tool for RWQCBs and provide the foundation for most actions taken by the RWQCBs. Basin plans must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. The Porter-Cologne Act also provides that a RWQCB may include within its Basin Plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Water Quality Control Board

The project area is within the jurisdiction of the San Francisco Bay RWQCB. Through the powers granted by the Porter-Cologne Act, they have adopted a basin plan for the region (Basin Plan) that includes a comprehensive list of water bodies within the region, as well as detailed language about the components of applicable Water Quality Objectives (WQOs). The San Francisco Bay RWQCB also administers the adoption of waste discharge requirements, manages groundwater quality, adopts projects within its boundaries under the NPDES General Permit for the State, and applies policies adopted by the SWRCB.

The San Francisco Bay RWQCB implements the Basin Plan for the San Francisco Bay Region, which recognizes natural water quality, existing and potential beneficial uses, and water quality problems associated with human activities in San Mateo County. Through the Basin Plan, the San Francisco Bay RWQCB executes its regulatory authority to enforce the implementation of TMDLs, and to ensure compliance with surface WQOs.

NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity

The State Water Board adopted the statewide NPDES General Permit in August 1999. The state requires that projects disturbing more than one acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non stormwater discharges to storm sewer systems and other waters. A SWPPP must be developed and implemented for each site covered by the permit. The SWPPP must include BMPs designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving offsite into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

Municipal Regional Stormwater Permit Post-Construction Requirements (Provision C.3)

Post-construction stormwater management in San Mateo County is regulated under the Municipal Regional Stormwater Permit (MRP), issued by the San Francisco Bay RWQCB to municipalities and special districts. Provision C.3 of the MRP establishes post-construction requirements for new development and redevelopment projects that create or replace 5,000 square feet or more of impervious surface. Projects meeting this threshold must incorporate Low Impact Development (LID) measures that mimic natural hydrology, including bioretention, self-retaining or self-treating areas, and on-site infiltration and treatment of stormwater runoff. C.3 also requires site design measures that minimize impervious surfaces, disperse runoff to pervious areas, and reduce pollutant loads. Although C.3 is part of the NPDES Municipal Regional Stormwater Permit, it is separate from the construction-phase requirements of the NPDES Construction General Permit and the SWPPP. Unlike construction-phase BMPs, which apply only during active ground disturbance, C.3 requirements apply to the long-term operation of a project and mandate ongoing maintenance of stormwater treatment facilities for the life of the development

3.10.2 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than significant. Implementation of the near-term projects would involve ground disturbance associated primarily with grading and development of the new and expanded parking areas and trails, as well as construction of new creek crossings including puncheons, bridges, and culverts along the Purisima-to-the-Sea Trail. Construction activities have the potential to generate sediment, fuels, and other pollutants that could enter surface runoff and/or nearby drainages and enter waterways if not properly managed. However, Midpen would be required to obtain coverage under the Construction General Permit given that ground disturbance exceeds one acre in size. To receive coverage under the Construction General Permit, Midpen would be required to develop a SWPPP and demonstrate conformance with applicable BMPs to minimize construction impacts on surface and groundwater quality. BMPs of the SWPPP could include several measures, such as the installation of perimeter siltation fencing and wattles to prevent offsite erosion and sedimentation and use of erosion control mats to prevent exposed soils from being displaced by rain or wind and entering the nearby Purisima Creek and Lobitos Creek and their tributaries. In addition, construction of new stream crossings could directly affect water quality where in-water work is required. However, any project work affecting jurisdictional waters of the United States would require a Clean Water Act Section 404 permit from the US Army Corps of Engineers and a corresponding Section 401 Water Quality Certification from the San Francisco Bay RWQCB. Any work within the bed, bank, or riparian corridor of Purisima Creek or Lobitos Creek would require a Lake or Streambed Alteration Agreement (LSAA) from CDFW. These permits and approvals include required avoidance, minimization, and mitigation measures that further reduce the potential for water quality degradation. Together, these measures would minimize the runoff of pollutants and contaminants during project construction.

In addition, the Purisima Multimodal Access Implementation Project runs along Purisima Creek Road, adjacent to Purisima Creek, the Purisima-to-the-Sea Trail Project would cross Lobitos Creek, and the Irish Ridge Restoration Project is located near Lobitos Creek. Operations of the Multimodal Access and TDM Project would involve the use of a shuttle on a preexisting roadway, which would be aimed at reducing vehicle trips along Purisima Creek Road. Even if vehicle trips are not reduced by the shuttle service, the shuttle would not introduce a substantial new source of potential pollutants that could enter Purisima Creek. The Purisima-to-the-Sea Trail Project and the Irish Ridge Restoration Project would implement a new trail segment and treat vegetation primarily through manual and mechanical methods, respectively (activities that occur under existing conditions) and would not introduce substantial new potential sources of pollutants that could enter and degrade surface or groundwater quality to the Preserve. Therefore, the impact would be **less than significant**.

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

Less than significant. The near-term projects would implement several new features to support public access and recreation. No water would be required for operation; however, water would be used for dust abatement during construction via water trucks. Dust abatement activities would be temporary and intermittent and would not involve the substantial use of groundwater or otherwise affect recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Furthermore, no new permanent increase in water demand would result from the project and the increase in impervious surfaces in the project area would not be substantial relative to the surrounding undeveloped areas that allow groundwater recharge. Thus, the impact would be **less than significant**.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial on- or offsite erosion or siltation;

Less than significant. The proposed near-term projects that involve trail development, restoration, and implementation of TDM strategies would not substantially affect drainage in the Preserve. The Verde Road Parking Area Project, which includes a new paved parking area and related hardscape, would result in new impervious surface, which could affect drainage in the immediate area. On or offsite erosion and siltation could occur if additional runoff is created by the new impervious surface. To manage runoff from the new impervious area, the Verde Road Parking Area Projects would incorporate bioretention swales and infiltration features. The Verde Road Parking Area Project includes a bioretention area along the northwestern portion of the site, adjacent to the nature education area and overlook, which would provide on-site stormwater treatment and infiltration. This bioretention facility would slow, treat, and disperse runoff, reducing peak flows and preventing concentrated discharges that could otherwise cause erosion or siltation. Areas surrounding the new parking area would remain natural and pervious areas, further supporting infiltration and drainage. Midpen also has an OSMRP Manual, which requires implementation of erosion and slope stabilization measures in areas susceptible to erosion and instability (Midpen 2021a). The Highway 35 Parking Area Project would result in an expanded and paved parking area, which is compacted native surface under existing conditions. The parking area would consist of asphalt parking and circulation areas and other paved surfaces necessary to support vehicular access, parking, and site operations. The Highway 35 Parking Area Project would include construction of a bioretention area southeast of the residence to manage stormwater runoff by capturing and filtering flows through engineered soil and vegetation. In addition, landscaped and undeveloped areas surrounding the expanded parking lot would remain pervious and would continue to provide opportunities for stormwater infiltration and dispersion. Including the bioretention area, retaining the surrounding pervious areas, and incorporating landscaping throughout the parking lot would reduce the potential for concentrated runoff, erosion, and sediment transport.

No alterations to the course of Purisima Creek or its tributaries are proposed, and overall drainage patterns would remain consistent with existing conditions. Therefore, the near-term projects would not result in substantial on or offsite erosion or siltation and the impact would be **less than significant**.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less than significant. See response to criterion c.i) above. The proposed near-term projects would not alter stream channels, modify floodplains, or introduce structures that would impede or redirect stormwater flows. While new impervious surfaces would occur at the Verde Road and Highway 35 Parking Area projects, bioretention areas would be included to capture, detain, and infiltrate runoff. These facilities, together with the extensive surrounding pervious areas, would maintain dispersed drainage patterns and reduce runoff intensity from new hardscape. Therefore, the near-term projects would not alter drainage patterns in a manner that could generate increased runoff that would result in on- or off-site flooding. Therefore, the impact would be **less than significant**.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less than significant. See responses to criteria a) and c.ii) above. The near-term projects would not create or contribute runoff that exceeds the capacity of existing or planned stormwater drainage systems, nor would they introduce substantial new sources of polluted runoff. The Preserve does not contain formal stormwater conveyance infrastructure; runoff is dispersed across vegetated slopes, forested areas, and natural drainage features. The only improvements that would introduce new impervious surfaces are associated with the Verde Road Parking Area Project, which includes construction of a new paved parking area and associated hardscape, and an increase

associated with the Highway 35 Parking Area Project. All other near-term projects (North Trail Project, Purisima-to-the-Sea Trail Project, Multimodal Access Implementation Project, and Irish Ridge Restoration Project) would not add impervious surface and would continue to allow natural infiltration of runoff in surrounding natural areas.

As previously discussed, bioretention areas would be provided with the Verde Road Parking Area Project and the Highway 35 Parking Project, providing onsite stormwater infiltration capacity. These facilities would slow and disperse runoff, reduce peak flows, and prevent concentrated discharges. Furthermore, areas surrounding the new and expanded parking area would remain natural and pervious areas, further supporting infiltration and drainage. In addition, any paved parking lot exceeding 5,000 square feet would be required to comply with the C.3 provision of the NPDES, which mandates incorporation of self-treating and self-retaining areas that promote infiltration and reduce pollutant loading.

Because the near-term projects would not rely on or burden any formal stormwater drainage system, would incorporate bioretention and infiltration features to area with new impervious surfaces to manage runoff onsite, and would not introduce substantial new pollutant sources, they would not exceed stormwater system capacity or generate substantial polluted runoff. The impact would be **less than significant**.

iv) Impede or redirect flood flows?

Less than significant. No regular flood flows are known to occur within the Preserve, and the proposed near-term projects are not located within FEMA-mapped floodplains (FEMA 2024; San Mateo County 2025a). Most of the Preserve is designated as Zone X, indicating minimal flood hazard, while only the active Purisima Creek channel and its immediate riparian corridor are mapped as Zone A, where flooding could occur during major storm events (FEMA 2024; San Mateo County 2025a). None of the near-term projects propose new large structures that could impede or redirect flood flows in the event of a flood. Although The Purisima-to-the-Sea Trail Project would introduce two large trail bridges, along with several smaller puncheons measuring 12, 16, or 20 feet in length, these structures would be elevated above the channels and supported outside the active flow path and therefore would not impede or redirect flood flows. Because all the near-term projects are sited outside areas subject to flood flows and would not alter natural drainage corridors, the projects would not impede or redirect flood flows. Therefore, the impact would be **less than significant**.

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

No Impact. Portions of the Preserve are located near the coastline in the Santa Cruz Mountains and foothills; however, the Preserve is not within a tsunami or seiche hazard zone (CGS 2025). As described in criterion iv) above, the Preserve is primarily mapped as FEMA Flood Zone X (Area of Minimal Flood Hazard), with portions of Purisima Creek and its immediate riparian corridor mapped as Zone A, indicating areas subject to the 1-percent annual-chance flood (FEMA 2024; San Mateo County 2025a). None of the proposed near-term projects involve the regular use or storage of pollutants and none would be stored near Purisima Creek or its tributaries. The Verde Road Parking Area Project and the North Trail Project, although situated closer to the coast than the other near-term projects, are approximately 0.5 miles inland from the Pacific Ocean and remain outside any mapped tsunami inundation zones (CGS 2025). Accordingly, the proposed near-term projects would not create a risk of pollutant release due to inundation. Therefore, the proposed near-term projects would have **no impact** relative to inundation by seiche, tsunami, or flood hazard.

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

Less than significant. The Preserve is within the jurisdiction of the San Francisco Bay Area RWQCB, and Midpen is required to comply with the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), which designates beneficial uses and water quality objectives for surface waters and groundwater in the region. If the near-term projects were to substantially degrade water quality such that they would diminish beneficial uses identified in the Basin Plan, they could conflict with or obstruct implementation of the Basin Plan. The proposed near-term projects

are compatible with Basin Plan and do not involve activities such as wastewater discharge, stream channel modification, or substantial changes to watershed hydrology. The projects involve trail improvements, parking-area upgrades, ecological stewardship actions, and visitor-access enhancements that are fully compatible with existing Basin Plan policies for the San Francisco Bay Region and do not include groundwater extraction or activities that would interfere with sustainable groundwater management. Furthermore, construction consisting of ground disturbance would be subject to the Construction General Permit, which requires preparation and implementation of a SWPPP with erosion and sediment control BMPs, materials-handling procedures, and water-quality protection measures. BMPs of the SWPPP could include the installation of perimeter siltation fencing and wattles to prevent offsite erosion and sedimentation and use of erosion control mats to prevent exposed soils from being displaced by rain or wind and entering the nearby Purisima Creek and Lobitos Creek and their tributaries. The Purisima-to-the-Sea Trail Project includes construction of two trail bridges and multiple smaller puncheons, with features designed to span the channels and BMPs to avoid water quality impacts or channel disturbance. Furthermore, any project work occurring within riparian areas or creek corridors would require additional permitting, such as a Clean Water Act Section 404 permit, Section 401 Water Quality Certification, and an LSAA.

The Preserve is in the Half Moon Bay Terrace Groundwater Basin, which is classified as a very low-priority basin and is therefore not subject to SGMA planning requirements (DWR 2025); none of the near-term projects involve groundwater extraction, dewatering, or other activities that would substantially affect groundwater recharge or aquifer conditions.

All project-related construction would comply with standard BMPs and applicable regulatory requirements, ensuring protection of surface water quality. The near-term projects would, therefore, not obstruct implementation of the Basin Plan or otherwise substantially degrade surface or groundwater quality, and the impact would be **less than significant**.

3.11 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Land Use and Planning.				
Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 Environmental Setting

The Preserve is located in the rural western portion of unincorporated San Mateo County in the Santa Cruz Mountains and is largely zoned as recreational and agricultural land. The property is currently used as an open space preserve for passive recreation. While there are employee residences, rural residences, and farmhouses located throughout the Preserve and surrounding area, they are not considered an established community. Therefore, there is no established residential community located within the immediate vicinity of the Preserve.

The San Mateo County General Plan designates the Preserve as Open Space, Public Recreation, and Timber Production, which allow for resource management, recreation, and agricultural uses. The Preserve is zoned RM (Resource Management), RM-CZ/CD (Resource Management – Coastal Zone), TPZ (Timberland Preserve Zone), PAD/CD (Planned Agriculture District/Coastal Development District) and TPZ-CZ/CD (Timberland Preserve Zone-Coastal Zone). These zoning designations provide for park, open space, agricultural, and recreational uses (San Mateo County n.d.-b).

3.11.2 Discussion

a) Physically divide an established community?

No impact. The Preserve contains onsite employee residences throughout the Preserve. However, these employee residences are not an established community and would not be removed as a result of the near-term projects. The nearest community of Adobe Corner is located approximately 2.5 miles east of the Preserve. Because the proposed near-term projects would be located within the Preserve boundaries, and no communities are located in the Preserve, they would not divide an established community. Thus, there would be **no impact**.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than significant. As indicated above under "Environmental Setting," the San Mateo County General Plan designates the Preserve as Open Space, Public Recreation, and Timber Production, which allow for resource management, recreation, and agricultural uses. The Preserve is zoned RM, RM-CZ/CD, PAD/CD, TPZ, and TPZ-CZ/CD. These zoning designations provide for park, open space, recreation, agriculture, and resource management uses. Implementation of the near-term projects would not conflict with the County's land use designation or zoning for the Preserve. Additionally, all proposed near-term projects located within the Coastal Zone (i.e., the Purisima-to-the-Sea Trail Project, Verde Road Parking Area Project, North Trail Project, and Irish Ridge Habitat Restoration Project) would

be required to obtain a Coastal Development Permit or Coastal Development Permit Exemption in compliance with the San Mateo Local Coastal Program. The proposed near-term projects within the Coastal Service Area would also comply with the provisions of the Service Plan for the Coastside Protection Program, as well as all other applicable and Preserve-wide plans and programs. Therefore, the near-term projects would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation, and the impact would be **less than significant**.

3.12 MINERAL RESOURCES

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

3.12.1 Environmental Setting

Mineral Resource Zone-2 (MRZ-2) indicates the existence of a deposit that meets certain criteria for value and marketability. According to the County of San Mateo General Plan, the southern portion of the Preserve is located within an area designated MRZ-2, a Significant Mineral Resource Area. This resource is identified in the County General Plan as the Half Moon Bay Oil Field, which is one of the oldest oil fields in California and was first developed during the 1880s, however, most of the old wells have been plugged and abandoned (San Mateo County 1986).

3.12.2 Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Less than significant. As mentioned above, the southern portion of the Preserve is located in an area designated as a Significant Mineral Resource Area and is identified as the Half Moon Bay Oil Field. The near-term projects located near this area are the Verde Road Parking Area Project, the North Trail Project, and the Purisima-to-the-Sea Trail Project. All oil wells located on the Preserve have been abandoned and oil drilling would not be permitted within the Preserve because it is not consistent with Midpen's mission to protect and restore the natural environment. In addition, Midpen plans to remediate the area for future potential public access (Section 2.5.12, "Safety and Security, Utilities and Infrastructure, Environmental Hazards," in Chapter 2, "Project Description"). No other mineral resources are located on the Preserve. Implementation of the proposed near-term projects within this area would involve recreation-related infrastructure and facility improvements and restoration and vegetation enhancement activities. These projects would not alter land uses or access in a way that could impact the availability of mineral resources. Thus, the proposed near-term projects would not result in the loss of availability of a known mineral resource and the impact would be **less than significant**.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Less than significant. The Half Moon Bay Oil Field was identified as a Significant Mineral Resource Area in the San Mateo General Plan. As discussed above under criterion a), the near-term projects would not result in the loss of availability of a locally important mineral resource, and the impact would be **less than significant**.

3.13 NOISE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII.Noise.				
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, or a substantial temporary or permanent increase in noise levels above existing ambient levels that could result in an adverse effect on humans?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Environmental Setting

NOISE FUNDAMENTALS

Noise is defined as loud, unexpected, annoying, or unwanted sound. As sound travels through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on a variety of factors, including geometric spreading (i.e., spherical or cylindrical spreading), ground absorption (i.e., hard versus soft sites), atmospheric conditions (e.g., wind direction and speed, air temperature, humidity, turbulence), and shielding by natural or human-made features. Geometric spreading is the way in which sound intensity decreases further away from the source, and it occurs because the area that the sound energy covers becomes larger with increasing distance.

The amplitude of pressure waves generated by a sound source determines the loudness of that source, also called the sound pressure level (SPL). SPL is most commonly described by using decibels (dB) because this logarithmic unit best corresponds to the way the human ear interprets sound pressures. However, the decibel scale does not adequately characterize how humans perceive noise because the human ear is not equally sensitive to loudness at all frequencies (i.e., pitch) in the audible spectrum. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of A-weighted decibels or dBA) can be computed based on this information. All sound levels discussed in this section are expressed in A-weighted decibels.

Because decibels are logarithmic units, SPLs expressed in dB cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy (mechanical energy propagated through an elastic medium by pressure fluctuations) corresponds to a 3-dB increase. In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level

increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness (noise based on the judgement of a person or a listening jury) (Caltrans 2013: 2-10).

Various noise descriptors have been developed to describe time-varying noise levels. The noise descriptors used in this chapter include:

- **Equivalent Continuous Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013: 2-48). For instance, the 1-hour equivalent sound level, also referred to as the hourly L_{eq}, is the energy average of sound levels occurring during a 1-hour period.
- **Percentile-Exceeded Sound Level (L_X):** L_X represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time) (Caltrans 2013: 2-16).

GROUNDBORNE VIBRATION

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Groundborne vibration is vibration of and through the ground. Sources of groundborne vibration include natural phenomena (e.g., earthquakes, volcanic, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Regardless of land use, building damage could occur from continuous vibration. Land uses considered sensitive to vibration-related human annoyance include residential uses, hospitals, nursing facilities, intermediate care facilities, child educational facilities, libraries, museums, and childcare facilities.

Groundborne vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocities are normally described in inches per second (in/sec) but can also be expressed in decibel notation (VdB), which is used mainly in evaluating human response to vibration.

EXISTING NOISE ENVIRONMENT

The existing noise environment within Purisima Creek Redwoods Open Space Preserve is characterized primarily by natural ambient sounds typical of undeveloped and semi-rural areas. Dominant noise sources include wind moving through vegetation, wildlife activity (e.g., birds and insects), and occasional human voices associated with recreational users. Overall ambient noise levels are generally low and fluctuate naturally depending on time of day, weather conditions, and seasonal variation.

Localized roadway noise is also present within and adjacent to the preserve. Noise from nearby roadways consists primarily of passenger vehicles and, less frequently, medium and heavy trucks. Roadway noise is intermittent and varies with traffic volumes, vehicle speeds, and distance from the travel lanes. In areas farther from roadways, traffic noise becomes attenuated by distance, topography, and intervening vegetation, allowing natural sounds to remain the dominant component of the ambient noise environment.

Noise levels adjacent to existing parking areas within the preserve are influenced by vehicle-related activities. Typical noise sources include passenger vehicles entering and exiting parking spaces, door closures, engine start-ups, idling, and occasional car alarms.

NOISE-SENSITIVE RECEPTORS

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to

both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Noise-sensitive receptors are also considered vibration-sensitive receptors. Commercial/industrial buildings and wildlife refuges where vibration could interfere with operations within the buildings and disrupt avian breeding seasons, including levels that may be well below those associated with human annoyance, are also considered vibration-sensitive receptors.

3.13.2 Regulatory Setting

FEDERAL

Federal Transit Administration

To address the human response to ground vibration, the Federal Transit Administration (FTA) has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines are presented in Tables 3.13-1 and 3.13-2. Table 3.13-1 shows ground-borne vibration levels that are regarded as being perceptible by humans and Table 3.13-2 shows the construction vibration criteria regarding structural damage.

Table 3.13-1 Ground-Borne Vibration Impact Criteria for General Assessment for Human Response

Land Use Category	GVB Impact Levels (VdB re 1 micro-inch/second) Frequent Events[1]	GVB Impact Levels (VdB re 1 micro-inch/second) Occasional Events[2]	GVB Impact Levels (VdB re 1 micro-inch/second) Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65 [4]	65 [4]	65 [4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Notes: VdB = vibration decibels referenced to 1 µ inch/second and based on the root mean square (RMS) velocity amplitude.

[1] "Frequent Events" is defined as more than 70 vibration events of the same source per day.

[2] "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

[3] "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

[4] This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

Source: FTA 2018: 123-126.

Table 3.13-2 Construction Vibration Damage Criteria

Building/Structural Category	Maximum PPV (in/sec)	
	PPV, in/sec	Approximate Lv
I. Reinforced-concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry building	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Notes: PPV = peak particle velocity

Source: FTA 2018: 123-126.

STATE

While the State does provide interior noise standards for new occupied structures as well as guidance for noise standards within adopted General Plans, there are no specific State noise regulations applicable to the near-term projects.

LOCAL

County of San Mateo

San Mateo County Municipal Code

4.88.330 - Exterior Noise Standards.

It is unlawful for any person at any location within the unincorporated area of the County to create any *noise*, or to allow the creation of any *noise* on property owned, leased, occupied or otherwise controlled by such person which causes the exterior *noise* level when measured at any single or multiple family residence, school, hospital, church, public library situated in either the incorporated or unincorporated area to exceed the *noise* level standards as set forth in Table I (recreated as Table 3.13-3) below.

Table 3.13-3 Receiving Land Use: Single or Multiple Family Residence, School, Hospital, Church, or Public Library Properties

Category	Cumulative Number of Minutes in any 1 hour time period	Daytime 7:00 a.m.—10:00 p.m.	Nighttime 10:00 p.m.—7:00 a.m.
1	30	55	50
2	15	60	55
3	5	65	60
4	1	70	65
5	0	75	70

Source: San Mateo County 2025b.

a) In the event the measured background noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted in five (5) dBA increments so as to encompass the background noise level.

b) Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, consisting primarily of speech or music, or for recurring or intermittent impulsive noises.

c) If the intruding noise source is continuous and cannot reasonably be stopped for a period of time whereby the background noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards in Table I [recreated as Table 3.13-3].

4.88.360 - Exemptions.

The following activities shall be exempted from the provisions of the Exterior Noise Standards.

a) School bands, school athletic and school entertainment events.

b) Outdoor gatherings, public dances, shows and sporting and entertainment events providing said events are conducted pursuant to all County regulations.

c) Activities conducted on parks, public playgrounds and school grounds provided such parks, playgrounds and school grounds are owned and operated by a public entity.

d) Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work.

a) *Noise* sources associated with demolition, construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. weekdays, 5:00 p.m. and 9:00 a.m. on Saturdays or at any time on Sundays, Thanksgiving and Christmas.

b) All mechanical devices, apparatus or equipment which are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

c) Mobile *noise* sources associated with agricultural operations provided such operations do not take place between the hours of 8:00 p.m. and 7:00 a.m.

d) Mobile *noise* sources associated with agricultural pest control through pesticide application provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner.

e) *Noise* sources associated with the maintenance of real property used for residential purposes provided said activities take place between the hours of 7:00 a.m. and 8:00 p.m.

f) Any activity to the extent regulation thereof has been preempted by State or Federal law.

3.13.3 Discussion

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, or a substantial temporary or permanent increase in noise levels above existing ambient levels that could result in an adverse effect on humans?

Less than significant. Noise sources associated with the proposed near-term projects would be subject to San Mateo County Municipal Code Section 4.88.330. Because activities such as construction, vegetation management, and parking lot use could operate for 30 minutes or more within a given hour, they were evaluated using a noise metric called "L_{50}." In simple terms, L_{50} represents the noise level that is reached or exceeded for half of a one-hour period (about 30 minutes). This helps determine whether noise would be present at noticeable levels for a substantial portion of the hour. If the L_{50} noise level stays below the established limit, it means the noise would not exceed the standard for more than 30 minutes in any given hour, which is consistent with Section 4.88.330. Therefore, for sensitive receptors near the near-term project sites, a noise standard of 55 dBA L_{50} would be representative.

Construction and construction-like activities (e.g., vegetation management) are exempt from the noise standards in Section 4.88.330 of the San Mateo County Noise Ordinance if they occur between the hours of 7:00 a.m. and 6:00 p.m. on weekdays, 9:00 a.m. and 5:00 p.m. on Saturdays, and do not occur at all on Sundays, Thanksgiving, and Christmas. As such, an impact would occur if construction would occur outside the exempted hours as specified in the San Mateo County Noise Ordinance. As described in Chapter 2, "Project Description," all construction would occur within the limits set by the San Mateo County Ordinance. However, for purposes of disclosing the potential construction noise effects of the proposed near-term projects, temporary construction noise levels were calculated and are described below. Because the County has not established specific numerical noise limits for construction activities at nearby sensitive land uses, the FTA's guidance criterion of 90 dBA L_{eq} at residential receptors is used as a reference point.

Temporary Noise

The following near-term projects would involve a heavier construction phase with the potential to result in substantial temporary noise impacts: Highway 35 Parking Project, Verde Road Parking Area Project, North Trail Project, and the Purisima-to-the-Sea Trail.

Construction noise would fluctuate depending on the type of construction activities occurring and equipment used on any given day; the distances from construction activity to noise-sensitive receptors; any noise-attenuating

features, such as topography, vegetation, and existing structures; and existing ambient noise levels. Although specific equipment used would vary for the different components of construction, project construction would generally involve the use of heavy construction equipment such as cranes, excavators, dozers, and haul trucks. These pieces of equipment generate noise levels ranging from 73 to 88 dBA L_{max} at 50 feet (FHWA 2006). No blasting (i.e., the controlled use of explosives to excavate rock) would occur as part of any of the near-term projects.

FTA recommends that the loudest pieces of equipment be evaluated assuming they operate at the same point in time and location on a project site. As equipment moves around a construction site, the noise source(s) can move closer or further from the receiver, changing how noise is perceived. As such, the average location of proposed construction activities (i.e., center of a project area) would be designated as the acoustical center of construction activities. Residential sensitive land uses nearest to the proposed near-term projects with heavier construction phases are shown in Table 3.13-4, as measured from the acoustical center of each project site to the façade of the nearest sensitive receptor.

Table 3.13-4 Locations of Sensitive Receptors

Project Name	Sensitive Receptor Distance from Construction Activity	Location of Residential Sensitive Receptors
Highway 35 Parking Project	274 feet[1]	13130 Skyline Blvd, Woodside, CA 94062
Verde Road Parking Area Project	1,800 feet[1]	600 Verde Rd, Half Moon Bay, CA 94019
North Trail Project	400 feet[2]	1000 Verde Rd, Half Moon Bay, CA 94019
Purisima-to-the-Sea Trail	1,100 feet[2]	500 Irish Ridge Rd, Half Moon Bay, CA 94019

[1] As measured from the center of the project area to the nearest sensitive receptor property line.

[2] As measured from the centerline of the trail to the nearest sensitive receptor property line.

Source: Compiled by Ascent 2025.

Noise modeling for general construction activities conservatively assumed simultaneous operation of two pieces of heavy equipment (a dozer and a grader) in close proximity to each other located at the acoustical center of where construction would occur. Estimated construction noise levels at the nearest sensitive receptors are shown in Table 3.13-5.

Table 3.13-5 Construction Noise Levels at Adjacent Sensitive Receptors

Sensitive Receptors	Distance from Construction Activity	Construction Noise Levels at Sensitive Receptors (dBA L_{eq})
13130 Skyline Blvd, Woodside, CA 94062	274 feet[1]	63.7
600 Verde Rd, Half Moon Bay, CA 94019	1,800 feet[1]	42.6
1000 Verde Rd, Half Moon Bay, CA 94019	400 feet[2]	59.5
500 Irish Ridge Rd, Half Moon Bay, CA 94019	1,100 feet[2]	48.1

Notes: L_{50} = sound level exceeded 50 percent of the time; dBA = A-Weighted Noise Levels

[1] As measured from the center of the project area to the nearest sensitive receptor property line

[2] As measured from the centerline of the trail to the nearest sensitive receptor property line

Source: Modeled by Ascent 2025.

As shown in Table 3.13-5, based on typical attenuation rates, noise levels generated by construction activities would reach to up to 63.7 dBA L_{eq}. Therefore, construction noise generated by the Highway 35 Parking Project, Verde Road Parking Area Project, North Trail Project, and the Purisima-to-the-Sea Trail would be below the FTA's construction noise threshold of 90 dBA L_{eq} at the closest sensitive receptor. Detailed calculations are provided in Appendix D.

The Purisima Multimodal Access Implementation Project would involve small capital improvements (e.g., installation of cellular infrastructure, an automatic gate, ADA-accessible landing pads, benches, etc.) that would be constructed over 3 to 5 days. Installation of an automatic gate, ADA-accessible landing pads, and benches would generate very

little noise during construction, likely not discernable from regular ongoing operations and maintenance activities. The most substantial noise generating construction activity associated with the Purisima Multimodal Access Implementation Project would be the installation of the proposed cellular infrastructure, involving the use of an auger and concrete truck. Noise levels associated with the implementation of the cellular infrastructure would be below the levels discussed above for the other near-term projects. No sensitive receptors are closer than 274 feet from the proposed cellular infrastructure; the minimum distance identified in Table 3.13-5. Therefore, the Purisima Multimodal Access Implementation Project would not exceed the FTA's daytime construction standards of 90 dBA L_{eq}, and therefore is not addressed further in this analysis.

Vegetation management activities often utilize the same or similar equipment as construction (e.g., chainsaws, chippers, loaders, and haul trucks) and therefore produce comparable median noise levels. Due to the nature of proposed vegetation management activities under the Irish Ridge Restoration Project (e.g., manual and mechanical vegetation removal) and their similarities to construction, the FTA's construction noise methodology was used to calculate a reference noise level. Noise modeling for general vegetation management activities conservatively assumed simultaneous operation of two pieces of heavy equipment (a dozer and a chainsaw) in close proximity to each other located at the acoustical center of vegetation management. The closest noise receptors would be located approximately 180 feet from the center of the project area where vegetation management activities are expected to occur (see Figure 2-7). Based on typical attenuation rates, noise levels generated by vegetation management on the Irish Ridge Restoration Project site would reach up to 66.2 dBA L_{eq} at the nearest sensitive receptor. As such, noise generated by the Irish Ridge Restoration project would be below the FTA's noise threshold of 90 dBA L_{eq}. See Appendix D for detailed calculations.

Construction of and vegetation management associated with the proposed near-term projects would occur during daytime hours consistent with the construction noise exemption identified in Municipal Code Section 4.88.360. In addition, construction and vegetation management activities would be below FTA's noise standard of 90 dBA L_{eq} for residential receptors. Therefore, no substantial temporary increase in ambient noise levels would occur.

Permanent Noise Sources

The Verde Road Parking Area Project, North Trail Project, Purisima-to-the-Sea Trail Project, and Highway 35 Parking Project (i.e., the Spur Trail) would introduce new noise sources to the existing ambient noise environment in the vicinity of their respective project area. As described in Chapter 2, "Project Description," the Verde Road Parking Area Project would include 115 parking stalls (110 vehicle stalls and 5 equestrian trailer stalls). Project-generated trips were conservatively estimated assuming one vehicle trip per automobile parking stall during the peak hour, resulting in a total of 110 peak-hour trips. According to guidance from the FTA, noise generated by activity at surface parking lots varies depending on the rate of vehicle turnover, ranging from 44 to 53 dBA L_{eq} at 50 feet (FTA 2018). Conservatively assuming parking area noise would be 53 dBA L_{eq} at 50 feet, and based on typical attenuation rates, noise levels generated by auto circulation in the Verde Road parking area would exceed the County's noise standards within 42 feet. The closest noise sensitive receptor is located 1,800 feet away as measured from the center of the project area to the façade of the nearest sensitive receptor. As such, noise levels associated with the implementation of the Verde Road Parking Area Project would not exceed the County's standard of 55 dBA $L_{50.}$ See Appendix D for modeling inputs and outputs.

Noise sources associated with the proposed trail projects (i.e., North Trail Project, Purisima-to-the-Sea Trail, and Spur Trail) would include trail users and associated human speech, which could generate noise levels of up to 95 dBA L_{50} at 3 feet (EPA 1977). Based on typical attenuation rates, noise levels generated by trail users in the project area would exceed the County's noise standards at 106 feet. The closest noise sensitive receptors are located approximately 430 feet and 1,100 feet from the center of the project area of the North Trail Project and the Purisima-to-the-Sea Trail, respectively. The Highway 35 Parking project includes a 400-foot-long Spur Trail located to the east of the parking area; the closest sensitive receptor is located approximately 400 feet northwest from the Spur Trail. As such, noise levels associated with the implementation of the proposed trail projects would not exceed the County's standard of 55 dBA $L_{50.}$

In addition, the Highway 35 Parking Project and Purisima Multimodal Access Implementation Project would include noise sources that are similar to the existing ambient noise environment, such as expanding Highway 35's existing

parking area (e.g., vehicle circulation and recreational equestrian activities) and vehicle trips on existing roadways. As such, these projects have the potential to increase noise levels at nearby sensitive receptors. Typically, a substantial increase in noise is generally defined as a perceptible increase of approximately 3 dBA or greater at sensitive receptors. A 3 dBA increase typically corresponds to a doubling of sound energy (e.g., a doubling of traffic or parking activity). As described in Chapter 2 "Project Description," the existing Highway 35 parking area currently accommodates up to approximately 53 vehicles. The proposed Highway 35 Parking Project would expand the existing parking area to provide a total of 67 standard parking spaces, representing a net increase of 14 parking spaces compared to existing conditions. Therefore, a doubling of traffic would not occur nor result in a perceptible increase in ambient noise levels at the nearest existing sensitive receptors.

The Purisima Multimodal Access Implementation Project would result in up to 51 shuttle trips per day during the busiest season (i.e., Summer), based on the shuttle schedule. The shuttle service would connect the proposed Verde Road Parking area to the Purisima Creek Trailhead as a method to alleviate congestion and parking constraints. As the purpose of the shuttle service is to reduce the number of vehicle trips along Purisima Creek Road, implementation of the shuttle service would likely generate trips less than or equal to existing conditions. Therefore, a doubling of traffic would not occur nor result in a perceptible increase in ambient noise levels at the nearest existing sensitive receptors.

Summary

As described above, near-term project construction would comply with the San Mateo County Municipal Code daytime construction noise exemption. Project operations would not result in any long-term substantial noise increases of 3 dBA or greater from expansion of existing operations, nor introduce new or unique noise sources that would exceed San Mateo County's applicable noise standards of 55 dBA L_{50}. Therefore, this impact would be **less than significant**.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant. The proposed near-term projects would not introduce any new long-term sources of vibration (e.g., railroads and light rail). Therefore, this analysis focuses on vibration generated by construction activities. Proposed construction would not involve substantial vibration-generating activities such as pile-driving or blasting. Vibration assessments are generally separated into two distinct analyses, one that is concerned with the receiving land uses perception and associated level of annoyance to vibration-inducing activities, and the second which is related to the possibility of vibration-inducing activities to cause structural damage to nearby structures. FTA guidance for maximum acceptable VdB levels are primarily concerned with sleep disturbance in residential areas and can be avoided by keeping exposures at or below 80 VdB during typical sleeping hours, or if the vibration events are infrequent (i.e., less than 30 per day). In addition, FTA construction vibration damage criteria for maximum PPV, in/sec recommends a standard of 0.2 PPV, in/sec for Type III buildings (non-engineered timber and masonry buildings).

Near-term project construction would involve the use of limited ground vibration–intensive activities, such as use of a vibratory roller during site preparation. Considering the reference levels for a vibratory roller and the applicable FTA's threshold of 80 VdB (level for infrequent events at places where people sleep), disturbance would be considered substantial within 73 feet of vibratory rolling activities. Regarding structural damage, the applicable threshold for the prevention of structural damage at non-engineered timber and masonry buildings is 0.2 in/sec PPV (Caltrans 2020). Assuming normal propagation conditions, vibration generated by vibratory rollers could exceed the threshold for structural damage within 26 feet of vibratory roller activity. Refer to Appendix D for detailed vibration modeling calculations. No buildings or structures are located within 73 feet or 26 feet of site preparation activities. Therefore, construction associated with the proposed near-term projects would not result in disturbance to vibration-sensitive uses or structural damage. This impact would be **less than significant**.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No impact. The proposed near-term projects would not be located within 2 miles of an airport, nor within an airport's land use compatibility plan. In addition, the proposed near-term projects would not include any new land use development where people would reside. Operation of the projects would not expose existing or future employees to increased aircraft noise. Therefore, the near-term projects would not expose people residing or working in the project area to excessive aircraft-related noise levels and there would be **no impact**.

3.14 POPULATION AND HOUSING

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

3.14.1 Environmental Setting

According to the US Census Bureau, in 2020 San Mateo County's population totaled 764,442 with 290,427 total housing units and an occupation rate of 2.75 persons per household (US Census Bureau 2025). Located in the unincorporated area of San Mateo County, the Preserve and the surrounding area are sparsely populated, with housing consisting mostly of rural residences and farmhouses.

3.14.2 Discussion

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

No impact. The proposed near-term projects do not include construction of new housing or commercial business. Therefore, no direct population growth would result from implementation of the near-term projects. In addition, the near-term projects would not result in the extension of any infrastructure that could indirectly induce substantial population growth. While development of the near-term projects would require construction personnel, these workers would be pulled from the local labor force, and the need for temporary workers would not induce substantial population growth. The District may also need to hire a few new staff members to implement the additional management activities required for operation of the project. Because only a few new positions would be generated (if any), the near-term projects would not be a major source of employment for the region that could induce substantial unplanned population growth. The project would not result in direct or indirect unplanned population growth, and **no impact** would occur.

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

No impact. Implementation of the near-term projects would not involve demolition of any residential structures. As mentioned above under Section 3.11, "Land Use and Planning," the nearest established community is located within Adobe Corner, approximately 2.5 miles east of the Preserve. Additionally, there are several employee residences, rural residences, and farmhouses scattered throughout the Preserve. However, the near-term projects would not result in the removal of any existing residential buildings. Therefore, there would be **no impact**.

3.15 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Public Services.				
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.15.1 Environmental Setting

FIRE PROTECTION

The Preserve is located within the SRA and fire protection is primarily provided through a cooperative partnership between the San Mateo County Fire Department (SMCFD) and CAL FIRE. Through CAL FIRE's Cooperative Fire Protection Program, San Mateo County has contracted with CAL FIRE for fire protection since 1962. The SMCFD is a "full service all risk" agency, providing fire protection, medical response, hazardous materials response, fire safety inspections, fire marshal duties, community education, emergency preparedness and planning for most unincorporated areas (those not covered by a municipal fire department or local fire district) of San Mateo County. SMCFD has one County Fire volunteer fire company, Loma Mar Company 55. Additionally, SMCFD is responsible for coordination and training of the La Honda Volunteer Fire Brigade and Kings Mountain Volunteer Fire Department. Both volunteer fire companies assist with providing emergency response and fire protection services to approximately 250 square miles of the county's rural mountains and south coast (San Mateo County 2025b).

Midpen maintains a fire program, known as the Wildland Fire Resiliency Program, to assist these agencies with fire response. If a fire occurs on or is threatening Midpen lands, Midpen staff helps establish Incident Command if first on scene, evacuates or closes the Preserves for visitor safety, performs initial attack when safe and effective to do so, provides logistical assistance given staff knowledge of the property, monitors and attacks spot fires, and supplies additional water for primary agency engines. Midpen operates a maintenance-style water truck for use in providing water for fire suppression.

POLICE PROTECTION

Midpen rangers are peace officers authorized to carry out duties in patrolling Midpen preserves to promote visitor safety and provide for the protection of the natural resources of the preserves. In addition to being Midpen's

designated police force, Midpen rangers are trained emergency medical responders and emergency medical technicians. The San Mateo County Sheriff's Department is the primary jurisdictional law enforcement agency that provides law enforcement service to unincorporated areas of San Mateo County, including the Preserve. Midpen staff are responsible for enforcing Midpen regulations pertaining to vandalism, bicycle use, dogs off leash, dogs in closed areas, and parking, whereas the San Mateo County Sheriff's Department is primarily responsible for criminal enforcement.

SCHOOLS

The Preserve is located within the Cabrillo Unified School District. The closest school to the project site is Kings Mountain Elementary School, located near the southeastern boundary of the Preserve off of Swett Road.

PARKS

Several large open space preserves and regional parks are located in the vicinity of the Preserve, including the El Corte De Madera Creek Open Space Preserve, Tunitas Creek Open Space Preserve, Miramontes Ridge Open Space Preserve, Johnston Ranch, Burleigh H. Murray Ranch, Golden Gate Natural Recreation Area, and Huddart Park.

3.15.2 Discussion

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

Fire protection?

Less than significant. As discussed above under Section 3.14, "Population and Housing," the near-term projects would not induce population growth in the vicinity of the Preserve and do not include the development of new residences requiring increased fire protection. The near-term projects could result in increased visitation to the Preserve through the development of new and expanded parking areas. However, the Preserve is currently open to the public and the proposed near-term projects would not create a new regional open space preserve or other attraction that would generate substantial new visitation. In addition, only low intensity recreation would continue to be permitted in the Preserve. Accordingly, visitors would not introduce new ignition sources to the Preserve and would not substantially increase the demand for fire protection services. Additionally, as described in Section 2.5.12, "Safety and Security, Utilities and Infrastructure, Environmental Hazards," in Chapter 2, "Project Description," the CUMP provides long-term management guidance for specific focus areas which include actions to maintain vegetation along roads and trails to reduce wildfire risk, educate visitors about regulations to maximize compliance, conduct regular patrols, and conduct maintenance activities according to best managements practices for fire safety. Additionally, the Purisima Multimodal Access Implementation Project would include installation of cellular communication infrastructure at the existing Purisima Creek Trailhead. Depending on the final design, the infrastructure could include an emergency call box and cellular communication capabilities. While intended primarily to support shuttle operations, the infrastructure could also facilitate communication with emergency responders during emergency events and provide a minor emergency response and public safety benefit.

For the reasons described above, implementation of the proposed near-term projects would not result in an increased demand for fire protection services such that new or expanded facilities would be required. Therefore, the impact would be **less than significant**.

Police protection?

Less than significant. As described above, the near-term projects would not induce population growth in the vicinity of the Preserve and do not include the development of new residences requiring increased police protection. Law enforcement service at the Preserve is currently provided by Midpen rangers and the San Mateo County Sheriff's Department when needed. Although the near-term projects could result in increased visitation to the Preserve through the development of new and expanded parking areas, the Preserve is currently open to the public and the proposed near-term projects would not create a new regional open space preserve or other attraction that would generate substantial new visitation. Accordingly, the near-term projects would not substantially increase the demand for police services. Additionally, as described in Section 2.5.12, "Safety and Security, Utilities and Infrastructure, Environmental Hazards," in Chapter 2, "Project Description," the CUMP provides long-term management guidance for specific focus areas which include actions to provide signage and education to promote compliance with Midpen regulations, conduct enforcement actions to address violations for the protection and safety of the resources and public, and conduct ongoing patrols to monitor safe, appropriate, and permissible public uses. Additionally, the Purisima Multimodal Access Implementation Project would include installation of cellular communication infrastructure at the existing Purisima Creek Trailhead. Depending on the final design, the infrastructure could include an emergency call box and cellular communication capabilities. While intended primarily to support shuttle operations, the infrastructure could also facilitate communication with law enforcement and emergency responders when assistance is needed and provide a minor emergency response and public safety benefit.

For the reasons described above, implementation of the proposed near-term projects would not result in an increased demand for police protection services such that new or expanded facilities would be required. Therefore, the impact would be **less than significant**.

Schools?

No impact. The near-term projects would not be growth inducing and does not include the development of new residences requiring increased school services. Because the project would not induce population growth, the project would not result in an increase in demand for educational services such that new or physically altered schools would be necessary to maintain current service levels. Therefore, **no impact** would occur.

Parks?

No impact. The near-term projects would not be growth inducing and do not include the development of new residences that could require the development of new parks. Furthermore, the near-term projects would allow for increased public access to the Preserve, increasing the extent of available recreation opportunities. Therefore, **no impact** would occur.

Other public facilities?

No impact. The near-term projects would not be growth inducing and do not include the development of new residences. Because the near-term projects would not induce population growth, they would not result in an increase in demand for other public facilities, such as libraries and community centers. Therefore, **no impact** would occur.

3.16 RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Recreation.				
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

3.16.1 Environmental Setting

The Preserve is a popular recreational destination among residents of San Mateo County, neighboring areas, and the broader San Francisco Bay Area region. Public access is provided by the four Preserve entrances: Purisima Creek Trail on Purisima Creek Road, Redwood Trail, Grabtown Gulch Trail, and North Ridge Trail. Currently, over 21 miles of multi-use trails provide opportunities for hiking, biking, and equestrian use, while portions of the Preserve remain closed to public access while supporting ongoing grazing, agricultural operations, and habitat protection.

The Preserve is surrounded by extensive recreational opportunities. Nearby recreational resources include Burleigh H. Murray Ranch State Park to the north of the Preserve, a historic ranch property owned by State Parks offering hiking along a quiet ranch road to the rare 19th century Mills Barn, as well as nature observation, and limited dog-friendly walking (State Parks 2025a). East of the Preserve is San Mateo County's Huddart Park, a 973-acre park that provides hiking, picnicking, camping, and equestrian opportunities (San Mateo County 2025c). To the south and southeast there are other Midpen preserves, including the El Corte de Madera Creek Open Space Preserve, a 2,908-acre preserve offering over 30 miles of multiuse trails popular with hikers, mountain bikers, and equestrians, and the Tunitas Creek Open Space Preserve, encompassing approximately 2,200 acres of coastal forest that provide opportunities for hiking and nature viewing (Midpen 2020; Midpen 2025d). West of the Preserve, coastal recreation opportunities include hiking, biking, and equestrian use along the California Coastal Trail, as well as beach access at Half Moon Bay State Beach, which provides sandy shoreline, picnicking, fishing, surfing, camping, and scenic walking and biking (State Parks 2025b).

3.16.2 Discussion

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No impact. As previously described, the proposed near-term projects would not induce population growth in the region or develop new residences which could lead to the increased use of existing neighborhood and regional parks or other recreational facilities. The near-term projects would expand public access in the existing Preserve through new trail extensions and parking improvements. Although this expansion could result in increased visitation at the Preserve itself, as analyzed throughout this IS/MND, a substantial physical deterioration to the Preserve would not occur because no new types of activities are proposed and the Preserve would continue to support low impact

passive recreation such as hiking, nature viewing, and picnicking. Although some visitors to Purisima could visit other nearby parks (e.g., if parking areas at the Preserve are at capacity), the additional visitors to nearby parks would be negligible, occurs under existing conditions, and would likely be reduced as a result of the near-term projects given that they would help alleviate current capacity issues at the Preserve. Therefore, the near-term projects would not cause a substantial physical deterioration to existing recreational facilities and **no impact** would occur.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

Less than significant. Implementation of the proposed near-term projects would improve existing public access and recreation features and maintain the Preserve for public use. The potential environmental effects of implementing the proposed near-term projects are evaluated within this environmental document which determined that, with application of the mitigation measures identified herein, no significant environmental impacts would occur. Because impacts are addressed in other sections of this document, the impact here is considered **less than significant**.

3.17 TRANSPORTATION

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

3.17.1 Environmental Setting

ROADWAY NETWORK

Access to the Preserve is provided by a network of rural highways and local roadways. The primary roadways in the vicinity of the Preserve are described below.

State Highways

The following highways are operated and maintained by the California Department of Transportation (Caltrans) and provide regional access to the Preserve:

- State Route (SR) 1, also known as Highway 1 or the Cabrillo Highway, is a north-south highway extending along the coast of California between Orange County and Mendocino County. It connects to Verde Road near the lower, southwestern portion of the Preserve.
- SR 35, also known as Skyline Boulevard, is a north-south highway between San Mateo County and Santa Clara County. SR 35 provides direct access to the upper, eastern portion of the Preserve.

Local Roadways

The following local roadways provide direct access to the Preserve; these roadways are within the jurisdiction of and maintained by San Mateo County:

- Verde Road is an unmarked two-way County roadway that connects Purisima Creek Road with SR 1. There are currently no bicycle or pedestrian facilities along Verde Road.
- Lobitos Creek Road is an unmarked two-way County roadway that extends off Verde Road to Tunitas Creek Road. There are currently no bicycle or pedestrian facilities along Lobitos Creek Road.
- Purisima Creek Road is an unmarked two-way County roadway that extends off Verde Road near SR 1 and traverses northeast, ending at its junction with Higgins Purisima Creek Road, at the location of a vehicular bridge that spans Purisima Creek. There are currently no marked bicycle or pedestrian facilities along Purisima Creek Road.

BICYCLE NETWORK

The bicycle network in the greater unincorporated San Mateo County is composed of shared-use paths, bicycle lanes, and bicycle routes. As of 2021, the entire County bicycle network was comprised of approximately 15 miles of Class I shared-use paths, 32 miles of Class II bicycle lanes, 1 mile of Class II buffered bicycle lanes, and 5 miles of Class III bicycle routes (County of San Mateo 2021a: 25). However, within the vicinity of the Preserve, there are no existing bicycle facilities. The *Unincorporated San Mateo County Active Transportation Plan* proposes future Class III bicycle routes along Purisima Creek Road and Verde Road within the vicinity of the Preserve (County of San Mateo 2021a: Figure 19).

Below are County definitions for each bicycle facility classification (County of San Mateo 2021a: 24):

- Class I Shared-Use Paths are off-street, two-way paved facilities that provide robust separation from motor vehicles and are used by bicyclists, pedestrians, and other non-motorized users.
- Class II Bicycle Lanes provide an exclusive space for bicyclists to operate on the roadway. They are striped adjacent to vehicle travel lanes, delineated by a solid white line.
- Class II Buffered Bicycle Lanes provide an exclusive space for bicyclists to operate on the roadway. Buffered bicycle lanes provide additional horizontal separation between vehicle travel lanes and bicyclists via a painted buffer.
- Class III Bicycle Routes designate certain roadways as preferred bicycle roads, where bicyclists share the road with drivers. They typically include wayfinding signage for bicyclists as well as additional signage to increase driver awareness to the potential presence of bicyclists.
- Class III Bicycle Boulevards are a specific type of bicycle route. They are often found on low-speed, low-volume neighborhood streets with traffic calming enhancements, and are often used as parallel options when high-speed and high-volume roadways cannot accommodate a low-stress bikeway.
- Class III Rural Bicycle Routes are another type of bicycle route that usually features wide, paved shoulders, striping, and intermittent rumble strips to provide a flexible space for bicyclists to travel in the absence of other facilities on rural roads or highways.
- Class IV Separated Bicycle Lanes, also known as protected bicycle lanes, are dedicated bicycle facilities that provide the experience of a Class I shared-use path but are located on-street. Separated bicycle lanes provide more robust physical separation between bicyclists and motor vehicles than Class II facilities. Class IV separated bicycle lanes always include vertical separation, parked vehicles, raised concrete curbs, planters, or posts, as well as horizontal separation, such as a striped buffer or landscaped area.

PEDESTRIAN NETWORK

Within the unincorporated areas of San Mateo County, the pedestrian network consists of a combination of rural roadways without sidewalks and urban areas with partial or complete sidewalk coverage (San Mateo County 2021a: 50). Some unincorporated areas have crossing treatments, sidewalks, shared-use paths, and unpaved recreational trails (County of San Mateo 2021a: 50). There are no existing pedestrian facilities in the vicinity of the Preserve. The Active Transportation Plan proposes a future Class I shared-use path along SR 1 in the vicinity of the Preserve (County of San Mateo 2021: Figure 19). Within the Preserve, there are approximately 24 miles of existing hiking/pedestrian recreational trails (Midpen 2026b).

PUBLIC TRANSIT FACILITIES AND SERVICES

The San Mateo County Transit District (SamTrans) is the administrative body for the principal public transit and transportation programs in San Mateo County which include SamTrans bus service, Redi-Wheels paratransit service, Caltrain Commuter Rail, and the San Mateo County Transportation Authority (SMCTD 2025). There is no existing transit service to the Preserve. The closest existing transit facility serves the SamTrans Route 117 bus route and is located near the Miramontes Point Road/Tea Road intersection, approximately 1.5 miles northwest of the Preserve (SamTrans 2025). There are no proposed transit facilities or services within 1 mile of the Preserve (SamTrans 2022).

APPLICABLE PLANS AND REGULATIONS

California Manual on Uniform Traffic Control Devices, Part 6: Temporary Traffic Control

The *California Manual on Uniform Traffic Control Devices* (CA-MUTCD), Part 6: Temporary Traffic Control provides principles and guidance for the implementation of temporary traffic control to ensure the provision of reasonably safe and effective movement of all roadway users (e.g., motorists, bicyclists, pedestrians) through or around temporary traffic control zones while reasonably protecting road users, workers, responders to traffic incidents, emergency personnel, and equipment. In addition, this document states that temporary traffic control plans and devices shall be the responsibility of the public body or official having jurisdiction to guide road users (Caltrans 2024: 1029).

Caltrans Standard Plans and Standard Specifications

The Caltrans Standard Plans and Standard Specifications provide detailed requirements and guidelines to ensure that transportation projects (i.e., any improvement or construction project located within a state highway, including highway crossings) meet safety and performance criteria. The Standard Plans illustrate typical construction details, including roadway geometry, traffic control devices, and accessibility features, and the Standard Specifications establish minimum standards contractors must meet during construction.

Caltrans Highway Design Manual

The Caltrans Highway Design Manual provides policies, standards, and procedures for the geometric and physical design of highways in California. It serves as the primary reference to ensure State highways are safe, efficient, and accessible. The Highway Design Manual includes standards related to intersections, bicycle and pedestrian facilities, and roadway alignment.

Caltrans Encroachment Permits Manual

The Caltrans Encroachment Permits Manual provides information on the permitting process, describes departmental policies, and maintains uniform methods and procedures related to the issuance of encroachment permits. Section TR-0045 of the Encroachment Permits Manual describes the general provisions of a Caltrans encroachment permit, including standards of construction, pedestrian and bicyclist safety, and requirements for public traffic control (Caltrans 2022). Caltrans encroachment permits would be required for all construction activity that would take place on, under, or over a state highway.

California Code of Regulations Section 15064.3

On December 28, 2018, State CEQA Guidelines Section 15064.3 was introduced to address the determination of significance for transportation impacts. It mandated that transportation analyses be based on vehicle miles traveled (VMT) rather than congestion metrics, such as level of service (LOS). The shift in focus was a direct response to legislation, notably Senate Bill 743, passed in 2013, that required the Governor's Office of Land Use and Climate Innovation (LCI) (formerly the Governor's Office of Planning and Research [OPR]) to develop new State 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 LOS 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." Therefore, LOS and similar measures of traffic congestion are not used to analyze transportation impacts. In December 2018, LCI published the most recent version of the *Technical Advisory on*

Evaluating Transportation Impacts in CEQA (Technical Advisory), which provides limited guidance for VMT analysis for some types of projects.

California Fire Code

The California Fire Code, which is codified as Part 9 of Title 24 of the CCR, incorporates by adoption the International Fire Code and contains regulations related to construction, maintenance, access, and use of buildings. Topics addressed in the California Fire Code include design standards for fire apparatus access (e.g., turning radii, minimum widths), standards for emergency access during construction, provisions intended to protect and assist fire responders, and several other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The California Fire Code contains specialized technical regulations related to fire and life safety and is revised and published every 3 years by the California Building Standards Commission.

City/County Association of Governments of San Mateo County

The City/County Association of Governments of San Mateo County (C/CAG) is the Congestion Management Agency and County Transportation Agency for San Mateo County and oversees State and federal transportation funds. C/CAG developed a web application, the C/CAG VMT Estimation Tool, to conduct baseline VMT screening and VMT reduction analysis for specific land uses in the County (C/CAG 2021).

County of San Mateo Encroachment Permit

The County of San Mateo requires an encroachment permit for work conducted in the public County right-of-way (ROW). The special provisions of the encroachment permit require that adequate provision for the protection of the traveling public be made per the latest version of the CA-MUTCD (County of San Mateo 2021b).

Midpen Parking Area Design Guidelines

The Midpen Parking Area Design Guidelines serve as a tool to evaluate proposed parking area design plans and are intended to be referenced and integrated in every phase of the design process (Midpen 2024). The Midpen Parking Area Design Guidelines include details about design elements such as restrooms, equestrian amenities, fencing and barriers, signage, and parking technology as well as recommended approaches to siting and layout, fire management, and other design components.

Midpen Wildland Fire Management Policy

The Midpen Wildland Fire Management Policy outlines how Midpen manages wildland fire risk on its open space lands. The document establishes goals and policies to protect public health and safety and habitat resilience through planning, vegetation management, collaboration with fire agencies and neighboring jurisdictions. The policy also aims to facilitate and maintain interior Preserve emergency road access by including provisions for reduction of roadside vegetation (Midpen 2022: 77). Interior Preserve roads are largely composed of native soil, with certain areas surfaced using primarily baserock; these roads are often part of the legacy ranch road network that existed on the land prior to Midpen's purchase.

3.17.2 Discussion

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

Less than significant. The proposed near-term projects would enhance access to and circulation within the Preserve through the implementation of new and expanded parking areas (Highway 35 Parking Project and Verde Road Parking Area Project), trailheads (Highway 35 Parking Project and Verde Road Parking Area Project), and trail connections (North Trail Project and Purisima-to-the-Sea Trail Project), and would promote multimodal access through the implementation of transportation demand management (TDM) strategies (Purisima Multimodal Access Implementation Project). The enhancements of the proposed near-term projects on public access to and circulation within the Preserve are further described below.

Transit Facilities and Services

As part of the Purisima Multimodal Access Implementation Project, Midpen would implement a pilot shuttle service connecting visitors who park at the proposed Verde Road parking area to the Purisima Creek Trailhead. The proposed shuttle service would include daily service in the spring, summer, and fall, and weekend-only service in the winter, as shown in Table 2-3 in Chapter 2, "Project Description." In addition to the shuttle service, the Verde Road Parking Area Project would include transit-supportive infrastructure, including a shuttle turnaround or drop-off zone and a bus shelter to accommodate future public transportation connections. These new transit facilities would be constructed and maintained in a manner consistent with District Standards, including the Parking Area Design Guidelines for transit turnaround and drop-off areas (Midpen 2024: 17). Implementation of the proposed near-term projects would enhance transit facilities and services for people visiting the Preserve and would not interfere with any existing or proposed transit facilities or conflict with a program, plan, ordinance, or policy addressing such facilities.

There are no existing or proposed transit facilities or services within the vicinity of the Preserve. The closest existing transit facility is located near the Miramontes Point Road/Tea Road intersection, approximately 1.5 miles northwest of the project area, as detailed in Section 3.17.1, "Environmental Setting." Therefore, implementation of the proposed near-term projects would not disrupt existing transit services or interfere with proposed transit facilities.

Roadway Facilities

Implementation of the proposed near-term projects would include the construction of access driveways (Verde Parking Area Project) as well as pedestrian roadway/highway improvements for safely connecting people to and from parking areas to surrounding trail networks along Verde Road (Verde Parking Area Project), SR 35 (Highway 35 Parking Project), and SR 1 (North Trail Project). All modified roadways/highways would be designed and constructed in accordance with applicable local and State design guidelines and standards, to the extent that the projects are subject to them. In addition, encroachment permits would be required and obtained from the County and Caltrans for improvements made to County and state roadways, respectively. They would require that all roadway modifications comply with applicable design standards and traffic control requirements to maintain safe and efficient roadways/highways. In addition, the projects would be subject to review by County and Caltrans staff to confirm that applicable design and safety standards are met. Therefore, implementation of the proposed near-term projects would not conflict with a program, plan, ordinance, or policy addressing the roadway facilities.

Bicycle and Pedestrian Facilities

There are no existing bicycle or pedestrian facilities present in the surrounding vicinity of the Preserve (except for existing hiking trails within the Preserve). The *San Mateo County Active Transportation Plan* proposes several bicycle and pedestrian facilities along the roadway network surrounding the Preserve: (1) a Class I shared-use path along SR 1 west of the Preserve and (2) Class III bicycle routes along Higgins Canyon Road from SR 1 to Purisima Creek Road, along Purisima Creek Road from Higgins Canyon Road to Verde Road, along Verde Road from SR 1 to Lobitos Creek Road and along Tunitas Creek Road between SR 1 and SR 35 (County of San Mateo 2021a). Implementation of the proposed near-term projects would not interfere with any of the proposed facilities included in the *San Mateo County Active Transportation Plan*.

The proposed near-term projects would enhance existing trailheads (Highway 35 Parking Project and Verde Road Parking Area Project) and trail connections (North Trail Project and Purisima-to-the-Sea Trail Project) and provide additional public multimodal amenities, including bicycle racks and bicycle repair stations. In addition, implementation of the proposed near-term projects would also result in enhanced pedestrian infrastructure, including pedestrian roadway/highway crossings with high visibility crosswalks to provide safe connections between trails and between trails and parking areas (Highway 35 Parking Project, Verde Road Parking Area Project), and a pedestrian crossing across SR 1 equipped with a HAWK signal (an overhead traffic signal that uses a red indication to inform drivers to stop when activated) to connect trail users to trail systems that exist/will exist on both sides of the highway (North Trail Project). By providing enhanced trailheads and trail connections that support existing and planned trail systems, as well as infrastructure supporting bicyclists and pedestrians, the near-term projects would improve bicycle and pedestrian facilities in the area, consistent with the accessibility and public health goals included

in the *California Transportation Plan* (Caltrans 2021: 76). For these reasons, the proposed near-term projects would not conflict with applicable programs, plans, ordinances, or policies related to bicycle and pedestrian facilities.

Summary

Implementation of the proposed near-term projects would include the construction of enhanced shuttle, pedestrian, and bicycle supportive facilities and would not conflict with any existing roadway, transit, pedestrian, or bicycle facilities. Nor would the proposed near-term projects preclude the implementation of future proposed alternative transportation facilities. All transportation facilities associated with the near-term projects would be designed and constructed in accordance with applicable design standards and permit requirements. For these reasons, the proposed near-term projects would not adversely affect an existing or planned roadway, transit, bicycle, or pedestrian facility; and would not conflict with any adopted plans, policies, or standards related to such facilities. This impact would be **less than significant**.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?

Less than significant. State CEQA Guidelines Section 15064.3(b)(3), "Qualitative Analysis," states that if existing models or methods are not available to estimate the VMT for the project being considered, a lead agency may analyze VMT qualitatively. State CEQA Guidelines Section 15064.3 nor the Technical Advisory provide guidance or thresholds for recreational projects with trail amenities and visitor support features. In addition, the C/CAG VMT Estimation Tool only addresses VMT associated with residential, office, and industrial land uses; these land uses in combination with each other; and these land uses with a local-serving retail space (C/CAG 2021: 2). Because the C/CAG VMT Estimation Tool is limited to specific land uses categories that are not applicable to the project and because neither LCI nor C/CAG provide additional guidance applicable to recreational projects, a qualitative analysis, as allowed by State CEQA Guidelines Section 15064.3(b)(3), is the most appropriate approach for analyzing the VMT impacts associated with implementation of the proposed near-term projects.

Construction activities associated with implementation of the near-term projects are temporary and intermittent and would therefore not result in long-term increases in construction vehicle trips along roadways within and surrounding the Preserve. In addition, the VMT of construction personnel is not newly generated; instead, it is redistributed throughout the regional roadway network based on the different work sites to which workers travel each day. Therefore, construction personnel are not substantially generating new VMT each day, only redistributing it, and this redistribution would be nominal and temporary.

The goals of Senate Bill 743, as stated in the legislative text, include reducing GHG emissions and traffic-related air pollution, promoting the development of multimodal transportation systems, and providing clean, efficient access to destinations. The proposed near-term projects consist of new and expanded parking areas, trailhead improvements, trail connections, and implementation of a shuttle service as part of a TDM strategy. Collectively, these projects are intended to improve public access to existing trails and open space rather than introduce new land uses or intensify development. The proposed projects would not create a new, significant regional travel demand or substantially expand new trip-generating land uses. Instead, they would primarily accommodate existing recreational demand and improve the efficiency and safety of access to open space resources with an incremental increase in use. While the projects will largely redistribute where visitors park or enter trail systems, they are not expected to substantially increase overall vehicle trip lengths or frequency beyond existing conditions.

In 2023 a traffic study was conducted to evaluate roadway capacity, sight distance, and design for the Purisima-to-the-Sea Parking Area and Trails Project (referred to herein as the Verde Road Parking Area Project). To evaluate the effect of traffic volumes on roadway sight distance and design, the traffic study developed a conservative estimate of potential trips generated by the proposed parking area (BKF 2023). The traffic study assumed a maximum of 110 parking spaces implemented as part of the Verde Road Parking Area Project and applied an overall weighted trip generation rate of 0.7. This trip generation rate factors in the total counted peak hourly trips from five existing parking areas that provide access to low intensity recreation trails along SR 1. The traffic study also assumed that Preserve operations occur between dawn and dusk, or for 12 hours per day, so the weighted rate of 0.7 trips per hour

per parking space was applied over a 12-hour day. Although this trip generation estimate was not intended to be applied to evaluate project-generated VMT, the traffic study conservatively estimated that a maximum of 924 daily trips could be generated by the Verde Road Parking Area Project in a peak weekend scenario (BKF 2023: 5). While assuming maximum traffic generation for roadway design and safety is appropriate, this method is a conservative assessment of trip generation for VMT analysis, which typically relies on average travel behavior rather than peak conditions and, for open space uses, should account for regional visitor demand and the relative distance of alternate facilities offering similar recreational opportunities. The proposed near-term projects would add new trails, equestrian facilities, trailhead amenities, and parking (up to 151 additional spaces within an existing, publicly accessible open space preserve). However, roadside parking along Purisima Creek Road would be heavily restricted while the shuttle is in operation during peak visitation hours at the Preserve. These conditions would redistribute current roadside parking along Purisima Creek Road to the Verde Road Parking Area and, therefore, may reduce the net number of additional vehicles arriving at the southern/coastal reaches of the preserve and/or reduce VMT.

The Preserve is located near Bay Area urban centers, such as Redwood City and Palo Alto, providing open space access for users who would otherwise be traveling to other locations with similar recreational opportunities. For example, the Preserve is approximately 16 miles from Redwood City and 20 miles from Palo Alto. Under existing conditions, regional visitors are likely to travel farther to other forest-to-sea trails such as the Skyline-to-the-Sea trail extending from Big Basin State Park to Davenport (approximately 25 miles south of Palo Alto) or the Bear Valley trailhead in Point Reyes Station (approximately 62 miles north of Redwood City). By providing a closer destination for visitors, it is likely that an increase in trip generation would be offset by a reduction in average trip length. In addition, although some visitors to the Preserve are from San Francisco and the East Bay, most visitors come from the Peninsula, coast (e.g., Half Moon Bay), and South Bay and would be expected to continue to do so (Parisi Transportation Consulting and Mead & Hunt 2022: 42). For these reasons, the near-term projects would not substantially increase VMT relative to existing conditions.

Furthermore, as part of the Purisima Multimodal Access Implementation Project, Midpen would implement a pilot shuttle service connecting the proposed Verde Road parking area to the Purisima Creek Trailhead that would operate at varying levels of service throughout the year (see Table 2-5 for Maximum Shuttle Service Frequency by Season and Time of Day). The *California Air Pollution Control Officers Association* (CAPCOA) *Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (Handbook) quantifies VMT reductions associated with specific transportation measures. When the shuttle service is in operation, it would offset a certain amount of VMT, with members of the public utilizing the shuttle service off Verde Road when in operation, as compared to driving an additional 3.5 miles along Purisima Creek Road to access the popular redwood forest trailhead (note: most visitors to this trailhead arrive via SR 1 to Purisima Creek Road). Although the CAPCOA Handbook does not quantify VMT reductions associated with providing local shuttle service, it does identify that such service could result in VMT reductions (CAPCOA 2021: Table 3-1).

As part of the Purisima Multimodal Access Implementation Project, Midpen would implement real-time parking information for the North Ridge and Verde Road parking areas. This would provide visitors with accurate online information about parking availability prior to visiting the preserve, which may reduce the number of visitors who arrive when the lot registers as full. Vehicle sensor systems would be installed at primary entry and exit points to record total vehicle counts entering and leaving the site. Sensors and corresponding online information can make the number of parking spaces easily identifiable to drivers to reduce the time spent searching for parking, which in turn can reduce VMT and GHG emissions generated under existing conditions by drivers circulating to find or waiting idle for an unoccupied parking spot (US DOT 2025). In addition, this information would help reduce VMT associated with drivers that travel to the Preserve, search for parking, and then leave to drive to another access point or preserve if they are not able to find parking at Purisima. Other amenities implemented as part of the proposed near-term projects, such as bike parking, could also contribute to VMT reductions (CAPCOA 2021).

The proposed near-term projects would not introduce new land uses or generate substantial new vehicle travel. Instead, the projects would improve access to existing trails and open space through improved trail connectivity improvements and provide a pilot shuttle service as part of a TDM strategy. While some redistribution of local trips may occur, the projects would not substantially increase regional travel demand or trip lengths and would include

elements that reduce or offset VMT. Providing a shuttle and real-time parking data would reduce VMT by allowing visitors to plan ahead, potentially shorten their trip length by utilizing the shuttle, and avoid driving to full parking lots and circling for available parking and/or driving to another destination. Accordingly, the projects would not result in a substantial increase in VMT. Based on the legislative intent of SB 743, which focuses on long-term VMT reductions through land use planning and smart growth, implementation of the project would not hinder the promotion of multimodal transportation systems or implementation of clean, efficient access to destinations. For these reasons, implementation of the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) regarding VMT. For these reasons, this impact would be **less than significant**.

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

Less than significant. The impacts related to transportation hazards during construction and operation are detailed below.

Construction

The construction methods and activities for the proposed near-term projects would include site preparation, excavation, demolition, vegetation clearing and grubbing, grading, installation of drainage infrastructure and utilities, construction of associated site features and public access improvements, and paving. Construction staging would occur within existing developed areas, including current parking areas and on the shoulder of SR 35. The Purisima Multimodal Access Implementation Project would involve minor construction for installation of cellular infrastructure, gates, benches within an existing trailhead/parking area, and signage, which would primarily be accomplished with hand tools (including an auger drill), light- to medium-duty vehicles such as pickup trucks, and potentially a boom lift. This equipment would be used within an existing trailhead/parking area and would not substantially increase transportation hazards.

The near-term projects involve improvements within the ROW of Verde Road, owned by the County of San Mateo, as well as roadway improvements to SR 35 and SR 1, owned by Caltrans; therefore, County and Caltrans encroachment permits would be required. The County of San Mateo encroachment permit special provisions require that adequate safeguards be implemented for the protection of the traveling public pursuant to the latest version of the CA-MUTCD (County of San Mateo 2021b). The CA-MUTCD provides guidance to provide for the safe movement of all roadway users through or around temporary traffic control zones. For example, Section 6B.01 of the CA-MUTCD requires that adequate warning, delineation, and channelization should be provided to assist in guiding road users (e.g., motorists, bicyclists, and pedestrians) in advance of and through the traffic control zone (Caltrans 2024: 1032). Pursuant to Section TR-0045 of the Caltrans Encroachment Permits Manual, the permittee would be required to provide traffic control that is compliant with the most recent Caltrans Standard Specifications and Standard Plans to ensure the safety of the traveling public (Caltrans 2022: 2). The Caltrans Standard Specifications provide detailed requirements and guidelines to ensure that transportation projects meet safety and performance criteria. Implementation of traffic control measures in accordance with CA-MUTCD specifications and review by County and Caltrans staff would prevent project construction from substantially increasing transportation hazards.

Operation

The near-term projects would be designed and constructed in accordance with applicable engineering and design standards which include specifications to provide for the safe and efficient travel of vehicles, bicyclists, pedestrians, and transit vehicles. All the proposed near-term projects with parking area and trailhead improvements (Highway 35 Parking Project, Purisima-to-the-Sea Trail, Verde Road Parking Area Project, North Trail Project) would adhere to the Midpen Parking Area and Trailhead/Staging Area Design Guidelines, which establish a framework for planning and designing parking lots and trailheads across District preserves. The design guidelines call for entry roads to have adequate line-of-sight and advanced driveway approach warning signs (Midpen 2024: 19). The design guidelines also recommend turnarounds or drive-through layouts for emergency vehicle access and considerations for path and sidewalk widths (Midpen 2024).

All proposed pedestrian crossings within Caltrans ROW (Highway 35 Parking Project, North Trail Project) and changes to existing ingress/egress associated with the Highway 35 Parking Project would be designed and constructed in

accordance with the applicable design standards included in the California Highway Design Manual. Chapter 200 of the Highway Design Manual provides design and structure standards for adequate sight distance and Topic 105 in Chapter 100 provides policies and standards for the design of pedestrian crossings (Caltrans 2020). As detailed in Chapter 2, "Project Description," to meet Caltrans requirements based on the documented line of sight and vehicle speeds, the SR 35 crossing associated with the Highway 35 Parking Project would include a high visibility crosswalk and advanced warning pedestrian crossing signage installed within the SR 35 ROW and at both driveways to alert drivers to the upcoming Preserve entrance and crosswalk. The SR 1 crossing would include installation of a HAWK signal within the SR 1 ROW to enhance pedestrian safety and alert approaching drivers, as discussed in Section 2.6.4, "North Trail Project." When activated, the HAWK signal would use red indication lights informing drivers to stop, thereby allowing pedestrians to safely cross the highway. Caltrans, the District, and POST (for the SR 1 crossing) would review the final designs for safety adequacy prior to approval of the Caltrans encroachment permit. During the permitting process, Caltrans may require additional or different recommended crossing infrastructure to enhance safety if determined to be needed.

The pedestrian crossings associated with the Verde Road Parking Project would also include high visibility crosswalks and associated pedestrian-crossing signage to alert drivers of the crossings. The new ingress/egress associated with the Verde Road Parking Project parking area and the Verde Road pedestrian crossings would be designed and constructed in accordance with applicable County design and safety standards and encroachment permit requirements. During the permitting process, the County may require additional crossing infrastructure such as pedestrian-activated RRFBs to enhance safety. The County and the District would review the final designs for safety adequacy prior to approval of the County encroachment permit.

Some heavy equipment such as dozers, excavators, woodchippers, and masticators would be used in addition to the use of hand tools during implementation and/or maintenance of the Irish Ridge Restoration Project, which would need to be transported to the project site. Equipment haul trips would be intermittent, bringing heavier equipment to the site when needed, and equipment would stay on the project site until the end of the season. Therefore, infrequent equipment hauling would not substantially increase roadway hazards.

For these reasons, implementation of the near-term projects would not substantially increase transportation hazards due to a design feature or incompatible use.

Summary

The proposed near-term projects would be subject to and comply with local and State design standards and safety regulations that are intended to reduce transportation hazards. In accordance with encroachment permit provisions, the construction contractor(s) would be required to implement traffic control measures per the latest version of the CA-MUTCD to minimize potential safety impacts during construction within the public ROW. In addition, the proposed near-term projects would be designed and constructed in accordance with applicable engineering and design standards which intend to minimize transportation hazards during operations, as well as County and Caltrans requirements. For these reasons, implementation of the proposed near-term projects would not substantially increase hazards due to a design feature or incompatible use. This impact would be **less than significant**.

d) Result in inadequate emergency access?

Less than significant. As described in criterion c) above, the proposed near-term projects would involve roadway modifications (e.g., new driveways, pedestrian roadway crossings), expansion of existing parking facilities to in part relocate roadside parking, new trail connections, and a new parking lot with shuttle service that also in part relocates roadside parking when the shuttle is operating.

As discussed in Section 2.6.1 of Chapter 2, "Project Description," the Highway 35 Parking Project would reduce roadside parking from 10 spaces to three and expand the existing parking area. Expanding the parking area would eliminate an existing helicopter landing zone adjacent to the North Ridge Parking Area that can be used for emergency medical calls and evacuations. However, three alternate landing zones exist within a 2-mile radius of the Preserve, including Skeggs Point (1 mile) and El Corte de Madera (1.9 miles) to the south. An alternate landing zone is also located within Purisima along the North Ridge Trail, 0.8 miles to the west of the North Ridge Parking Area

(Sullivan pers. comm., 2023). For these reasons, the Kings Mountain Volunteer Firefighters and San Mateo County Fire Department did not raise concerns with the removal of the North Ridge Parking Area site as a helicopter landing zone.

As discussed under criterion c), the parking area projects would be designed and constructed in accordance with applicable engineering and design standards, which include specifications for emergency vehicle access. The proposed near-term projects would also adhere to the Midpen Parking Area and Trailhead/Staging Area Design Guidelines, which include siting and layout standards such as turnarounds and drive-through layouts to provide adequate emergency vehicle access (Midpen 2024). Thus, the proposed parking area projects would not impede emergency vehicle access.

All modifications to existing roadways would be required to meet applicable State and local regulations related to emergency access during construction and operations. The proposed near-term projects would be required to adhere to the latest version of the California Fire Code, which includes requirements to maintain emergency vehicle access during construction as well as applicable design standards to provide adequate fire access during operations. In addition, as described in Chapter 2, "Project Description," the new and expanded parking lots (i.e., Verde Parking Area Project and Highway 35 Parking Project) would be designed with adequate turn radii to allow emergency vehicle access.

Section 3303.1 of the California Fire Code requires that an owner or authorized agent develop, implement, and maintain an approved written site safety plan at the project site during all phases of construction, repair, alteration, or demolition work. Section 3303.1.1 details the required elements that all site safety plans must have, such as fire department vehicle access routes. Compliance with the provisions established in the California Fire Code would provide adequate emergency access during construction activities. The California Fire Code also includes design standards for fire apparatus access (e.g., turning radii, minimum widths) which would require that the proposed near-term projects provide adequate emergency access during operation.

In addition to the California Fire Code, the proposed near-term projects would comply with the Midpen Wildfire Management Policy document, which includes requirements for fire management practices to protect public health and safety. For example, Policy WF-1 requires the maintenance of designated roads for fire access and improvement of such roads with surfacing, additional turnouts, and reduction of roadside vegetation to a level that allows ease of access for emergency response personnel and equipment (Midpen 2022: 77). For these reasons, implementation of the proposed near-term projects would not result in inadequate emergency access. This impact would be **less than significant**.

3.18 TRIBAL CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Tribal Cultural Resources.				
Has a California Native American Tribe requested consultation in accordance with Public Resources Code section 21080.3.1(b)?	☒ Yes		☐ No	
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

3.18.1 Environmental Setting

ETHNOGRAPHIC SETTING

Prior to the expansion of Europeans into California, the San Mateo coastline was inhabited by Native Californians, and the Preserve was historically occupied by tribelets of the Costanoan linguistic group. Descendants of Costanoan speakers prefer the use of a native term, Ohlone, rather than the European-designated "Costanoan" ("coastal dwellers"). A tribelet is a grouping that may have included multiple villages, or a single, primary village with several outlying camps. Each tribelet was a socio-political unit defined by a shared language and territorial claim demarcated by topographic features which were strictly respected. As many as 50 separate tribelets from San Francisco Bay to Carmel Valley and extending inland have been recognized. Specific to the Purisima Creek area was the Ramaytush speaking tribelet, Cotegen (SWCA 2021).

The Native American population in this region came into contact with European culture at the beginning of Spain's land exploration and settlement in AD 1769. Traditional lifeways were altered drastically during the late 1700s to early 1800s when the Spanish established seven Franciscan missions to convert native peoples to the European way of life. Large-scale epidemics soon swept through the mission population and remaining villages. It is estimated that the combined Ohlone population fell from a precontact total of 10,000 down to 2,000 by the end of the mission period in 1834 (SWCA 2021).

TRIBAL CONSULTATION

This section focuses on the contemporary tribal communities and tribal cultural resources as they pertain to AB 52. This section analyzes and evaluates the potential impacts of the project on tribal cultural resources, both identified and undiscovered. Tribal cultural resources, as defined by AB 52, Statutes of 2014, in PRC Section 21074, are sites, features, places, cultural landscapes, sacred places and objects, with cultural value to a Tribe. A tribal cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

AB 52, signed by the California Governor in September of 2014, established a new class of resources under CEQA: "tribal cultural resources," defined in PRC Section 21074. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation before the release of an EIR, negative declaration, or mitigated negative declaration.

On December 2, 2025, Midpen sent notification letters, as required by PRC 21080.3.1, to the Native American tribes that had previously requested such notifications. Notifications were sent to Amah Mutsun Tribal Band, Amah Mutsun Tribal Band of Mission San Juan Bautista, Costanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Band of Costanoan Ohlone People, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, The Ohlone Indian Tribe, Ramaytush Ohlone, Tamien Nation, and Wuksachi Indian Tribe/Eshom Valley Band. Table 3.18-1 provides a summary of which Tribes were contacted, when, and the response, if any.

Table 3.18-1 AB 52 Consultation Summary

Tribe	Notification Date	Response	Follow-Up/Status
Amah Mutsun Tribal Band	December 2, 2025	No responses to the AB 52 notification letters were received.	The Tribe confirmed via phone call on January 5, 2026 that the project areas were outside of the Tribe's territory and did not need further consultation on this project.
Amah Mutsun Tribal Band of Mission San Juan Bautista	December 2, 2025	Responded with general comments on December 2, 2025.	Midpen responded via phone call and email on January 13, 2026 and January 22, 2026 requesting clarification about how the tribe's comments apply to the project sites. The Tribe has not responded to Midpen's responses or requested a meeting.
Costanoan Rumsen Carmel Tribe	December 2, 2025	Requested consultation under AB 52 on January 6, 2026.	Midpen met with the Tribe and conducted a site visit on July 6, 2026. On September 7, 2026, the Tribe indicated that the tree removal process and fence installation has the potential to encounter cultural resources, and they recommended monitoring for all ground disturbing activities. In addition, they requested a list of native plants that will be planted. Consultation remains ongoing.
Indian Canyon Mutsun Band of Costanoan Ohlone People	December 2, 2025	Requested consultation under AB 52 on January 9, 2026.	Midpen met with the Tribe, consultation remains ongoing.
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area	December 2, 2025	Requested consultation under AB 52 on December 11, 2025.	Midpen met with the Tribe, consultation remains ongoing.
The Ohlone Indian Tribe	December 2, 2025	No responses to the AB 52 notification letters were received.	Midpen reached out with a follow-up email on December 15, 2025 and a follow-up phone call on January 5, 2026. The Tribe confirmed via phone call on January 5, 2026 that no further consultation was needed on this project.
Ramaytush Ohlone	December 2, 2025	Requested consultation under AB 52 on December 5, 2025.	Midpen met with the Tribe and conducted a site visit on May 18, 2026. Consultation remains ongoing.

Tribe	Notification Date	Response	Follow-Up/Status
Tamien Nation	December 2, 2025	Responded that the project lands are outside of their traditional territory and did not request consultation.	The Tribe confirmed in an email dated January 13, 2026 that the project areas are outside of the Tribe's territory and no further consultation is needed on this project.
Wuksachi Indian Tribe/Eshom Valley Band	December 2, 2025	No responses to the AB 52 notification letters were received.	Midpen followed up with the Tribe via email on December 15, 2025 and via phone call on January 5, 2026. Midpen has not received a response from the Tribe.

Source: Information provided by Midpen; compiled by Ascent in 2026.

No tribal cultural resources were identified within the Preserve as a result of the consultation meetings, but the Tribes have indicated that the Preserve, particularly along waterways that connect to the Pacific Ocean, is potentially sensitive for tribal cultural resources.

3.18.2 Discussion

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

No Impact. No CRHR listed or eligible for listing tribal cultural resources such as sites, features, places, or cultural landscapes are located within the Preserve. Similarly, no tribal cultural resources such as sites, features, places, or cultural landscapes that are listed in a local register of historical resources are located within the Preserve. Therefore, there would be no impact.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than significant with mitigation. As described above, Midpen sent AB 52 notifications letters to 16 Tribal representatives who had previously requested notification. Representatives from The Costanoan Rumsen Carmel Tribe, Ramaytush Ohlone Tribe, Muwekma Ohlone Tribe of the SF Bay Area, and Indian Canyon Mutsun Band of Costanoan Ohlone People requested consultation under AB 52. Midpen has met with the Ramaytush Ohlone, Indian Canyon Band of Costanoan Ohlone People, Costanoan Rumsen Carmel Tribe, and Muwekma Ohlone Tribe of the SF Bay Area (see Table 3.18-1). Although no specific tribal cultural resources have been identified within the Preserve, the Tribes have indicated that some areas within the Preserve, particularly along waterways that connect to the Pacific Ocean, are sensitive for tribal cultural resources. Given the potential sensitivity of the Preserve for tribal cultural resources, ground-disturbing construction activities (e.g., grading, excavation, or vegetation removal using equipment like masticators, excavators, track chippers, and/or a bulldozer) have the potential to encounter previously undiscovered tribal cultural resources. These activities could damage or destroy tribal cultural resources if present, and this would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.18-1: Cultural Resources Awareness and Sensitivity Training

Before construction, all maintenance personnel will participate in an educational training session conducted by a qualified cultural resources specialist. This training will include instruction on how to identify historic and precontact resources that may be encountered and will describe the appropriate protocol to be followed if resources are discovered during construction.

Mitigation Measure 3.18-2: Unanticipated Discovery of Tribal Cultural Resources

If any suspected tribal cultural resources have been identified by Midpen's qualified archaeologist pursuant to Mitigation Measure 3.5-1, Midpen will consult on the significance of the suspected tribal cultural resource with the qualified archeologist and geographically affiliated Tribe(s) that have requested consultation. Based on this consultation, Midpen will implement measures to mitigate or avoid a significant effect to a tribal cultural resource, with preservation in place being the preferred treatment. Vegetation removal using hand tools for cutting, clearing, or pruning may occur within the vicinity of a tribal cultural resource, as these activities do not interfere with preservation in place. The contractor shall not resume work in the area of the discovery until directed to do so by Midpen.

Significance after Mitigation

Implementation of Mitigation Measures 3.18-1 and 3.18-2 would reduce impacts on tribal cultural resources to a **less-than-significant** level by requiring cultural resources awareness and sensitivity training, and appropriate treatment and proper care of significant tribal cultural resources, in the case of a discovery.

3.19 UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. Utilities and Service Systems.				
Would the project:				
a) Require or result in the relocation or construction of construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

The Preserve is mostly undeveloped open space with no major utility services, such as wastewater treatment, natural gas, or formal stormwater drainage facilities. Wastewater generated from public restrooms in the Preserve is stored onsite in vaults before removal and disposal by local service providers to municipal wastewater treatment facilities. The specific wastewater treatment plant where wastewater is treated depends on the routing of the third-party commercial waste-hauling vendor contracted by Midpen at the time of pumping. There is no municipal or other formal drainage system; stormwater runoff drains naturally into undeveloped areas and onsite bioretention areas. Water supply for use in public facilities generally comes from springs, creeks, and groundwater. There are electrical connections and a municipal water connection for employee and agricultural tenant residences scattered throughout the Preserve; however, neither serve any of the public facilities within the Preserve.

According to BMP GEN-7, Waste Management, in Midpen's OSMRP Manual, recyclable materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, etc.) should be recycled. The nearest landfill to the Preserve that recycles asphalt is the Ox Mountain Landfill, approximately 3.7 miles northwest of the Preserve in Half Moon Bay and is a Class III Municipal Solid Waste Landfill. The Ox Mountain Landfill accepts all types of solid waste except hazardous waste. It also accepts loads of certain materials for recycling and/or reuse onsite, including asphalt (San Mateo County 2015). As of 2019, the landfill had a remaining capacity of approximately 18 million cubic yards, with approximately 19 years of service left (CalRecycle 2019).

The nearest wastewater treatment facilities to the Preserve are the Sewer Authority Mid-Coastside (SAM) treatment facility and the Silicon Valley Clean Water (SVCW) treatment facility. The SAM treatment facility is approximately 6.5 miles north of the Preserve in Half Moon Bay. The SAM treatment facility accepts municipal wastewater from residential, commercial, and permitted industrial users. The SAM facility has an average dry weather treatment capacity of 4 million gallons per day (MGD) and a peak wet weather treatment capacity of 15 MGD. SAM continually evaluates its ability to provide sufficient capacity during design storm events and is currently implementing several capital improvement plan projects (SAM 2024). The SVCW wastewater treatment facility is approximately 9 miles northeast of the Preserve in Redwood City. SVCW accepts permitted septic tank waste and permitted groundwater and non-routine wastewater discharges. SVCW has an average dry weather treatment capacity of 24 MGD, with future improvements underway to increase capacity to 29 MGD. Additionally, SVCW can treat up to 80 MGD during peak wet weather conditions, and up to 108 MGD during short-term storm events (SVCW 2026).

3.19.2 Discussion

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

Less than significant. The proposed near-term projects do not include any features requiring natural gas or new, permanent water use. The proposed near-term projects would include replacement of existing vault restrooms with double ADA-accessible vault restrooms (Highway 35 Parking Expansion Project) and construction of a new vault restroom (Verde Road Parking Area Project). Three of the proposed near-term projects would implement onsite stormwater drainage and retention features that would reduce and manage runoff. For example, the Highway 35 Parking Expansion Project would include a bioretention area that would manage stormwater runoff by capturing and filtering flows through engineered soil and vegetation. Thus, the near-term projects would result in one new restroom and associated wastewater and new stormwater drainage facilities in the Preserve; however, the potential environmental impacts of these facilities are analyzed throughout this IS/MND and would not require the relocation or construction of other water, wastewater treatment, or stormwater drainage infrastructure.

Electrical hookups would be created to support automatic gates, EV charging stations, and real-time parking information sensors for the Highway 35 Parking Expansion Project and Verde Road Parking Area Project. These electrical connections would tie into existing infrastructure and would not result in the relocation or construction of new electric power infrastructure to support the minimal electrical demand.

The Purisima Multimodal Access Implementation Project would include installation of new cellular communication infrastructure at the Purisima Creek Trailhead to support shuttle operations. The cellular communication infrastructure would be completely self-contained and localized and would not require construction of additional telecommunications facilities, extension of telecommunications lines, expansion of the surrounding telecommunications network, or construction of offsite utility infrastructure. Potential environmental effects associated with construction and operation of the cellular communication structure are evaluated in the applicable sections of this IS/MND.

For the reasons described above, the proposed near-term projects would not require the construction or relocation of new or expanded utility facilities that could cause significant environmental effects, and this impact would be less than significant.

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

No impact. The project would not require permanent or ongoing use of existing water supplies. The restrooms proposed onsite would be vault toilets; they would be serviced by a third-party contractor and would not require any water utility connections. Therefore, no impact to existing water supplies would occur.

c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

Less than significant. The Highway 35 Parking Expansion Project would replace an existing restroom with a double ADA-accessible vault restroom and the Verde Road Parking Area Project includes a new vault restroom. Therefore, overall, only one new restroom facility site would result from implementation of the near-term projects. While no utility connections are required for the restrooms, a third-party contractor would service the vault toilets up to a few times per year and transport the waste to an approved municipal wastewater treatment plant for legal disposal.

As described in Section 3.17, "Transportation," the near-term projects would not substantially increase VMT relative to existing conditions, although some level of increased visitation is likely. However, the resulting increase in wastewater would not be substantial, as the Preserve currently experiences high visitation, the near-term projects are intended to help accommodate the visitation the Preserve experiences, and the near-term projects would not result in housing or other major population centers or facilities that would result in a significant increase in wastewater requiring disposal. Additionally, the SAM treatment facility has an average dry weather treatment capacity of 4 MGD and a peak wet weather treatment capacity of 15 MGD and is undergoing several capital improvements to maintain capacity. The SCVW treatment facility has an average dry weather treatment capacity of 24 MGD, with future improvements underway to increase capacity to 29 MGD, and a wet weather treatment capacity of 80 MGD. Thus, implementation of the near-term projects and associated small increase in wastewater requiring disposal would not necessitate the expansion of wastewater treatment facilities and this impact would be **less than significant**.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than significant. Solid waste generated during operations of the proposed near-term projects would be similar to existing conditions because no trash receptacles would be provided at any of the near-term project sites. Solid waste generated by construction of the proposed near-term projects would consist of demolished asphalt pavement and excavated soils and materials. The Highway 35 Parking Project would result in approximately 900 cubic yards of demolished asphalt pavement which would need to be hauled offsite and recycled at an appropriate facility in accordance with state and local solid waste disposal regulations. The Highway 35 Parking Project, Purisima-to-the-Sea Trail, and Verde Road Parking Area Project would result in excavated soils; however, these soils would be balanced onsite.

Demolished asphalt pavement and any other additional waste generated by construction would be hauled to Ox Mountain Landfill for recycling, consistent with BMP GEN-7. The landfill has a remaining capacity of approximately 18 million cubic yards and approximately 19 years of service left before the landfill reaches capacity. The 900 cubic yards of solid waste generated by the Highway 35 Parking Project would not cause the Ox Mountain Landfill to exceed capacity since it would be recycled. Any other construction debris requiring disposal would be minimal. The California Green Building Standards Code (CALGreen) requires covered nonresidential construction projects to develop and implement a construction waste management plan demonstrating that at least 65 percent of construction and demolition debris is diverted from disposal through recycling or salvage (CalRecycle n.d.). Title 10, Building Regulations, Section 10.44.040, in the San Mateo County Code requires construction and demolition debris diversions to comply with CALGreen requirements. Given that the 900 cubic yards of asphalt would be recycled, the proposed near-term projects would not generate solid waste in excess of CALGreen or San Mateo County Code requirements or in excess of the capacity of local infrastructure. Therefore, this impact would be **less than significant**.

e) Fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No impact. As discussed above under criterion d), the Highway 35 Parking Project would result in approximately 900 cubic yards of demolished asphalt pavement which would be hauled offsite and recycled, consistent with CALGreen and San Mateo County Code requirements, and no other near-term projects would generate solid waste. Therefore, there would be **no impact.**

3.20 WILDFIRE

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

3.20.1 Environmental Setting

CAL FIRE has mapped FHSZs for the entire state, including the Preserve area. FHSZ delineations are based on an evaluation of fuels, fire history, terrain, housing density, and occurrence of severe fire weather. The FHSZ map evaluates hazard, not risk. Hazard is based on the physical conditions that create a likelihood and expected fire behavior over a 30 to 50-year period without considering mitigation measures such as home hardening, recent wildfire, or fuel reduction efforts. FHSZs are categorized as: Moderate, High, and Very High. The Preserve is within the SRA in an area designated as a very high FHSZ, with portions near Grabtown designated as a high FHSZ (CAL FIRE 2025).

In May 2021, Midpen released the Wildland Fire Resiliency Program which includes a Vegetation Management Plan, Prescribed Fire Plan, Wildland Pre-Fire Plan/Resource Advisor Maps, and Monitoring Plan. Section 6 of the Program includes guidance for Open Space Preserves within Midpen's jurisdiction to include in their Wildland Pre-Fire Plan. Specifically, guidance related to emergency access and evacuation elements as well as best management practices (BMPs) to be implemented during and post-fire activities are identified. In addition, as described in Section 2.5.4, "Wildfire Resiliency," in Chapter 2, "Project Description," the Vegetation Management Plan includes ecosystem resiliency/healthy forest initiatives, enhanced fire management (i.e., fuel breaks and legally required defensible spaces around critical infrastructure), targeted removal of eucalyptus, and updating fire response resource maps. The proposed Plan includes actions to conduct outreach to neighbors to promote the District's defensible space permits and encourage ecologically sensitive vegetation management related to wildfire resiliency and natural resource enhancement consistent with the IPM and Wildland Fire Resiliency programs. Actions also include closing trail access points within the Coastal Service Area during red flag days and posting notices of closures on the District's website.

As described in Section 3.9, "Hazards and Hazardous Materials," the SMCEM coordinates countywide preparedness, response, and protection services, including implementation of the San Mateo County EOP. The EOP provides countywide procedures for emergency response and evacuation in unincorporated areas, including the Preserve. The Preserve does not have a site specific evacuation plan; instead, evacuation direction is issued by County authorities during an emergency, with Midpen rangers supporting on-the-ground response. Emergency services at the Preserve are provided by Midpen Rangers as first responders, with backup from San Mateo County fire agencies, CAL FIRE, and County EMS.

3.20.2 Discussion

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than significant. No adopted evacuation plan for the Preserve currently exists. The applicable adopted emergency response plan is the County's EOP. The proposed near-term projects would not impair the County's EOP as described under criterion f) in Section 3.9, "Hazards and Hazardous Materials." Therefore, implementation of the proposed near-term projects would not impair an adopted emergency response plan or emergency evacuation plan and the impact would be **less than significant**.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less than significant. As previously described, the Preserve is within the SRA in an area designated as a very high FHSZ, with portions near Grabtown designated as a high FHSZ. Human activities that can create ignition sources, such as vehicle and equipment use, may cause fires to occur more frequently than they otherwise would. Vehicle and equipment use for regular operations and maintenance activities will continue largely unchanged with only incremental increases in level of use as new trails and parking are added to the Preserve; therefore, these activities would not exacerbate wildfire risk. Moreover, ongoing fuel treatments will continue to occur across the preserve, including defensible space treatments surrounding key structures, to manage future wildfire risk. Other routine vegetation management activities, many of which help to also reduce potential wildfire risks, would continue as part of ranch road and trail maintenance work.

As described in Section 3.17, "Transportation," the near-term projects would not substantially increase VMT relative to existing conditions, although some level of increased visitation is likely. As described in Chapter 2, "Project Description," the parking areas would be designed and maintained to prevent sparks from vehicle use through hardened surface treatments (use of paved/concrete driveways and parking spaces) and through defensible space treatments. Moreover, visitor activities that can lead to sparks, such as smoking and use of firearms or fireworks, are prohibited. Adding new areas for low intensity recreation such as hiking, mountain bicycling, and equestrian uses in new preserve areas and along new trails would not result in a significant increase to wildfire risk.

Portions of the Irish Ridge Habitat Restoration Project area feature excessive woody debris that could serve as fuel ladders, increasing the risk of wildfire. However, as part of the Irish Ridge Habitat Restoration Project, Midpen would remove invasive plants to restore natural communities that are both more fire and climate resilient and thin woody debris, thereby reducing the risk of wildfire.

In addition, the proposed Plan includes a wildfire resiliency focus area, aimed to reduce wildland fire risk in the Preserve and increase the safety and response by emergency personnel. Midpen's Wildland Fire Resiliency Program and Vegetation Management Plan include specific wildfire management actions for the Preserve, including ecosystem resiliency/healthy forest initiatives, enhanced fire management (i.e., fuel breaks and legally required defensible spaces around critical infrastructure), targeted removal or eucalyptus, and updating fire response resource maps.

While portions of the Preserve are located within a very high FHSZ, implementation of the proposed near-term projects would not substantially exacerbate wildfire risk or expose project occupants to substantial wildfire risks. Therefore, this impact would be **less than significant**.

c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less than significant. The proposed near-term projects do not involve the installation of new roads, fuel breaks, emergency water sources, or power lines. The Highway 35 Parking Expansion Project and Verde Road Parking Area Project would expand and develop new parking areas, respectively, which could exacerbate fire risk through increased ignition opportunities from vehicle use. However, the main parking areas would be paved and the public would not be allowed to drive within undeveloped and/or vegetated parts of the Preserve. Additionally, as described above under criterion b), the near-term projects would include routine maintenance activities, many of which would reduce potential wildfire risks through vegetation clearing and trail maintenance, and Midpen would continue to implement their Vegetation Management Plan.

The Purisima Multimodal Access Implementation Project would include installation of cellular communication infrastructure at the Purisima Creek Trailhead to support shuttle operations. The cellular communication infrastructure would be completely self-contained and localized and would not require construction of additional telecommunications facilities, extension of telecommunications lines, expansion of the surrounding telecommunications network, or construction of offsite utility infrastructure, and would not substantially increase ignition sources or otherwise exacerbate wildfire risk. In addition, improved cellular service could support emergency communications and response within the Preserve. Potential environmental effects associated with construction and operation of the cellular communication infrastructure are evaluated in the applicable sections of this IS/MND.

For the reasons described, the creation of the new and expanded parking areas and installation of new cellular communication infrastructure would not substantially exacerbate fire risk; therefore, the impact would be **less than significant**.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less than significant. The proposed near-term projects would result in new public access features such as trails (i.e., the Highway 35 Spur Trail, Purisima-to-the-Sea-Trail, and the North Trail) and parking areas (i.e., Verde Road Parking Area Project), which would allow visitor access into new areas of the Preserve previously closed to the public and may result in slightly increased visitation to the Preserve. These improvements could potentially expose people and public access facilities to risks from flooding or landslides due to runoff, post-fire slope instability, or drainage changes. However, as described under criterion b) and c) above, the project would not substantially exacerbate fire risk. Therefore, no associated substantial post-fire slope instability would result. In addition, as described under criterion c) and d) in Section 3.10, "Hydrology and Water Quality," the project would not substantially alter drainage or expose people to risks related to runoff or floods. Furthermore, as described under criterion a) in Section 3.7, "Geology and Soils," the project would not expose people to significant risks related to landslides. Therefore, no substantial risks related to runoff, post-fire slope instability, or drainage changes would occur and the impact would be **less than significant**.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

3.21.1 Discussion

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

Less than significant. The proposed near-term projects would not substantially degrade the environment or adversely affect biological or cultural resources. Implementation of Mitigation Measures 3.4-1 through 3.4-21 identified in Section 3.4, "Biological Resources," would avoid or substantially minimize potential impacts on sensitive habitats, wetlands, wildlife, and special-status species. Specifically, these mitigation measures would require focused surveys and avoidance of special-status species, avoidance or compensation for loss of riparian habitat, delineation and avoidance of wetlands, and establish tree protection zones around heritage and/or significant trees. With these measures in place, impacts to Biological Resources would be minimized to less than significant levels.

As described in Section 3.5, "Cultural Resources," the near-term projects would not result in a substantial adverse change in the significance of a historical resource. For archaeological resources, implementation of Mitigation Measure 3.51 would ensure that any unanticipated discoveries are appropriately evaluated and protected, reducing potential impacts to a less than significant level. Compliance with California Health and Safety Code Section 7050.5 and PRC Section 5097 would ensure that any inadvertent discovery of human remains is treated in accordance with- state law, avoiding or minimizing disturbance. As a result, impacts related to human remains would also be less than significant.

Accordingly, the proposed near-term projects would not substantially degrade environmental quality, threaten biological or cultural resources, or eliminate important examples of California history or prehistory, and the impact would be **less than significant.**

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

Less than significant. In accordance with CEQA Guidelines Section 15130, this Initial Study analyzes the cumulative impacts of the project. A cumulative impact is when "two or more individual effects which, when considered together, are considerable or which compound or increase environmental impacts" (CEQA Guidelines Section 15355).

To comply with CEQA, a cumulative scenario was developed to evaluate the combined effects of the proposed near-term projects together with other past, present, and reasonably foreseeable future projects within the applicable cumulative study area. Consistent with CEQA Guidelines Section 15130(b)(1)(A), this analysis uses the project list approach to characterize cumulative conditions. The project list includes known past, approved, pending, and reasonably foreseeable recreation-related projects in the vicinity of the Preserve that could contribute to cumulative impacts.

Projects Considered

Projects considered include past projects, projects under construction and approved, pending projects that are anticipated to be either under construction or operational by the time of the completion of the project, and reasonably foreseeable future projects within 10 miles of the Preserve. To provide a reasonable and conservative basis for analysis, projects located within 10 miles of the Preserve were considered for inclusion in the cumulative scenario. Projects located more than 10 miles from the Preserve were excluded because the potential for most impacts to combine cumulatively with project impacts, such as aesthetic, geology and soils, and noise impacts, would generally occur over substantially shorter distances. Accordingly, the 10 mile screening distance is considered a conservative geographic extent for identifying projects with the potential to contribute to cumulative impacts. Information pertaining to closely related past, present, and reasonably foreseeable future projects was obtained by reviewing projects undertaken or under review by Midpen and by reviewing the projects undertaken by the following agencies:

- San Mateo County
- Half Moon Bay
- Caltrans
- SFPUC

As shown in Table 3.21-1, nine projects are considered for cumulative purposes and are included in the cumulative scenario for impacts evaluated using the project list approach.

Table 3.21-1 List of Projects for Cumulative Considerations

No.	Project Name	Agency	Description	Status/Timing	Location
1	La Honda Creek Parking and Trailhead Access Project	Midpen	Midpen is conducting an environmental analysis of three potential sites that could be used to expand parking and trailhead access to La Honda Creek Open Space Preserve. The sites were recommended by the La Honda Public Access Working Group and have been thoroughly studied for feasibility.	The project is in the planning and environmental review phase; construction timing has not yet been finalized.	La Honda Creek Open Space Preserve, approximately 5 miles south/southwest of the Preserve.
2	La Honda Creek Preserve Forest Health Project	Midpen	The La Honda Creek Preserve Forest Health Project is a restoration forestry initiative that proposes selective thinning of small trees in	Environmental review and permitting are underway, including preparation of a	La Honda Creek Open Space Preserve, approximately 5 miles

No.	Project Name	Agency	Description	Status/Timing	Location
			previously logged redwood stands to increase forest resilience, reduce wildfire ladder fuels, accelerate the development of mature forest conditions, enhance long-term carbon sequestration, and support adaptive management through ongoing monitoring and site-specific treatments implemented under a Timber Harvest Plan.	Timber Harvest Plan and agency review. Implementation of forest health treatments is tentatively anticipated between 2026 and 2028, subject to regulatory approvals.	south/southwest of the Preserve.
3	Skyline Watershed Ridge Trail Project	SFPUC	SFPUC completed a new 6 mile segment of the Bay Area Ridge Trail and enhanced the existing Fifield-Cahill Ridge Trail with the construction of an ADA compliant loop trail.	Project completed construction in August 2026.	Within the San Francisco Peninsula Watershed near the Fifield-Cahill Ridge Trail. Trail passes approximately 400 feet north of the North Ridge parking area.
4	Hawthorns Area Plan Project	Midpen	A planning effort for the 79-acre Hawthorns area focused on expanding public access opportunities while protecting natural, scenic, and cultural resources within Windy Hill Open Space Preserve.	Board reviewed and approved designs as the basis for the project description to conduct environmental review. Implementation, including design, permitting, bidding, and construction, is tentative and anticipated to begin in 2027.	Windy Hill Open Space Preserve, approximately 6 miles southeast of the Preserve.
5	Quarry Park Single-track Mountain Bike Trail Standards Project	San Mateo County Parks	San Mateo County Parks is working with Avid Trails to develop Single-track Mountain Bike Trail Standards that will guide the planning of sustainable, safe, and enjoyable single-track mountain bike trails in Quarry Park.	Planning/public outreach underway; trail standards are being developed to guide future trail projects.	Quarry Park, approximately 6 miles north/northwest of the Preserve.
6	State Route 1 Multi-Asset Roadway Rehabilitation Project	Caltrans D4	Pavement rehabilitation and complete streets improvements along Highway 1 between Moss Beach and Half Moon Bay, including pedestrian, bicycle, ADA, drainage, and roadway safety enhancements	Construction is underway and anticipated to be completed in Summer 2027.	Segment of SR 1 approximately 2 miles north/northwest of the Preserve.
7	Moss Beach State Route 1 Congestion and Safety Improvements Project	San Mateo County, San Mateo County Transportation Authority, and Caltrans	Proposed Highway 1 corridor improvements including intersection upgrades, traffic operations improvements, pedestrian and bicycle facilities, transit stop enhancements, and safety improvements in Moss Beach	Environmental review is underway; construction anticipated 2029 to 2031 and is dependent on funding.	Segment of SR 1 in Moss Beach, approximately 10 miles northwest of the Preserve.
8	Highway 1 Safety and Operational Improvements – North	City of Half Moon Bay and Caltrans	Highway 1 operational and safety improvements including roadway widening, a new signalized intersection, pedestrian and bicycle facilities, frontage road extensions, and transit stop enhancements between North Main Street and Spindrift Way.	The project expected to be advertised for construction in the summer of 2026 with an estimated 18-month construction duration.	Highway 1 between North Main Street and Spindrift Way in Half Moon Bay, approximately 3.8 miles northwest of the Preserve.
9	Don Horsley Park at Tunitas Creek Beach	San Mateo County Parks	Don Horsley Park at Tunitas Creek Beach is a 58-acre park located at the mouth of Tunitas Creek. There is bluff-top parking for up to 80 vehicles, basic restrooms, scenic overlooks with panoramic ocean views, ADA-accessible paths connecting to mid-bluff overlooks, and drop-in family picnic sites.	Completed and opened to the public in August 2026.	Highway 1 halfway between the towns of Half Moon Bay and Pescadero, approximately 2.5 miles south of the Preserve.

Sources: Caltrans n.d.-b; City of Half Moon Bay n.d. Midpen n.d.-b; Midpen n.d.-c; Midpen n.d.-d; San Mateo County Parks 2026a and 2026b; San Mateo County n.d.-c; SFPUC 2026.

The proposed near-term projects would not result in impacts that are individually limited but cumulatively considerable. Each project involves small-scale improvements, maintenance, or restoration activities within an already managed open space preserve, and their individual environmental effects, such as temporary construction noise, minor vegetation disturbance, short-term traffic increases, and localized ground disturbance, are limited in scope and duration. These effects would be minimized through regulatory compliance, mitigation measures, and District-wide policies and planning frameworks (such as the CUMP, the Vision Plan, and Resource Management Policies).

As indicated throughout this Initial Study, implementation of the proposed near-term projects would not result in any individually significant and unavoidable impact. The cumulative projects listed in Table 3.21-1 include ongoing preserve maintenance and management activities (including resource and vegetation management), other new park and trail projects, regional roadway and trail improvements, and dispersed rural development. The majority of these projects would improve access and safety and/or improve recreational opportunities within existing preserves and transportation corridors, consistent with the intent of the near-term projects. When considering the near-term project's potential impacts together with past, present, and reasonably foreseeable future projects in the region, the incremental contribution associated with the near-term projects would not be cumulatively considerable. In addition, the nearest cumulative project to the proposed near-term projects is the Skyline Watershed Ridge Trail Project (approximately 400 feet from the North Ridge parking area) followed by the SR 1 Multi-Asset Roadway Rehabilitation Project (approximately 2 miles from the Preserve). Construction of the Skyline Watershed Ridge Trail Project is complete; therefore, there would be no overlap in the construction period with any of the near-term projects. In addition, the Highway 35 Parking Project includes the 400-foot-long new Spur Trail located east of SR 35, which would connect to the new SFPUC Skyline Watershed Ridge Trail to enhance and benefit regional connectivity. The SR 1 Multi-Asset Roadway Rehabilitation Project is anticipated to be completed by summer 2027. Although construction period overlap is possible with the Highway 35 Parking Project and Purisima-to-the-Sea Trail Project (both anticipated to begin spring or summer 2027), it would be very short-term, lasting only a few months, and given the distance between these projects and relatively light construction activities associated with all, there would be no potential for construction-related impacts to cumulatively combine and be significant. Once operational, similar to the near-term projects, the SR 1 Multi-Asset Roadway Rehabilitation Project would improve existing transportation facilities and increase safety and there would be no potential for significant cumulative impacts.

The near-term projects do not introduce substantial new sources of long-term noise, traffic, hazardous materials, air quality and GHG emissions, or development intensity, nor do they contribute to regional growth or induce population increases. Instead, they are designed to maintain or enhance existing facilities, restore habitat, and support safe and sustainable public access. Accordingly, the incremental effects of the near-term projects, when viewed in combination with other projects in the area, would not result in cumulatively considerable impacts, and cumulative impacts would be **less than significant**.

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

Less than significant. Impacts to human beings could result from substantial air quality and GHG emissions, accidental upset or release of hazardous materials, substantial noise creation, risks related to seismic activity and stability of soils, and increased risk of wildfire. However, based on the nature and scope of the near-term projects (i.e., restoration activities, implementation of TDM concepts, and the construction and operation of low-intensity public access and recreation features in an existing open space preserve) and the analysis herein, the proposed near-term projects would not result in any direct or indirect substantial adverse effects on human beings. Therefore, the impact would be **less than significant**.

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Appendix A

Purisima Use and Management Plan Implementation Action CEQA Coverage

The following is a supplemental table to the Implementation Action Table identifying applicable California Environmental Quality Act (CEQA) documents that provide environmental review for the actions included in the table. A list of the applicable CEQA documents and their annotations can be found at the bottom of each page and a full list of acronyms can be found on the last page of this document.

1. Natural Resources Management

Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
Vegetation	**NR-1**	**Purpose**: Protect ecosystem function by promoting native plant species. **Actions**: Identify, monitor and consider enhancement or reintroduction of special status native plant species. Work with neighbors and partners on coordinated land management actions to promote landscape level ecosystem benefits(8).	• Identification and monitoring actions are not projects under CEQA • Special status plant enhancement or reintroduction would be a future project that could be covered under IPM EIR or could require board action/separate CEQA if details are outside of IPM EIR
	NR-2	**Purpose**: Manage grasslands consistent with the District's Grazing Management Policy to support both biological resources and agricultural heritage of the area. **Actions**: Manage and conserve grassland habitat with adequate amounts of residual dry matter at the start of each growing season and a diverse range of vegetation heights and species composition and complexity(6). Control encroachment of problematic invasive and woody vegetation(4).	• IPM EIR – invasive plant species and brush management • RMP NOE/NDs'
	NR-3	**Purpose**: Enhance and protect pollinator habitat. **Actions**: Develop a pollinator habitat enhancement plan to conduct seed collection and seed amplification of pollinator host and nectaring plants appropriate for the local ecology. Identify, prioritize and implement plan actions in appropriate areas(8).	• Plan development is not a project under CEQA • Future implementation would require separate review by the District (and may be covered under OSMRP or IPM)

CEQA Document/Coverage Reference

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
	NR-4	**Purpose**: Restore native forest ecosystems in areas with disturbance from past land use. **Actions**: Implement the Irish Ridge Restoration Plan[(1)], manage invasive species per the Integrated Pest Management Program[(4)], and implement vegetation management according to the Wildland Fire Resiliency Program[(3)].	• CUMP IS/MND – includes Irish Ridge Restoration as a near-term project • IPM EIR – manage invasive species • WFRP EIR – vegetation management
Wildlife	**NR-5**	**Purpose**: Protect wildlife by reducing barriers to movement and dispersal. **Actions**: Use wildlife-friendly fencing and infrastructure when replacing existing[(2)] or installing new infrastructure[(2,6,8)], establish and maintain safe wildlife crossings, including wildlife compatible culverts and regular maintenance to allow passage, and install signage to increase public awareness of local wildlife species[(2)]. Conduct habitat assessments to refine objectives and prioritize barrier removals. Reference best available data sources when planning project areas to select most appropriate tool to inform the identification and protection of wildlife corridors (e.g., District American badger studies and linkage analysis, regional wildlife connectivity data, vehicular mortality hotspots)[(8)].	• OSMRP IS/MND – replacement/maintenance of fence, culverts, signage, wildlife crossings • IPM or WFRP EIR – managing habitat connectivity by removing or modifying vegetation • Prioritizing wildlife friendly fencing type is not a project under CEQA. New infrastructure may fall under OSMRP IS/MND, RMPs, or would require separate review by the District • Conducting habitat assessments are not projects under CEQA (future implementation of priority barrier removals would require separate review by the District) • Data collection during planning is not a CEQA action
	NR-6	**Purpose**: Protect ecosystem function by promoting native wildlife populations.	• Consideration for CMUs is not a project under CEQA. Future related actions would require separate review by the District.

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
		Actions: Consider designation of conservation management units, consider recreational access type and timing mindful of sensitive wildlife species, restore or enhance degraded habitats for native wildlife, support species reintroduction and/or projects that enhance the genetic diversity and health of wildlife species(8). Continue efforts of the District's wildlife programs for birds, bats, amphibians, invertebrates and mammals such as conducting marbled murrelet monitoring(8), grassland bird and habitat management(4), bat species research(8), frog monitoring(8) and early detection rapid response(4), invertebrate monitoring, grassland management(4), badger management(8), and maintaining wildlife habitat connectivity(8). Explore and implement shared benefits of wildlife conservation with Conservation Grazing management actions and landscape regimes(6).	• RMP NOE/NDs – continued conservation grazing activities • IPM – early detection rapid response, grassland bird and habitat management • Monitoring studies are not projects under CEQA. Future related actions would require separate review by the District.
	NR-7	**Purpose**: Enhance habitats for rare and special status species. **Actions**: Protect, monitor,(8) and conduct adaptive management actions to sustain viable habitat for special status species, including the San Francisco dusky footed woodrat, mountain lion, marbled murrelet, California giant salamander, California red-legged frog, golden eagle, American badger, steelhead trout, grasshopper sparrow, ferruginous hawk, long eared myotis, and Bryant's Savannah sparrow.(4) Conduct monitoring studies to identify priority habitat and conservation management areas for special status wildlife.(8)	• Monitoring studies are not projects under CEQA. Future related actions for implementation would require separate review by the District. • IPM – covers adaptive management actions for habitats of special status species
Watershed Resources and Aquatic Habitat	**NR-8**	**Purpose**: Enhance the quality of riparian habitat along Purisima, Whittemore Gulch, and Lobitos Creeks to promote healthy water quality and anadromy, sequester additional carbon, and protect riparian ecosystem function. **Actions**: Where feasible, enhance and/or expand the width and extent of the vegetated riparian corridor along major creeks within the Preserve(2). Monitor Lobitos Creek to assess conditions for water quality and	• OSMRP – enhance/expand riparian corridor • Monitoring for future enhancement opportunities would require separate review by the District

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
		anadromy and identify restoration and habitat enhancement opportunities[8].	
	NR-9	**Purpose**: Protect and monitor water quality to support long-term preservation, restoration, and enhancement of natural resources within Purisima. **Actions**: Provide appropriate setbacks/buffers to water resources during public access planning in accordance with the Coastal Service Plan guidelines and the District's Resource Management Policies[8]. Restrict direct human and livestock access to Lobitos Creek to minimize sedimentation and other impacts to the creek[1, 6]. Fence riparian areas, as needed, to exclude cattle[6]. Continue to implement the Water Quality Monitoring Program priorities for the Preserve, including regular monitoring of creeks, ponds, springs, and wells to guide adaptive management efforts and any appropriate response actions[8].	• Compliance with CSP and RMP isn't a project under CEQA (it is a requirement regardless of CEQA status). Water quality monitoring is not a project under CEQA. • CUMP ISMND – addresses the restricted public access established through on-trail use only • RMP NOE/ND – prevent livestock access to Lobitos creek, fencing areas to exclude cattle
	NR-10	**Purpose**: Prevent erosion impacts to riparian habitats and water resources. **Actions**: Monitor stream bank stability at Purisima and Lobitos Creeks, particularly in areas near trails and cattle access[8] and implement stabilization actions and/or restrict access as needed[2].	• OSMRP – stabilization actions • Monitoring is not a project under CEQA
Conservation Grazing	**NR-11**	**Purpose**: Continue conservation grazing as a land management tool to preserve grasslands, reduce fire fuels, and support local agriculture. **Actions**: Manage grazing in accordance with the Board-approved Rangeland Management Plan (RMP) and Agricultural Policy[6]. Update the RMP as needed[8]. Continue existing monitoring program[6] and evaluate introducing new monitoring frameworks (e.g. Audubon Conservation Grazing, Pt. Blue Rangeland Monitoring Network) as needed[8].	• RMP NOE/ND – continued grazing operations • RMP updates and introducing new monitoring frameworks would require separate review by the District.

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
	NR-12	**Purpose**: Update conservation grazing infrastructure to support existing and future operations. **Actions**: Install and replace grazing infrastructure (e.g. new and/or repairs to pasture fences, new gates, stock water systems) to achieve grazing management objectives set forth in the RMP[2, 6]; explore emerging infrastructure technologies that improve general range management (e.g. stock water monitoring systems, electric fence, virtual fence)[8].	• RMP NOE/ND - Grazing infrastructure (also covered under OSMRP) • Additional fencing replacement for Bluebrush Canyon fence: Conservation Grazing Wildlife-friendly Fencing and Corral Replacement Project • Exploration of new technological infrastructure is not a project under CEQA – future implementation would require separate review by the District
	NR-13	**Purpose**: Consider expanding conservation grazing operations to further support natural resource management goals. **Actions**: Evaluate potential to expand conservation grazing in the western areas of the Preserve to address fuel reduction, control invasive plants, control brush encroachment, and conserve native plant and animal diversity[8].	Evaluation of future expansion areas is not a project under CEQA. Future actions associated with the grazing expansion plan would require separate review by the District or could be covered under IPM or OSMRP when details are determined.
Wildfire Resiliency	**NR-14**	**Purpose**: Reduce wildland fire risk and improve ease of accessibility by emergency personnel in the Preserve. **Actions**: Implement the Wildland Fire Resiliency Program's vegetation management plan, which includes ecosystem resiliency/healthy forest initiatives, enhanced fire management (i.e., fuel breaks and legally required defensible spaces around critical infrastructure), targeted removal of eucalyptus and acacia, and updating fire response resource maps. Conduct outreach to neighbors to promote the District's defensible space permits and encourage ecologically sensitive vegetation management related to wildfire resiliency and natural resource enhancement consistent with the Wildland Fire Resiliency programs[3]. Close trail access points within the coastal service area	• WFRP EIR – program implementation and outreach • CSP EIR – restricted access in the coastal service area

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
		during red flag days and post notice of closures on the District's website[5].	
Habitat Integrity	**NR-15**	**Purpose**: Preserve habitat integrity when siting new preserve infrastructure to support ecosystem resilience and health. **Actions**: Properly design and site new preserve infrastructure (i.e., trails, parking areas, fencing, corrals, etc.) to avoid habitat segmentation, maintain wildlife movement, and reduce the need for compensatory mitigation. Focus on siting new physical elements in the outer edges of preserves and close to areas of existing development where possible as recommended in the District's Parking Area and Trailhead/Staging Area Design guidelines. Identify and implement proper buffers to critical habitats and wetlands, both within and near the Preserve[8].	• Compliance with policies/design is not a project under CEQA (just applicable parameters for future projects)
Sensitive Area Management	**NR-16**	**Purpose**: Protect highly sensitive areas of conservation priority. **Actions**: Identify and designate highly sensitive natural resource areas and/or highly disturbed areas that require extensive restoration effort as areas restricted to on-trail use only[1] and/or as Conservation Management Units (CMUs)[8].	• CUMP ISMND – designates on-trail use only in western portion of preserve (new public access areas) • Future CMU designation would require separate review by the District
Climate Resiliency	**NR-17**	**Purpose**: Reduce and manage greenhouse gas emissions where possible. **Actions**: Promote resilience of long-term vegetation carbon sequestration by implementing the Wildland Fire Resiliency Program actions[3]. Support rangeland carbon sequestration and storage by implementing actions under the Bluebrush Carbon Farming Plan. Protect soil carbon storage by managing erosion. Promote old-growth structure in redwood forest through active forest management practices for long-	• WFRP – program action implementation • OSMRP/IPM – cover actions proposed in the Bluebrush Carbon Farming Plan • CUMP ISMND – pilot shuttle, real-time parking, and multimodal features incorporated into parking areas as part of design and construction

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
		term carbon sequestration and storage potential[2, 4]. Reduce visitor greenhouse gas emissions by promoting use of multimodal and green travel alternatives and the associated support infrastructure[1, 7].	• Other multimodal features installed earlier have separate NOEs for earlier implementation
	NR-18	**Purpose**: Promote habitat resilience to the effects of extreme weather conditions and climate change. **Actions**: Implement priorities under the Wildland fire Resiliency Program[3] and Integrated Pest Management Program[4]. Maintain and enhance habitat corridors to support species redistribution or migration needs as climate changes. Remove barriers to species as they may need to adapt to changing conditions[2] and consider nature-based solutions. Consider best-available models of future climate conditions when designing restoration or mitigation projects[8]. Identify and protect a mosaic of habitat refugia with consideration given to changing temperatures and moisture levels[2]. Implement Early Detection and Rapid Response methods to address invasive species and protect native and imperiled species that are negatively affected by shifting climate conditions[4]. Make water available for livestock, while sufficiently preserving natural sources of water resources for wildlife and riparian habitat health, consistent with District policies[2].	• WFRP – implementation of program actions at Purisima • IPM – implementation of program actions at Purisima, including EDRR • OSMRP – Wildlife barrier removal, maintenance actions to support habitats and wildlife corridors, and maintenance of water resources for livestock and natural aquatic resources • Consideration of new methods/models is not a project under CEQA. Future related actions would require separate review by the District.
	NR-19	**Purpose**: Inform the public about the effects of climate change and the District's resilience efforts in the preserve. **Actions**: Provide interpretive opportunities regarding climate change impacts to the preserve and the San Mateo Coast, and the District's resiliency work[2]. Anticipate increased coast side visitation during heatwaves and alert the public ahead of these conditions about heat risks and safety measures via the District website and/or social media. Provide clear messaging when weather conditions (e.g. storm damage, red flag days on the coastside) lead to trail closures[8].	• OSMRP – covers new small-scale interpretive signage (other interpretive opportunities may be wrapped under existing outreach programs) • Alerts/messaging would follow current district processes and policy compliance

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage
Conservation Management Unit (CMU)	**NR-20**	**Purpose:** Manage public access in CMUs to be consistent with site specific management goals. **Action:** Designate CMUs at the Preserve, when needed, for sensitive areas requiring limited or no public access, restricted infrastructure or facilities planning, and/or special management considerations(8).	• As stated, this is not considered a project under CEQA and no CMUs are identified at the preserve at this time. However, if future CMUs are designated that incorporate other management actions, this would require separate review by the District.

2. Historic, Cultural, and Tribal Cultural Resources

Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
Tribal Cultural Resources	**CR-1**	**Purpose**: Engage with Native American tribes to plan for and address tribal cultural resources within the Preserve. **Action**: Begin tribal consultations as early as possible in the project planning process, as appropriate. Conduct cultural resource studies and analyses where appropriate and needed, including areas with proposed ground disturbance(8).	• No CEQA required for these studies/ tribal engagement and consultation. As part of early outreach during the planning and technical studies phase, the District will continue to fulfill AB52 requirement under CEQA project review for specific actions/projects • Tribal consultation conducted for CUMP near-term projects, studies themselves are not projects under CEQA
	CR-2	**Purpose**: Appropriately address Tribal Cultural Resources that could be affected by a proposed project. **Action**: In areas where there are known tribal cultural resources, implement avoidance measures to the greatest extent possible. When avoidance is not possible, work with the tribe(s) on implementing cultural resource protection measures and monitoring for known Tribal Cultural Resources. In the event that previously undiscovered Tribal Cultural Resources are discovered, work with the appropriate tribes to	• CUMP ISMND – addresses TCRs/mitigation where needed

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		develop and implement recommendations for the protection and treatment of the cultural resources in accordance with tribal cultural values, District's Resource Management Policies, and Coastal Service Plan protocols(1).	
	CR-3	**Purpose**: Incorporate tribal knowledge and history into the visitor experience. **Action**: Engage tribes in development of ongoing education opportunities regarding archeology, anthropology, and Native American cultural history(8). Develop interpretation signage that includes Indigenous voices(1,2).	• Engagement is not a project under CEQA • OSMRP – covers small-scale interpretive signage • CUMP – covers trail and trailhead amenities like signage
	CR-4	**Purpose**: Support tribal relationships and access to their ancestral homelands. **Action**: Consider formalizing access for tribal members to practice traditional lifeways, such as cultural burns/prescribed fires, ethnobotanical collection, and land stewardship actions that connect tribal members to their ancestral homeland and support ecosystem land management goals(8).	• Coordination/early planning with tribal members is not a project under CEQA. Any future implementation actions such as tribal agreements would require separate review by the District (and may be covered under IPM, WFRP)
Historic and Cultural Resources	CR-5	**Purpose**: Appropriately address significant cultural and historical resources that could be affected by a proposed project. **Action**: Conduct records searches and surveys with qualified archaeologists and consult the District's historic and cultural resource inventories to identify significant resources prior to project implementation, in accordance with the District's Resource Management Policies for cultural resources. For projects that may trigger environmental (CEQA) review and may negatively impact historic resources, hire a qualified architectural historian to verify historic significance eligibility and inform treatment(8). Provide a qualified	• Records search, studies, and hiring consultants are not projects under CEQA • Future projects not yet identified will follow this guidance as part of environmental review • CUMP ISMND – will address cultural monitors, if required

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		historic/cultural resource monitor when ground-disturbing work is occurring within areas of concern to protect resources from damage(1).	
	CR-6	**Purpose**: Manage historic and cultural resources consistent with the Basic Policy and Resource Management Policies. **Action**: With guidance from qualified architectural and cultural historians and informed by cost projections, identify financially and operationally sustainable options consistent with the Basic Policy and Resource Management Policies for the long-term management of cultural and historical resources, such as interpretation and documentation(8).	• This planning process is not a project under CEQA. Implementation would require separate review by the District.

3. Aesthetic Resources

Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
Viewshed	AR-1	**Purpose**: Protect important Preserve viewsheds, including views and elements that depict the rural character of San Mateo County. **Action**: Site proposed infrastructure and amenities in accordance with the District's Coastal Service Plan, Resource Management Policies, and the Parking and Staging Area Design Guidelines. Where feasible, use materials complementary of the Preserve's natural landscape and the rural character of San Mateo County(8). Design new parking areas in a way that utilizes existing topography to screen them from view and site them naturalistically in the landscape to limit the need for earthwork and retaining walls. Include locally appropriate native seeding to provide additional screening only when necessary(1).	• Design/compliance are not projects under CEQA • CUMP ISMND – addresses any grading/earthwork and retaining walls for new projects, and future plantings with native seeding

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
	AR-2	**Purpose**: Showcase the Preserve's natural beauty, unique characteristics and landscape features for public enjoyment. **Action**: Site proposed amenities, including benches, overlooks and interpretive signage, in accordance with the District's Resource Management Policies and Parking and Staging Area Design Guidelines to highlight key vistas, including coastal views(8,1).	• Design/siting work is not a project under CEQA until implemented and subject to separate review by the District (although CUMP ISMND near term projects comply with these policies/guidelines)
Scenic Corridor	**AR-3**	**Purpose**: Protect designated State and County Scenic Corridors. **Action**: Site proposed infrastructure and amenities to minimize effects on the Highway 1 and Skyline Boulevard (Highway 35) Scenic Corridors in alignment with the County of San Mateo, Coastal Service Plan, and Resource Management policies(8,1). Retain existing berms and native trees where possible that provide screening of new public access facilities(1).	• Design/siting work is not a project under CEQA until implemented • CUMP ISMND – will address retaining existing berms, trees for screening from scenic corridors and permitting through Caltrans and County will require compliance with required standards

4. Public Access

Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
Public Use	**PA-1**	**Purpose**: Locate trails and designate trail uses (hiking, mountain biking, equestrian uses, dog use) appropriately based on site suitability to remain protective of the natural resources, agricultural uses, and public safety. **Action**: Consider natural and cultural resource sensitivities, trail features, including slope and line of sight, the presence of agricultural uses, and other elements when determining the allowable uses for each trail (which do not include e-bikes unless as an ADA other powered mobility device) to protect natural and cultural resources, reduce the potential for conflicts, and maintain visitor safety(8).	• Design/siting work and conducting evaluations are not projects under CEQA until implemented (would require separate review by the District) • CUMP ISMND – designates on-trail use only, including Purisima Uplands area and grazing • Conducting an evaluation for dog access is not a project under CEQA. Any future implementation would require separate review by the District

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		Designate public access as on-trail use only within conservation grazing areas, restoration areas, and other sensitive areas within the preserve. Designate the Purisima Uplands area as a closed area until site remediation work is completed and designated trails are established(1). Evaluate appropriate trail segments for options to incorporate dog access, such as the Purisima-to-the-Sea trail loop, that avoids impacts to sensitive natural and cultural resources and grazing operations, and that meet the 1995 Board-adopted dog access site suitability criteria. Consider seasonal closures or changes to recreational access based on new information about impacts to sensitive resources(8).	
	PA-2	**Purpose**: Remain consistent with the Board-adopted Trail Use Policies for regional trails. **Action**: Designate the regional Purisima-to-the-Sea Trail as multi-use (hiking, biking and equestrian use, not including e-bikes unless as an ADA other powered mobility device); includes redesignating existing segments that are hiking-only as multi-use(1).	• CUMP ISMND –trail designations for P2S and portions of Irish Ridge trail
Trails	**PA-3**	**Purpose**: Site and design trails to be protective of the natural and cultural resources, minimize impacts to surrounding uses, and for long-term durability. **Action**: Consider topography, vegetation, native habitats, habitat connectivity, species sensitivities, cultural resources, and other natural features when planning new trail alignments. Evaluate the suitability of existing roads and trails for public use to minimize new cuts on the landscape(8). Design and construct trails in accordance with the District's Trail Use Policy, Coastal Service Plan policies and guidelines, and Details and Specifications Guidelines. Site and design trails to avoid or minimize impacts to sensitive habitats, rare plants, wildlife corridors, and cultural resources wherever feasible. Build trails to an	• Design/siting is a best practice in constructing ecologically-sensitive trails and not considered a project under CEQA • CUMP ISMND – construction and implementation of near-term projects to minimize impacts, incorporate sustainable trail features

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		average grade of eight percent, where practicable, for long-term durability. Incorporate sustainable trail design features to reduce erosion and encourage proper drainage that directs runoff to vegetated areas away from creeks. Avoid siting trails near private property boundaries, cattle grazing infrastructure and sensitive resource areas whenever possible(1). Consider seasonal closures or changes to recreational access based on new information about impacts to sensitive resources(8).	
	PA-4	**Purpose**: Provide a variety of trail opportunities to offer a diversity of trail experiences. **Action**: Consider trail loop opportunities of varying distances, including shorter loops (e.g. 1-4 miles) from main trailheads. Consider new internal trail connections to improve trail connectivity within the preserve (e.g. a western North Ridge Trail connector to lower Whittemore Trail) while considering impacts to wildlife movement and habitat fragmentation(8).	• Evaluation is not considered a project under CEQA (any future implementation would require separate review by the District)
	PA-5	**Purpose**: Explore opportunities for local and regional trail connections to the Preserve. **Action**: Coordinate with the San Francisco Public Utilities Commission (SFPUC) to implement the Highway 35 trail crossing on Highway 35 and a spur trail from the North Ridge parking area to connect existing segments of the Bay Area Ridge Trail within Purisima to the new SFPUC Skyline Watershed Ridge Trail. Implement the Purisima-to-the-Sea regional trail within the preserve and coordinate with POST, San Mateo County Parks, Coastal Conservancy and Caltrans to connect the Purisima-to-the-Sea trail to the California Coastal Trail at the Cowell-Purisima trailhead via an existing trail easement held by POST on private property(1). Collaborate with agencies and partners implementing the regional trails that connect to Purisima (i.e. Bay to	• CUMP ISMND – implementation of these public access projects in collaboration with partner agencies • Collaboration and outreach with regional partners to explore trail connections is not a project under CEQA. Any future recommendation for trail connections will be evaluated separately once those proposed trail connections are confirmed and proposed to the Board for approval.

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(5) Coastal Service Plan (CSP) EIR
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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		Sea, Bay Area Ridge, and California Coastal trails) about how to disseminate information and updates to the public about the regional trails, including trail maps, amenities, and operating hours[8].	
	PA-6	**Purpose**: Expand Easy Access trail opportunities. **Action**: Explore opportunities to extend the existing 0.3-mile Easy Access Redwood Trail. Evaluate new locations for Easy Access trails that connect to ADA facilities and other amenities (e.g. restrooms, benches, vista points)[8].	• Evaluation is not considered a project under CEQA (any future implementation would require separate review by the District) •
	PA-7	**Purpose**: Ensure new trails remain consistent with Board-approved policies, including the Coastal Service Plan for trails within the Coastside Protection Area, and the Trail Use Policies. **Action**: Follow the applicable Board-approved Resource Management Policies and trail design and specification guidelines when identifying new trail alignments and designing/constructing new trails[8].	• Compliance with policies is not a project under CEQA (incorporated as part of any project implementation, including CUMP near-term projects)
Parking and Trailheads	**PA-8**	**Purpose**: Develop safe driveways connecting public roadways to Preserve parking areas. **Action**: Develop new driveways in accordance with the Board approved Parking/Staging Areas and Trailhead design guidelines, including confirming adequate lines of sight[8]. Implement no parking areas along public roadway frontages near driveway entrances, as appropriate, to maintain lines of sight and orderly site circulation[1].	• CUMP ISMND – no parking areas identified in new near-term projects • Compliance with policies is not a project under CEQA (incorporated as part of any project implementation, including CUMP near-term projects)
	PA-9	**Purpose**: Design and develop new parking areas that are functional, safe, and reflect a sense of place appropriate for the parking/trailhead location. **Action**: Develop the new Verde parking area and North Ridge parking area expansion in alignment with the Board-approved Coastal Service	• CUMP ISMND – implements new parking area projects

CEQA Document/Coverage Reference

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		Plan and Parking/Staging Areas and Trailhead design guidelines, including proper siting/design of new parking areas and selection of construction materials that are durable and reflect the open space character of the surrounding area. Coordinate with the County of San Mateo to designate no-parking zones on roadways adjacent to parking areas, where necessary, to reduce congestion and improve visitor safety and emergency access near Preserve parking areas and trailheads(1).	
Multimodal Access	**PA-10**	**Purpose**: Improve parking management at the Purisima Creek Road trailhead. **Action**: Implement a three-year pilot shuttle program that provides a point-to-point shuttle service between the new Verde Road Parking Area and Purisima Creek Road Trailhead consistent with the Purisima Multimodal Implementation Project Report. Close roadside and trailhead parking at the Purisima Creek Road Trailhead when the shuttle is in service(1).	• CUMP ISMND – implements shuttle and parking restrictions
	PA-11	**Purpose**: Consider additional transportation demand management (TDM) strategies, as needed, for the lower area of the Preserve. **Action**: After evaluating the level of success of the pilot shuttle program for the Purisima Creek Road Trailhead, consider either expanding the shuttle program with stops in Half Moon Bay and/or Pescadero, or pursuing other TDM strategies to further manage parking and visitation. Seek partnerships and funding sources for implementation and long-term operation(8).	• Evaluation is not considered a project under CEQA (any future implementation would require separate review by the District)
	PA-12	**Purpose**: Provide visitors with real-time parking availability information at the North Ridge and Verde Road parking areas as an effective parking management tool.	• CUMP ISMND – incorporates real-time parking system

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		Action: Establish an online real-time parking information system, using sensors to track available parking spaces at the North Ridge and Verde parking areas, providing information online to assist the public in scheduling their visit and better distribute parking use[(1)].	
	PA-13	**Purpose**: Take incremental actions to further manage parking, as needed, at the North Ridge and/or Verde Road parking area. **Action**: When parking demand meets established capacity thresholds, consider the following: • Designating parking spaces for carpool, vanpool or high-occupancy vehicles as an incremental, additional step to better manage parking use and encourage carpooling to the Preserve; and/or • Establishing a reservation parking system[(8)].	• Requires board decision for future implementation
	PA-14	**Purpose**: Pursue additional strategies to reduce parking congestion at specific sites. **Action:** Advertise other District trailheads and nearby preserves for visitors to find alternative destinations when specific parking areas are at capacity[(1)].	• CUMP ISMND – includes potential wayfinding signage at Hwy35 • Potential future wayfinding signage on district lands could be covered under OSMRP
Site Amenities	**PA-15**	**Purpose**: Explore new interior trail amenities that support long distance travel within the preserve (i.e., travel between Skyline Boulevard and Verde Road). **Action**: Inventory the various rest stop amenities, including restrooms and rest areas that currently exist within the preserve. Identify potential suitable interior sites for new amenities to support long distance travel within the preserve[(8)]. Ensure existing and new amenities are wildlife friendly[(2,1)].	• OSMRP – maintaining/replacing amenities • CUMP ISMND – new projects incorporate these features and general trail amenities • Inventory/evaluation don't require CEQA coverage (future board action for implementation) • More significant elements would require separate review by the District for implementation (e.g. new restroom)

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
	PA-16	**Purpose**: Explore new interior trail amenities that support long distance, regional trail use. **Action**: Inventory the various rest stop amenities, including restrooms, rest areas with bench(es), potable water, hitching post, and/or backpack camps that currently exist along the regional Bay to Sea Trail corridor. Conduct a feasibility study to identify critical gaps where similar amenities can be offered within the preserve to support this regional trail use. In addition, coordinate with regional partners to explore how trail amenities would be implemented to support the Purisima-to-the-Sea Trail and overall Bay to Sea Trail corridor(8).	• Evaluation is not considered a project under CEQA (any future implementation would require separate review by the District)
	PA-17	**Purpose**: Provide visitor serving amenities at new parking areas and trailheads. **Action**: Incorporate visitor serving amenities in accordance with the Board approved Parking/Staging Areas and Trailhead design guidelines, including proper signage. Provide a vault toilet at the future Verde Road parking area(1).	• CUMP ISMND – new trailhead amenities and vault toilet
	PA-18	**Purpose**: Provide amenities at trailheads that promote multimodal travel to the preserve. **Action**: Include bicycle racks, a bicycle repair station, bicycle wheel brush, hitching posts, and/or water troughs, as would be suitable, at preserve trailheads(1). Include notices or educational material to the public about pathogen or weed transfer(8).	• CUMP ISMND – near-term projects incorporate these amenities
Signage	**PA-19**	**Purpose**: Install proper signage at new trails, parking areas and other public access features per District standards. **Action**: Develop a signage plan in alignment with the District's Sign Manual to provide trail directional signs, relevant regulation signs, and	• CUMP ISMND – installation of Verde Rd Parking typical Preserve sign boards • Developing a sign plan is not a project under CEQA

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		appropriate resource management signs[8]. Install standard District signboards at the future Verde Road trailhead, including a partner signboard that recognizes the support from partners and Measure AA public funding support[1].	• OSMRP allows for sign maintenance
Interpretation and Education	**PA-20**	**Purpose**: Incorporate interpretive signage at the Preserve, as appropriate, to highlight important resources and site history, including the land's agricultural heritage. **Action**: Identify appropriate locations for new interpretive signage at trailheads or on trails where mid-trail facilities may be located[8] and at the Verde Road trailhead/parking area[1]. Potential interpretive topics include themes that highlight the local ecology, sensitive species, agricultural heritage, tribal cultural resources, climate change impacts and sustainability measures, historic oil refinery and logging operations in Purisima Canyon, and land management practices that protect biodiversity and support the preservation of local agriculture on the San Mateo County coast. Include language translations on interpretive signage on the coastside based on changing demographics and census-related data when the number of residents with limited English proficiency (LEP) reach San Mateo County/Santa Clara County thresholds[8].	• CUMP ISMND – trailhead and trail amenities covered • Evaluating new signage location/content does is not considered a project under CEQA (any future implementation would require separate review by the District and could be covered under OSMRP)
	PA-21	**Purpose**: Enrich the visitor experience through outdoor guided activities that highlight the importance of open space, conservation, and agricultural preservation. **Action:** Provide docent naturalist guided activities to the public. When effective and as capacity allows, generate digital media content (e.g., StoryMaps, OuterSpatial, podcasts, mobile apps, audio tours, etc.) to enhance storytelling. Provide language translations for online resources[8].	• Does not constitute a project under CEQA

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
	PA-22	**Purpose**: Expand reach of educational and interpretation programs to new and underserved communities. **Action:** Explore opportunities and interest in offering cultural and/or natural resource docent-led programming for local schools. Incorporate Spanish language translations and other language translations to signage and educational programs, as needed, to expand reach to non-English speaking communities on the coastside[8].	• Covered under existing docent program • Not a project under CEQA at this stage

5. Operations and Maintenance

Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
Road and Trail Maintenance	**OM-1**	**Purpose**: Provide and maintain adequate emergency access to the Preserve **Action:** Maintain existing operational roadways consistent with the District's best management practices[2].	• OSMRP
	OM-2	**Purpose**: Reduce erosion and sedimentation originating from legacy roads. **Action:** Properly decommission unnecessary internal roadways. Implement erosion control measures and drainage improvements, including maintenance of existing culverts, as needed for the remaining roads[2].	• OSMRP
	OM-3	**Purpose**: Maintain trails to promote an enjoyable trail experience. **Action:** Maintain vegetation along trails in compliance with the District's Wildland Fire Resiliency Program[3] and Integrated Pest Management program[4]. Maintain trail surfaces and associated drainage	• OSMRP – maintenance of trails and drainage infrastructure and minor trail reroutes • WFRP – vegetation maintenance • IPM – vegetation maintenance

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		infrastructure in compliance with the Open Space Maintenance and Restoration Program[2]. Identify trail segments that require additional hardening, particularly for new trail segments in grazing areas, and install and replace aggregate material as needed to maintain trail function[1,2]. Evaluate and implement minor trail reroutes to avoid problematic trail conditions or trail failures[2].	• CUMP ISMND – trail hardening in grazing areas for Purisima-to-the-Sea trail (also covered under OSMRP)
Safety and Security	**OM-4**	**Purpose**: Ensure compliance with District rules and regulations for public safety and resource protection. **Action:** Provide signage and education to promote compliance with District regulations[1,2]. As needed, conduct enforcement actions to address violations for the protection and safety of the resources and public[8].	• CUMP ISMND – new trail and trailhead signage related to near-term projects • Replacement/ updates of existing signage covered under OSMRP
	OM-5	**Purpose**: Ensure security of Preserve lands. **Action:** Conduct ongoing patrol to monitor safe, appropriate, and permissible public uses. Patrol closed areas for unauthorized access[8]. Utilize gates, wildlife-friendly fencing, and signage on District property where appropriate to maintain site security and meet public safety objectives in alignment with the District's Good Neighbor Policy[5,2].	• CSP EIR • Actions also covered under OSMRP
	OM-6	**Purpose:** Manage Preserve lands to minimize wildland fire risk **Action:** Maintain vegetation along roads and trails, where appropriate[2]. Educate visitors about regulations to maximize compliance, conduct regular patrols[8], and conduct maintenance activities according to best managements practices for fire safety. Implement actions specified for the Preserve in the Wildland Fire Resiliency Program[3].	• OSMRP – vegetation management • WFRP – implementation of program actions for Purisima • Education/patrols are not projects under CEQA
	OM-7	**Purpose**: Minimize impacts to private properties and avoid public/private use conflicts and trespassing.	• CSP EIR – installation of fencing and signage as well as trail setbacks in

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		Action: In areas within the coastside protection area where trail routes are adjacent to private property, wildlife-friendly fencing shall be employed as necessary to deter users from leaving the trail and private property signs will be installed to inform visitors of private property rights[(5)]. Consider wildlife-appropriate directional fencing to guide wildlife away from unsafe or unwanted property areas[(8)]. Specific fence, gate, and crossing designs will be determined in consultations with adjacent affected property owner(s) at the Use and Management Plan stage, in accordance with the Coastal Service Plan. In the coastside protection area, trails should be sited 300 feet from any occupied dwellings on neighboring properties, where feasible, with a minimum 50-foot setback if greater separation from dwellings is not feasible[(5)]. Consider impacts from District operations in the vicinity of private properties such as noise, maintenance activities, and siting of new trails and facilities in accordance with the District's Good Neighbor Policy and Coastal Service Plan[(8)].	areas near private property in the coastside protection area • Considerations for fencing types, siting amenities are part of early planning and are not considered projects under CEQA (any future implementation would require separate review by the District)
Utilities and Infrastructure	**OM-8**	**Purpose**: Remove obsolete infrastructure. **Action:** Identify and document utilities and infrastructure[(8)] and remove unnecessary facilities and infrastructure, such as obsolete water systems and fencing[(2)]. Remove the old county park restroom near the Redwood Trailhead, approved for demolition by the Board in 2000[(7)].	• OSMRP – removal of infrastructure • NOE – project-specific CEQA prepared for restroom removal
	OM-9	**Purpose**: Maintain reliable domestic and agricultural water sources essential to implement management objectives. **Action:** Inventory and maintain existing water infrastructure[(2,6)]. Measure domestic and agricultural consumptive water use and evaluate opportunities to use municipal water supply where feasible. Evaluate opportunities to expand and/or replace existing water infrastructure to	• OSMRP – maintenance of water infrastructure • Measurements and evaluations not projects under CEQA (any future implementation would require separate review by the District)

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		support conservation grazing operations while maintaining water requirements of wildlife[8]. Ensure all water infrastructure is wildlife friendly and does not create entrapment risk (e.g. escape ramps, secured closures)[2,6].	• Rangeland Management Plan NOEs cover improvements to water infrastructure
	OM-10	**Purpose**: Promote resilience of infrastructure to impacts of extreme weather conditions and climate change. **Actions**: Assess roads, trails, crossings, and water conveyance infrastructure for vulnerability to impacts from severe storms, fire, and extreme heat[8]. Upgrade or decommission infrastructure as appropriate[2]. Design new infrastructure and repairs in consideration of more severe weather conditions than historic levels[8].	• OSMRP – covers infrastructure repairs/decommissions • Assessments/ design are not projects under CEQA until decision made about future implementation
Environmental Hazards	**OM-11** OM-11-1 OM-11-2	**Purpose**: Address environmental hazards **Action:** Remove barbed wire, nails, debris, and other materials that no longer have a functional purpose or that pose public safety hazards and do not contain significant cultural or historic value[2]. Support the long-term stewardship of the property and meet public safety objectives in alignment with the District's Good Neighbor Policy[8]. **Action:** Identify hazardous areas and develop any necessary plans for containment, removal, and/or remediation appropriate in alignment with natural and historic resource management objectives and procedures[8]. Remove and remediate hazards where already identified within Purisima Uplands[2] and designate Purisima Uplands as a closed area until the site has been remediated[1]. Following remediation, re-evaluate the area for potential public access in consideration of long-term natural and cultural resource protection[8].	• OSMRP – maintenance, including Purisima Uplands clean-up • Inventory/ evaluations aren't projects under CEQA until decision made to implement (depending on future actions, may also be covered under OSMRP)
Legal Agreements	**OM-12**	**Purpose**: Ensure conditions of easements and other agreements are met.	• CUMP ISMND – implementation of North Trail and Hwy 1 crossing

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
	OM-12-1 OM-12-2 OM-12-3 OM-12-4	**Action:** Where required, develop public access in alignment with stipulations set forth by the conservation and trail easements held by the Peninsula Open Space Trust and California Coastal Conservancy(1). **Action:** Comply with access easements with applicable neighbors(8). **Action:** Comply with the Purisima Creek Water Adjudication(8). **Action**: Review the existing Lobitos Farming Grounds Management Plan for consistency with District's Agricultural Policy. If needed, update the plan to align with relevant District policies and practices(8).	• Compliance with policies, agreements is not a project under CEQA (just applies to appropriate implemented actions) and near term trail projects have been developed for consistency with easements • Updates to Lobitos Farming Grounds would require separate review by the District
Partnerships	**OM-13** OM-13-1 OM-13-2 OM-13-3	**Purpose**: Seek and maintain partnerships to support management of the Preserve in alignment with the District's mission and policies **Action:** Explore potential partnerships for implementation and long-term use and/or management of trail crossings and connectors to Cowell Purisima Coastal Trail(8). **Action:** Partner with tribes, non-profits, governmental entities, and/or other interested communities in regional resource and land management efforts pertaining to the preserve in accordance with the District's Good Neighbor Policy(8). **Action:** Explore local and regional partnership opportunities that encourage multimodal access to the preserve as well as connections to the California Coastal Trail, Bay to Sea Trail, Bay Area Ridge Trail, Ohlone-Portolá Heritage Trail, etc. Support the implementation of San	• Partnerships are not projects under CEQA (although CUMP near-term projects do include partnerships for implementation)

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Focus Areas	Ref.	Purpose and Actions	CEQA Coverage*
		Mateo County's planned bike routes and planned Connect the Coastside projects[8].	
	OM-14	**Purpose**: Seek funding partnerships to leverage and magnify District resources. **Action:** Explore grant and external funding opportunities to support public access improvements, resource management actions, and long-term use and management of the preserve[8].	• Exploring funding options is not a project under CEQA

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List of Acronyms

ADA	Americans with Disabilities Act
CalTrans	California Department of Transportation
EDRR	Early Detection Rapid Response
EIR	Environmental Impact Report
IPM	Integrated Pest Management
IS	Initial Study
MND	Mitigated Negative Declaration
ND	Negative Declaration
NOE	Notice of Exemption
POST	Peninsula Open Space Trust
SFPUC	San Francisco Public Utilities Commission
WFRP	Wildland Fire Resiliency Program

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Appendix B

Air Quality, Greenhouse Gas, and Energy Modeling

Purisima - Hwy 35 Xing and Parking Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Purisima - Hwy 35 Xing and Parking
Construction Start Date	3/20/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70000
Precipitation (days)	41.2000
Location	37.45037173406671, -122.33887830472271
County	San Mateo
City	Unincorporated
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1227
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.41

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Parking Lot	67.0000	Space	0.60300	0.00000	0.00000	—	—	—
Road Construction	0.08000	Mile	0.06000	0.00000	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.02493	1.66641	14.3449	17.9656	0.02854	0.61777	2.51144	3.12921	0.56850	1.08193	1.65042	—	3,344.33	3,344.33	0.16545	0.08039	1.03352	3,373.44
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.02462	1.66581	14.3774	17.9327	0.02854	0.61777	2.51144	3.12921	0.56850	1.08193	1.65042	—	3,336.71	3,336.71	0.16624	0.08039	0.02677	3,364.85
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72608	0.59288	5.16711	6.77491	0.01050	0.21948	0.58219	0.80167	0.20204	0.20220	0.40424	—	1,232.46	1,232.46	0.06482	0.03584	0.22007	1,244.98
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13251	0.10820	0.94300	1.23642	0.00192	0.04006	0.10625	0.14630	0.03687	0.03690	0.07377	—	204.048	204.048	0.01073	0.00593	0.03643	206.120

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.02493	1.66641	14.3449	17.9656	0.02854	0.61777	2.51144	3.12921	0.56850	1.08193	1.65042	—	3,344.33	3,344.33	0.16545	0.08039	1.03352	3,373.44
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.02462	1.66581	14.3774	17.9327	0.02854	0.61777	2.51144	3.12921	0.56850	1.08193	1.65042	—	3,336.71	3,336.71	0.16624	0.08039	0.02677	3,364.85
2028	1.38100	1.15888	9.10580	13.6453	0.01983	0.35697	0.46289	0.81986	0.32851	0.08340	0.41192	—	2,277.39	2,277.39	0.09726	0.03500	0.01834	2,290.27
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.72608	0.59288	5.16711	6.77491	0.01050	0.21948	0.58219	0.80167	0.20204	0.20220	0.40424	—	1,232.46	1,232.46	0.06482	0.03584	0.22007	1,244.98
2028	0.16030	0.13639	0.92125	1.42218	0.00205	0.03456	0.04919	0.08375	0.03181	0.00774	0.03955	—	230.361	230.361	0.01048	0.00434	0.02657	231.943
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.13251	0.10820	0.94300	1.23642	0.00192	0.04006	0.10625	0.14630	0.03687	0.03690	0.07377	—	204.048	204.048	0.01073	0.00593	0.03643	206.120
2028	0.02926	0.02489	0.16813	0.25955	0.00037	0.00631	0.00898	0.01528	0.00581	0.00141	0.00722	—	38.1388	38.1388	0.00173	0.00072	0.00440	38.4008

2.2.2. Onsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.92772	1.61982	13.8130	17.1286	0.02637	0.61362	2.28005	2.89368	0.56453	1.02431	1.58884	—	2,856.83	2,856.83	0.11589	0.02318	0.00000	2,866.63
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.92772	1.61982	13.8130	17.1286	0.02637	0.61362	2.28005	2.89368	0.56453	1.02431	1.58884	—	2,856.83	2,856.83	0.11589	0.02318	0.00000	2,866.63
2028	1.30726	1.10048	8.89484	12.8851	0.01912	0.35578	0.20722	0.56301	0.32732	0.02239	0.34972	—	1,965.38	1,965.38	0.07972	0.01594	0.00000	1,972.12
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.67737	0.56896	4.89725	6.36965	0.00946	0.21749	0.46522	0.68271	0.20009	0.17319	0.37329	—	993.445	993.445	0.04030	0.00806	0.00000	996.854

2028	0.15425	0.13257	0.89480	1.36661	0.00194	0.03438	0.03123	0.06560	0.03163	0.00337	0.03500	—	201.184	201.184	0.00816	0.00163	0.00000	201.875
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.12362	0.10383	0.89375	1.16246	0.00173	0.03969	0.08490	0.12460	0.03652	0.03161	0.06812	—	164.476	164.476	0.00667	0.00133	0.00000	165.041
2028	0.02815	0.02419	0.16330	0.24941	0.00035	0.00627	0.00570	0.01197	0.00577	0.00062	0.00639	—	33.3083	33.3083	0.00135	0.00027	0.00000	33.4227

2.2.3. Offsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.10002	0.04659	0.59320	0.83705	0.00242	0.00460	0.23138	0.23553	0.00460	0.05762	0.06158	—	509.733	509.733	0.05640	0.06448	1.03352	531.390
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09967	0.06161	0.62828	0.80447	0.00242	0.00460	0.25567	0.25704	0.00460	0.06101	0.06220	—	503.194	503.194	0.05706	0.06448	0.02677	523.861
2028	0.07374	0.05840	0.21095	0.76018	0.00071	0.00119	0.25567	0.25686	0.00119	0.06101	0.06220	—	312.013	312.013	0.01754	0.01905	0.01834	318.148
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.04871	0.02392	0.26986	0.40526	0.00104	0.00199	0.11697	0.11896	0.00195	0.02900	0.03095	—	239.014	239.014	0.02452	0.02778	0.22007	248.124
2028	0.00606	0.00382	0.02645	0.05558	0.00011	0.00018	0.01796	0.01814	0.00018	0.00437	0.00455	—	29.1763	29.1763	0.00232	0.00271	0.02657	30.0684
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00889	0.00437	0.04925	0.07396	0.00019	0.00036	0.02135	0.02171	0.00036	0.00529	0.00565	—	39.5715	39.5715	0.00406	0.00460	0.03643	41.0798
2028	0.00111	0.00070	0.00483	0.01014	0.00002	0.00003	0.00328	0.00331	0.00003	0.00080	0.00083	—	4.83047	4.83047	0.00038	0.00045	0.00440	4.97816

3. Construction Emissions Details

3.1. Demolition (2027)

3.1.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50582	0.42226	3.94364	5.55013	0.00877	0.11863	—	0.11863	0.10914	—	0.10914	—	851.847	851.847	0.03455	0.00691	—	854.771
Dust From Material Movement	—	—	—	—	—	—	0.32095	0.32095	—	0.16439	0.16439	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50582	0.42226	3.94364	5.55013	0.00877	0.11863	—	0.11863	0.10914	—	0.10914	—	851.847	851.847	0.03455	0.00691	—	854.771
Dust From Material Movement	—	—	—	—	—	—	0.32095	0.32095	—	0.16439	0.16439	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08869	0.07404	0.69149	0.97317	0.00154	0.02080	—	0.02080	0.01914	—	0.01914	—	149.365	149.365	0.00606	0.00121	—	149.878
Dust From Material Movement	—	—	—	—	—	—	0.05628	0.05628	—	0.02883	0.02883	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01619	0.01351	0.12620	0.17760	0.00028	0.00380	—	0.00380	0.00349	—	0.00349	—	24.7291	24.7291	0.00100	0.00020	—	24.8139
Dust From Material Movement	—	—	—	—	—	—	0.01027	0.01027	—	0.00526	0.00526	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02198	0.02154	0.01495	0.26980	0.00000	0.00000	0.08266	0.08266	0.00000	0.01938	0.01938	—	79.1683	79.1683	0.00110	0.00066	0.21099	79.6039
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.05242	0.00755	0.44621	0.32457	0.00189	0.00360	0.07561	0.07920	0.00360	0.02070	0.02430	—	305.653	305.653	0.04280	0.04963	0.56055	322.073

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02198	0.02132	0.01863	0.25086	0.00000	0.00000	0.08266	0.08266	0.00000	0.01938	0.01938	—	74.8184	74.8184	0.00154	0.00066	0.00546	75.0595
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.05215	0.00737	0.46932	0.32448	0.00189	0.00360	0.07561	0.07920	0.00360	0.02070	0.02430	—	305.642	305.642	0.04280	0.04963	0.01453	321.516
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00374	0.00366	0.00319	0.04217	0.00000	0.00000	0.01411	0.01411	0.00000	0.00330	0.00330	—	13.1599	13.1599	0.00023	0.00012	0.01597	13.2162
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00917	0.00131	0.08087	0.05704	0.00033	0.00063	0.01299	0.01362	0.00063	0.00356	0.00419	—	53.5932	53.5932	0.00750	0.00870	0.04243	56.4164
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00068	0.00067	0.00058	0.00770	0.00000	0.00000	0.00258	0.00258	0.00000	0.00060	0.00060	—	2.17877	2.17877	0.00004	0.00002	0.00264	2.18809
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00167	0.00024	0.01476	0.01041	0.00006	0.00012	0.00237	0.00249	0.00012	0.00065	0.00077	—	8.87296	8.87296	0.00124	0.00144	0.00702	9.34038

3.2. Site Preparation (2027)

3.2.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49174	0.41320	3.43511	5.55625	0.00793	0.16579	—	0.16579	0.15253	—	0.15253	—	858.867	858.867	0.03484	0.00697	—	861.815
Dust From Material Movement	—	—	—	—	—	—	0.20802	0.20802	—	0.02252	0.02252	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06063	0.05094	0.42351	0.68502	0.00098	0.02044	—	0.02044	0.01880	—	0.01880	—	105.888	105.888	0.00430	0.00086	—	106.251
Dust From Material Movement	—	—	—	—	—	—	0.02565	0.02565	—	0.00278	0.00278	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01106	0.00930	0.07729	0.12502	0.00018	0.00373	—	0.00373	0.00343	—	0.00343	—	17.5309	17.5309	0.00071	0.00014	—	17.5911
Dust From Material Movement	—	—	—	—	—	—	0.00468	0.00468	—	0.00051	0.00051	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01099	0.01077	0.00747	0.13490	0.00000	0.00000	0.04133	0.04133	0.00000	0.00969	0.00969	—	39.5841	39.5841	0.00055	0.00033	0.10549	39.8020

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.04227	0.00609	0.35986	0.26175	0.00152	0.00290	0.06098	0.06388	0.00290	0.01669	0.01959	—	246.501	246.501	0.03451	0.04002	0.45207	259.743
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00131	0.00129	0.00112	0.01483	0.00000	0.00000	0.00496	0.00496	0.00000	0.00116	0.00116	—	4.62652	4.62652	0.00008	0.00004	0.00562	4.64632
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00520	0.00074	0.04586	0.03234	0.00019	0.00036	0.00737	0.00772	0.00036	0.00202	0.00238	—	30.3900	30.3900	0.00426	0.00493	0.02406	31.9909
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00024	0.00023	0.00020	0.00271	0.00000	0.00000	0.00091	0.00091	0.00000	0.00021	0.00021	—	0.76597	0.76597	0.00001	0.00001	0.00093	0.76925
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00095	0.00014	0.00837	0.00590	0.00003	0.00007	0.00134	0.00141	0.00007	0.00037	0.00043	—	5.03141	5.03141	0.00070	0.00082	0.00398	5.29646

3.3. Grading (2027)

3.3.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17562	0.98785	8.70254	9.56448	0.01583	0.39118	—	0.39118	0.35989	—	0.35989	—	1,714.58	1,714.58	0.06955	0.01391	—	1,720.46
Dust From Material Movement	—	—	—	—	—	—	2.07283	2.07283	—	1.00191	1.00191	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17562	0.98785	8.70254	9.56448	0.01583	0.39118	—	0.39118	0.35989	—	0.35989	—	1,714.58	1,714.58	0.06955	0.01391	—	1,720.46
Dust From Material Movement	—	—	—	—	—	—	2.07283	2.07283	—	1.00191	1.00191	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15138	0.12720	1.12060	1.23159	0.00204	0.05037	—	0.05037	0.04634	—	0.04634	—	220.782	220.782	0.00896	0.00179	—	221.539
Dust From Material Movement	—	—	—	—	—	—	0.26691	0.26691	—	0.12901	0.12901	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02763	0.02321	0.20451	0.22477	0.00037	0.00919	—	0.00919	0.00846	—	0.00846	—	36.5529	36.5529	0.00148	0.00030	—	36.6784
Dust From Material Movement	—	—	—	—	—	—	0.04871	0.04871	—	0.02354	0.02354	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01649	0.01615	0.01121	0.20235	0.00000	0.00000	0.06200	0.06200	0.00000	0.01453	0.01453	—	59.3762	59.3762	0.00083	0.00050	0.15824	59.7029
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.04047	0.00583	0.34454	0.25061	0.00146	0.00278	0.05838	0.06116	0.00278	0.01598	0.01876	—	236.011	236.011	0.03304	0.03832	0.43283	248.690
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01649	0.01599	0.01397	0.18815	0.00000	0.00000	0.06200	0.06200	0.00000	0.01453	0.01453	—	56.1138	56.1138	0.00116	0.00050	0.00409	56.2946
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.04026	0.00569	0.36238	0.25054	0.00146	0.00278	0.05838	0.06116	0.00278	0.01598	0.01876	—	236.002	236.002	0.03304	0.03832	0.01122	248.260
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00206	0.00202	0.00176	0.02323	0.00000	0.00000	0.00777	0.00777	0.00000	0.00182	0.00182	—	7.24821	7.24821	0.00013	0.00006	0.00880	7.27924
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00520	0.00074	0.04586	0.03234	0.00019	0.00036	0.00737	0.00772	0.00036	0.00202	0.00238	—	30.3900	30.3900	0.00426	0.00493	0.02406	31.9909
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00038	0.00037	0.00032	0.00424	0.00000	0.00000	0.00142	0.00142	0.00000	0.00033	0.00033	—	1.20002	1.20002	0.00002	0.00001	0.00146	1.20516
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00095	0.00014	0.00837	0.00590	0.00003	0.00007	0.00134	0.00141	0.00007	0.00037	0.00043	—	5.03141	5.03141	0.00070	0.00082	0.00398	5.29646

3.4. Paving (2027)

3.4.1. Onsite - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.57535	0.48071	4.15212	5.30895	0.00857	0.16795	—	0.16795	0.15451	—	0.15451	—	823.016	823.016	0.03339	0.00668	—	825.840
Paving	0.02981	0.02981	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07544	0.06303	0.54441	0.69609	0.00112	0.02202	—	0.02202	0.02026	—	0.02026	—	107.910	107.910	0.00438	0.00088	—	108.280
Paving	0.00391	0.00391	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01377	0.01150	0.09935	0.12704	0.00021	0.00402	—	0.00402	0.00370	—	0.00370	—	17.8658	17.8658	0.00072	0.00014	—	17.9271
Paving	0.00071	0.00071	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03847	0.03731	0.03260	0.43901	0.00000	0.00000	0.14466	0.14466	0.00000	0.03391	0.03391	—	130.932	130.932	0.00270	0.00116	0.00955	131.354
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00489	0.00479	0.00417	0.05518	0.00000	0.00000	0.01847	0.01847	0.00000	0.00432	0.00432	—	17.2209	17.2209	0.00030	0.00015	0.02090	17.2947
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00089	0.00087	0.00076	0.01007	0.00000	0.00000	0.00337	0.00337	0.00000	0.00079	0.00079	—	2.85112	2.85112	0.00005	0.00003	0.00346	2.86333
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Paving (2028)

3.5.1. Onsite - Unmitigated

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

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

Off-Road Equipm	0.55756	0.46577	4.05108	5.30698	0.00857	0.15446	—	0.15446	0.14211	—	0.14211	—	823.039	823.039	0.03339	0.00668	—	825.864
Paving	0.02981	0.02981	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00655	0.00547	0.04757	0.06231	0.00010	0.00181	—	0.00181	0.00167	—	0.00167	—	9.66386	9.66386	0.00039	0.00008	—	9.69703
Paving	0.00035	0.00035	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00119	0.00100	0.00868	0.01137	0.00002	0.00033	—	0.00033	0.00030	—	0.00030	—	1.59996	1.59996	0.00006	0.00001	—	1.60545
Paving	0.00006	0.00006	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03615	0.03538	0.03222	0.41247	0.00000	0.00000	0.14466	0.14466	0.00000	0.03391	0.03391	—	128.674	128.674	0.00231	0.00116	0.00839	129.086

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00042	0.00041	0.00032	0.00464	0.00000	0.00000	0.00165	0.00165	0.00000	0.00039	0.00039	—	1.51559	1.51559	0.00003	0.00001	0.00164	1.52195
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00008	0.00007	0.00006	0.00085	0.00000	0.00000	0.00030	0.00030	0.00000	0.00007	0.00007	—	0.25092	0.25092	< 0.000005	< 0.000005	0.00027	0.25198
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Architectural Coating (2028)

3.6.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12985	0.10731	0.80814	1.11833	0.00173	0.01536	—	0.01536	0.01413	—	0.01413	—	133.517	133.517	0.00542	0.00108	—	133.975
Architectural Coatings	0.13787	0.13787	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01885	0.01558	0.11735	0.16239	0.00025	0.00223	—	0.00223	0.00205	—	0.00205	—	19.3874	19.3874	0.00079	0.00016	—	19.4539
Architectural Coatings	0.02002	0.02002	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00344	0.00284	0.02142	0.02964	0.00005	0.00041	—	0.00041	0.00037	—	0.00037	—	3.20981	3.20981	0.00013	0.00003	—	3.22082
Architectural Coatings	0.00365	0.00365	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Linear, Grubbing & Land Clearing (2027)

3.7.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40089	0.33686	2.99624	3.45211	0.00453	0.16328	—	0.16328	0.15022	—	0.15022	—	490.763	490.763	0.01991	0.00398	—	492.447
Dust From Material Movement	—	—	—	—	—	—	0.20722	0.20722	—	0.02239	0.02239	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.40089	0.33686	2.99624	3.45211	0.00453	0.16328	—	0.16328	0.15022	—	0.15022	—	490.763	490.763	0.01991	0.00398	—	492.447
Dust From Material Movement	—	—	—	—	—	—	0.20722	0.20722	—	0.02239	0.02239	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.14278	0.11998	1.06716	1.22952	0.00161	0.05815	—	0.05815	0.05350	—	0.05350	—	174.792	174.792	0.00709	0.00142	—	175.392
Dust From Material Movement	—	—	—	—	—	—	0.07381	0.07381	—	0.00798	0.00798	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.02606	0.02190	0.19476	0.22439	0.00029	0.01061	—	0.01061	0.00976	—	0.00976	—	28.9388	28.9388	0.00117	0.00023	—	29.0382
Dust From Material Movement	—	—	—	—	—	—	0.01347	0.01347	—	0.00146	0.00146	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01099	0.01077	0.00747	0.13490	0.00000	0.00000	0.04133	0.04133	0.00000	0.00969	0.00969	—	39.5841	39.5841	0.00055	0.00033	0.10549	39.8020
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01463	0.00211	0.12457	0.09061	0.00053	0.00100	0.02111	0.02211	0.00100	0.00578	0.00678	—	85.3271	85.3271	0.01195	0.01385	0.15649	89.9109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01099	0.01066	0.00931	0.12543	0.00000	0.00000	0.04133	0.04133	0.00000	0.00969	0.00969	—	37.4092	37.4092	0.00077	0.00033	0.00273	37.5298
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.01456	0.00206	0.13102	0.09058	0.00053	0.00100	0.02111	0.02211	0.00100	0.00578	0.00678	—	85.3240	85.3240	0.01195	0.01385	0.00406	89.7554
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00380	0.00372	0.00324	0.04283	0.00000	0.00000	0.01433	0.01433	0.00000	0.00335	0.00335	—	13.3655	13.3655	0.00024	0.00012	0.01622	13.4227
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00520	0.00074	0.04586	0.03234	0.00019	0.00036	0.00737	0.00772	0.00036	0.00202	0.00238	—	30.3900	30.3900	0.00426	0.00493	0.02406	31.9909
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00069	0.00068	0.00059	0.00782	0.00000	0.00000	0.00262	0.00262	0.00000	0.00061	0.00061	—	2.21281	2.21281	0.00004	0.00002	0.00269	2.22228
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00095	0.00014	0.00837	0.00590	0.00003	0.00007	0.00134	0.00141	0.00007	0.00037	0.00043	—	5.03141	5.03141	0.00070	0.00082	0.00398	5.29646

3.8. Linear, Grading & Excavation (2027)

3.8.1. Onsite - Unmitigated

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

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

Off-Road	0.75210	0.63197	5.11043	7.56408	0.01054	0.22244	—	0.22244	0.20465	—	0.20465	—	1,142.25	1,142.25	0.04633	0.00927	—	1,146.17
Dust From Material Movement	—	—	—	—	—	—	0.20722	0.20722	—	0.02239	0.02239	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75210	0.63197	5.11043	7.56408	0.01054	0.22244	—	0.22244	0.20465	—	0.20465	—	1,142.25	1,142.25	0.04633	0.00927	—	1,146.17
Dust From Material Movement	—	—	—	—	—	—	0.20722	0.20722	—	0.02239	0.02239	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15454	0.12986	1.05009	1.55426	0.00217	0.04571	—	0.04571	0.04205	—	0.04205	—	234.708	234.708	0.00952	0.00190	—	235.514
Dust From Material Movement	—	—	—	—	—	—	0.04258	0.04258	—	0.00460	0.00460	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02820	0.02370	0.19164	0.28365	0.00040	0.00834	—	0.00834	0.00767	—	0.00767	—	38.8587	38.8587	0.00158	0.00032	—	38.9920

Dust From Material Movement	—	—	—	—	—	—	0.00777	0.00777	—	0.00084	0.00084	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02198	0.02154	0.01495	0.26980	0.00000	0.00000	0.08266	0.08266	0.00000	0.01938	0.01938	—	79.1683	79.1683	0.00110	0.00066	0.21099	79.6039
Vendor	0.00364	0.00095	0.03665	0.02367	0.00019	0.00037	0.00723	0.00760	0.00019	0.00195	0.00213	—	27.6185	27.6185	0.00264	0.00388	0.06038	28.9012
Hauling	0.01463	0.00211	0.12457	0.09061	0.00053	0.00100	0.02111	0.02211	0.00100	0.00578	0.00678	—	85.3271	85.3271	0.01195	0.01385	0.15649	89.9109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02198	0.02132	0.01863	0.25086	0.00000	0.00000	0.08266	0.08266	0.00000	0.01938	0.01938	—	74.8184	74.8184	0.00154	0.00066	0.00546	75.0595
Vendor	0.00362	0.00093	0.03840	0.02402	0.00019	0.00037	0.00723	0.00760	0.00019	0.00195	0.00213	—	27.6198	27.6198	0.00266	0.00388	0.00156	28.8442
Hauling	0.01456	0.00206	0.13102	0.09058	0.00053	0.00100	0.02111	0.02211	0.00100	0.00578	0.00678	—	85.3240	85.3240	0.01195	0.01385	0.00406	89.7554
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00438	0.00429	0.00374	0.04942	0.00000	0.00000	0.01654	0.01654	0.00000	0.00387	0.00387	—	15.4217	15.4217	0.00027	0.00014	0.01872	15.4877
Vendor	0.00075	0.00020	0.00774	0.00488	0.00004	0.00008	0.00145	0.00153	0.00004	0.00039	0.00043	—	5.67516	5.67516	0.00055	0.00080	0.00535	5.93178
Hauling	0.00300	0.00043	0.02646	0.01866	0.00011	0.00021	0.00425	0.00446	0.00021	0.00117	0.00137	—	17.5327	17.5327	0.00245	0.00285	0.01388	18.4563
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00080	0.00078	0.00068	0.00902	0.00000	0.00000	0.00302	0.00302	0.00000	0.00071	0.00071	—	2.55324	2.55324	0.00005	0.00002	0.00310	2.56417
Vendor	0.00014	0.00004	0.00141	0.00089	0.00001	0.00001	0.00027	0.00028	0.00001	0.00007	0.00008	—	0.93959	0.93959	0.00009	0.00013	0.00089	0.98207
Hauling	0.00055	0.00008	0.00483	0.00341	0.00002	0.00004	0.00078	0.00081	0.00004	0.00021	0.00025	—	2.90274	2.90274	0.00041	0.00047	0.00230	3.05565

3.9. Linear, Grading & Excavation (2028)

3.9.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71989	0.60490	4.84377	7.57810	0.01055	0.20132	—	0.20132	0.18522	—	0.18522	—	1,142.34	1,142.34	0.04634	0.00927	—	1,146.26
Dust From Material Movement	—	—	—	—	—	—	0.20722	0.20722	—	0.02239	0.02239	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10848	0.09115	0.72988	1.14191	0.00159	0.03034	—	0.03034	0.02791	—	0.02791	—	172.133	172.133	0.00698	0.00140	—	172.724
Dust From Material Movement	—	—	—	—	—	—	0.03123	0.03123	—	0.00337	0.00337	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.01980	0.01663	0.13320	0.20840	0.00029	0.00554	—	0.00554	0.00509	—	0.00509	—	28.4986	28.4986	0.00116	0.00023	—	28.5964
Dust From Material Movement	—	—	—	—	—	—	0.00570	0.00570	—	0.00062	0.00062	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.9.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02066	0.02022	0.01841	0.23570	0.00000	0.00000	0.08266	0.08266	0.00000	0.01938	0.01938	—	73.5283	73.5283	0.00132	0.00066	0.00480	73.7632
Vendor	0.00341	0.00075	0.03614	0.02342	0.00019	0.00019	0.00723	0.00742	0.00019	0.00195	0.00213	—	26.9010	26.9010	0.00248	0.00388	0.00141	28.1206
Hauling	0.01353	0.00206	0.12419	0.08860	0.00053	0.00100	0.02111	0.02211	0.00100	0.00578	0.00678	—	82.9098	82.9098	0.01142	0.01335	0.00375	87.1781
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00308	0.00298	0.00232	0.03405	0.00000	0.00000	0.01213	0.01213	0.00000	0.00284	0.00284	—	11.1143	11.1143	0.00020	0.00010	0.01201	11.1610
Vendor	0.00052	0.00012	0.00537	0.00349	0.00003	0.00003	0.00107	0.00109	0.00003	0.00029	0.00032	—	4.05328	4.05328	0.00037	0.00058	0.00353	4.24030
Hauling	0.00204	0.00031	0.01845	0.01339	0.00008	0.00015	0.00312	0.00327	0.00015	0.00085	0.00101	—	12.4932	12.4932	0.00172	0.00201	0.00940	13.1452
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00056	0.00054	0.00042	0.00621	0.00000	0.00000	0.00221	0.00221	0.00000	0.00052	0.00052	—	1.84010	1.84010	0.00003	0.00002	0.00199	1.84783
Vendor	0.00009	0.00002	0.00098	0.00064	0.00001	0.00001	0.00019	0.00020	0.00001	0.00005	0.00006	—	0.67107	0.67107	0.00006	0.00010	0.00058	0.70203
Hauling	0.00037	0.00006	0.00337	0.00244	0.00001	0.00003	0.00057	0.00060	0.00003	0.00016	0.00018	—	2.06838	2.06838	0.00028	0.00033	0.00156	2.17633

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	3/20/2027	6/17/2027	5.00000	64.0000	—
Site Preparation	Site Preparation	6/18/2027	8/19/2027	5.00000	45.0000	—
Grading	Grading	8/20/2027	10/25/2027	5.00000	47.0000	—
Paving	Paving	10/26/2027	1/6/2028	5.00000	53.0000	—
Architectural Coating	Architectural Coating	1/7/2028	3/21/2028	5.00000	53.0000	—
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	3/20/2027	9/17/2027	5.00000	130.000	—
Linear, Grading & Excavation	Linear, Grading & Excavation	9/18/2027	3/17/2028	5.00000	130.000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Rubber Tired Dozers	Diesel	Average	1.000000	1.000000	367.000	0.40000

Demolition	Tractors/Loaders/Back	Diesel	Average	2.00000	6.00000	84.0000	0.37000
Site Preparation	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Grading	Graders	Diesel	Average	1.000000	6.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	6.00000	367.000	0.40000
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	7.00000	84.0000	0.37000
Paving	Cement and Mortar Mixers	Diesel	Average	4.00000	6.00000	10.00000	0.56000
Paving	Pavers	Diesel	Average	1.000000	7.00000	81.0000	0.42000
Paving	Rollers	Diesel	Average	1.000000	7.00000	36.0000	0.38000
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	7.00000	84.0000	0.37000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.000000	8.00000	87.0000	0.43000
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	0.00000	8.00000	6.00000	0.82000
Linear, Grading & Excavation	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Grading & Excavation	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Linear, Grading & Excavation	Rollers	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	10.00000	11.7000	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40000	HHDT,MHDT
Demolition	Hauling	4.07813	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	5.00000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	3.28889	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	7.50000	11.7000	LDA,LDT1,LDT2
Grading	Vendor	—	8.40000	HHDT,MHDT
Grading	Hauling	3.14894	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	Worker	17.5000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	—	8.40000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Linear, Grubbing & Land Clearing	Worker	5.00000	11.7000	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00000	8.40000	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	1.13846	20.0000	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	Worker	10.00000	11.7000	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.000000	8.40000	HHDT,MHDT

Linear, Grading & Excavation	Hauling	1.13846	20.0000	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	0.00000	0.00000	1,576.00

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	588.000	1,494.00	4.00000	—	0.00000
Site Preparation	588.000	594.000	1.000000	0.00000	0.00000
Grading	588.000	594.000	3.00000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	0.60300
Linear, Grubbing & Land Clearing	588.000	594.000	0.06000	0.00000	0.00000
Linear, Grading & Excavation	588.000	594.000	0.06000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Parking Lot	0.60300	100%
Paving	Road Construction	0.00000	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400
2028	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	10.7600	annual days of extreme heat
Extreme Precipitation	10.5000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	35.8300	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	3	0	0	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	3	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	7.51711
AQ-PM	12.5078
AQ-DPM	6.27256
Drinking Water	43.0623
Lead Risk Housing	24.4234
Pesticides	81.0000
Toxic Releases	24.8312
Traffic	55.8500
Effect Indicators	—
CleanUp Sites	17.0773
Groundwater	22.1152
Haz Waste Facilities/Generators	62.4752
Impaired Water Bodies	12.4528
Solid Waste	91.0424
Sensitive Population	—
Asthma	32.7767
Cardio-vascular	5.95713
Low Birth Weights	26.8668
Socioeconomic Factor Indicators	—
Education	52.8727
Housing	35.8175
Linguistic	42.8069
Poverty	24.7236
Unemployment	11.8688

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	77.74926216
Employed	89.43924034
Median HI	85.71795201
Education	—
Bachelor's or higher	77.49262158
High school enrollment	100
Preschool enrollment	63.67252663
Transportation	—
Auto Access	62.47914795
Active commuting	37.66200436
Social	—
2-parent households	68.35621712
Voting	89.81136918
Neighborhood	—
Alcohol availability	78.73732837
Park access	29.65481843
Retail density	13.48646221
Supermarket access	28.41011164
Tree canopy	89.88836135
Housing	—
Homeownership	68.76684204
Housing habitability	85.51263955
Low-inc homeowner severe housing cost burden	55.97330938
Low-inc renter severe housing cost burden	89.60605672

Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	81.97099962
Arthritis	0.0
Asthma ER Admissions	69.5
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	79.8
Cognitively Disabled	85.7
Physically Disabled	68.4
Heart Attack ER Admissions	96.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	52.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	4.9
SLR Inundation Area	74.1

Children	79.8
Elderly	9.2
English Speaking	45.8
Foreign-born	53.4
Outdoor Workers	37.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	83.0
Traffic Density	52.2
Traffic Access	23.0
Other Indices	—
Hardship	32.0
Other Decision Support	—
2016 Voting	88.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	19.0000
Healthy Places Index Score for Project Location (b)	87.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	Parking use phase lengths adjusted off-model to reflect estimated construction duration of 12 months. Linear phasing adjusted to occur concurrent with parking construction phase, with the total work days divided evenly between the two anticipated linear phases. Note: As there is no building construction phase proposed, the building construction phase has been removed and the adjusted # of days attributed to the building construction phase were distributed evenly amongst the other parking use phases
Construction: Off-Road Equipment	linear grading and exc. equipment types and quantity adjusted to reflect anticipated required equipment based on the size of the proposed trail (i.e., 6 feet wide)
Construction: Dust From Material Movement	total anticipated cut and fill distributed across applicable phases, as it is assumed that excavation, hauling, and fill activities for the parking and trail uses would happen concurrently. 900 cy of demolished asphalt added to demolition phase export
Construction: Paving	trail surface would be dirt or gravel

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Demolition	Demolition	End Date	4/3/2027	6/17/2027
Demolition	Demolition	Work Days per Phase	10.00000	64.0000
Site Preparation	Site Preparation	Start Date	4/4/2027	6/18/2027
Site Preparation	Site Preparation	End Date	4/5/2027	8/19/2027
Site Preparation	Site Preparation	Work Days per Phase	1.000000	45.0000
Grading	Grading	Start Date	4/6/2027	8/20/2027
Grading	Grading	End Date	4/8/2027	10/25/2027

Grading	Grading	Work Days per Phase	2.00000	47.0000
Paving	Paving	Start Date	8/28/2027	10/26/2027
Paving	Paving	End Date	9/4/2027	1/6/2028
Paving	Paving	Work Days per Phase	5.00000	53.0000
Architectural Coating	Architectural Coating	Start Date	9/5/2027	1/7/2028
Architectural Coating	Architectural Coating	End Date	9/12/2027	3/21/2028
Architectural Coating	Architectural Coating	Work Days per Phase	5.00000	53.0000
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	End Date	4/25/2027	9/17/2027
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	Work Days per Phase	26.0000	130.000
Linear, Grading & Excavation	Linear, Grading & Excavation	Start Date	4/26/2027	9/18/2027
Linear, Grading & Excavation	Linear, Grading & Excavation	End Date	10/6/2027	3/17/2028
Linear, Grading & Excavation	Linear, Grading & Excavation	Work Days per Phase	117.000	130.000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Linear, Grading & Excavation	Excavators	Number per Day	3.00000	1.000000
Linear, Grading & Excavation	Rollers	Number per Day	2.00000	1.000000
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Number per Day	2.00000	1.000000

8.4.4. Dust from Material Movement

Phase Name	Model Parameter	Units	Default Value	New Value
Site Preparation	Material Imported	Cubic Yards	—	588.000
Site Preparation	Material Exported	Cubic Yards	—	594.000
Site Preparation	Total Acres Graded	acres	22.5000	1.000000
Grading	Material Imported	Cubic Yards	—	588.000
Grading	Material Exported	Cubic Yards	—	594.000
Grading	Total Acres Graded	acres	35.2500	3.00000

8.4.9. Paving

Phase Name	Land Use	Model Parameter	Units	Default Value	New Value
Paving	Road Construction	Area Paved	acres	0.06000	0.00000

Purisima - Purisima to the Sea Trail Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Purisima - Purisima to the Sea Trail
Construction Start Date	3/20/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70000
Precipitation (days)	41.8000
Location	37.416740182725235, -122.37885795113033
County	San Mateo
City	Unincorporated
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1227
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.41

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Construction	4.80000	Mile	10.5000	0.00000	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.99408	0.82909	6.90050	6.68885	0.01234	0.31950	0.31323	0.63273	0.29378	0.04753	0.34131	—	1,127.50	1,127.50	0.04473	0.01283	0.31356	1,132.75
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.99406	0.82881	6.90667	6.66647	0.01234	0.31950	0.31323	0.63273	0.29378	0.04753	0.34131	—	1,122.28	1,122.28	0.04528	0.01283	0.00811	1,127.24
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.43541	0.36309	3.02704	2.91672	0.00541	0.14005	0.13607	0.27612	0.12878	0.02052	0.14931	—	492.081	492.081	0.01973	0.00562	0.05934	494.309
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07946	0.06626	0.55243	0.53230	0.00099	0.02556	0.02483	0.05039	0.02350	0.00375	0.02725	—	81.4697	81.4697	0.00327	0.00093	0.00982	81.8385

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.99408	0.82909	6.90050	6.68885	0.01234	0.31950	0.31323	0.63273	0.29378	0.04753	0.34131	—	1,127.50	1,127.50	0.04473	0.01283	0.31356	1,132.75
2028	0.56254	0.47249	4.09363	5.83149	0.00817	0.11115	0.10643	0.21758	0.10227	0.02520	0.12747	—	926.631	926.631	0.03649	0.01122	0.27604	931.162
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.99406	0.82881	6.90667	6.66647	0.01234	0.31950	0.31323	0.63273	0.29378	0.04753	0.34131	—	1,122.28	1,122.28	0.04528	0.01283	0.00811	1,127.24
2028	0.56249	0.47249	4.09963	5.81051	0.00817	0.11115	0.10643	0.21758	0.10227	0.02520	0.12747	—	921.510	921.510	0.03678	0.01122	0.00716	925.779
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.43541	0.36309	3.02704	2.91672	0.00541	0.14005	0.13607	0.27612	0.12878	0.02052	0.14931	—	492.081	492.081	0.01973	0.00562	0.05934	494.309
2028	0.24647	0.20690	1.79528	2.54186	0.00358	0.04872	0.04542	0.09414	0.04483	0.01074	0.05557	—	404.070	404.070	0.01611	0.00492	0.05218	405.990
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.07946	0.06626	0.55243	0.53230	0.00099	0.02556	0.02483	0.05039	0.02350	0.00375	0.02725	—	81.4697	81.4697	0.00327	0.00093	0.00982	81.8385
2028	0.04498	0.03776	0.32764	0.46389	0.00065	0.00889	0.00829	0.01718	0.00818	0.00196	0.01014	—	66.8984	66.8984	0.00267	0.00081	0.00864	67.2163

2.2.2. Onsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.96407	0.80229	6.84592	6.34142	0.01215	0.31913	0.20680	0.52593	0.29360	0.02233	0.31593	—	1,004.88	1,004.88	0.04076	0.00815	0.00000	1,008.33
2028	0.53430	0.44749	4.04140	5.50426	0.00799	0.11097	0.00000	0.11097	0.10209	0.00000	0.10209	—	806.375	806.375	0.03271	0.00654	0.00000	809.143
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.96407	0.80229	6.84592	6.34142	0.01215	0.31913	0.20680	0.52593	0.29360	0.02233	0.31593	—	1,004.88	1,004.88	0.04076	0.00815	0.00000	1,008.33
2028	0.53430	0.44749	4.04140	5.50426	0.00799	0.11097	0.00000	0.11097	0.10209	0.00000	0.10209	—	806.375	806.375	0.03271	0.00654	0.00000	809.143

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.42260	0.35169	3.00095	2.77980	0.00533	0.13989	0.09065	0.23054	0.12870	0.00979	0.13849	—	440.495	440.495	0.01787	0.00357	0.00000	442.006
2028	0.23421	0.19616	1.77157	2.41283	0.00350	0.04864	0.00000	0.04864	0.04475	0.00000	0.04475	—	353.480	353.480	0.01434	0.00287	0.00000	354.693
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.07713	0.06418	0.54767	0.50731	0.00097	0.02553	0.01654	0.04207	0.02349	0.00179	0.02527	—	72.9289	72.9289	0.00296	0.00059	0.00000	73.1792
2028	0.04274	0.03580	0.32331	0.44034	0.00064	0.00888	0.00000	0.00888	0.00817	0.00000	0.00817	—	58.5226	58.5226	0.00237	0.00047	0.00000	58.7234

2.2.3. Offsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.03001	0.02680	0.05459	0.34744	0.00019	0.00037	0.10643	0.10680	0.00019	0.02520	0.02538	—	122.620	122.620	0.00396	0.00467	0.31356	124.426
2028	0.02824	0.02500	0.05223	0.32723	0.00019	0.00019	0.10643	0.10661	0.00019	0.02520	0.02538	—	120.256	120.256	0.00378	0.00467	0.27604	122.019
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.02999	0.02651	0.06075	0.32505	0.00019	0.00037	0.10643	0.10680	0.00019	0.02520	0.02538	—	117.402	117.402	0.00452	0.00467	0.00811	118.916
2028	0.02820	0.02500	0.05823	0.30625	0.00019	0.00019	0.10643	0.10661	0.00019	0.02520	0.02538	—	115.135	115.135	0.00407	0.00467	0.00716	116.636
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01281	0.01140	0.02609	0.13692	0.00008	0.00016	0.04542	0.04558	0.00008	0.01074	0.01082	—	51.5866	51.5866	0.00186	0.00205	0.05934	52.3031
2028	0.01225	0.01074	0.02371	0.12903	0.00008	0.00008	0.04542	0.04550	0.00008	0.01074	0.01082	—	50.5903	50.5903	0.00177	0.00205	0.05218	51.2974
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00234	0.00208	0.00476	0.02499	0.00001	0.00003	0.00829	0.00832	0.00001	0.00196	0.00197	—	8.54076	8.54076	0.00031	0.00034	0.00982	8.65937
2028	0.00224	0.00196	0.00433	0.02355	0.00001	0.00001	0.00829	0.00830	0.00001	0.00196	0.00197	—	8.37581	8.37581	0.00029	0.00034	0.00864	8.49287

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2027)

3.1.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96407	0.80229	6.84592	6.34142	0.01215	0.31913	—	0.31913	0.29360	—	0.29360	—	1,004.88	1,004.88	0.04076	0.00815	—	1,008.33
Dust From Material Movement	—	—	—	—	—	—	0.20680	0.20680	—	0.02233	0.02233	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96407	0.80229	6.84592	6.34142	0.01215	0.31913	—	0.31913	0.29360	—	0.29360	—	1,004.88	1,004.88	0.04076	0.00815	—	1,008.33
Dust From Material Movement	—	—	—	—	—	—	0.20680	0.20680	—	0.02233	0.02233	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.42260	0.35169	3.00095	2.77980	0.00533	0.13989	—	0.13989	0.12870	—	0.12870	—	440.495	440.495	0.01787	0.00357	—	442.006
Dust From Material Movement	—	—	—	—	—	—	0.09065	0.09065	—	0.00979	0.00979	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07713	0.06418	0.54767	0.50731	0.00097	0.02553	—	0.02553	0.02349	—	0.02349	—	72.9289	72.9289	0.00296	0.00059	—	73.1792
Dust From Material Movement	—	—	—	—	—	—	0.01654	0.01654	—	0.00179	0.00179	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02638	0.02585	0.01794	0.32376	0.00000	0.00000	0.09920	0.09920	0.00000	0.02325	0.02325	—	95.0019	95.0019	0.00132	0.00079	0.25318	95.5247
Vendor	0.00364	0.00095	0.03665	0.02367	0.00019	0.00037	0.00723	0.00760	0.00019	0.00195	0.00213	—	27.6185	27.6185	0.00264	0.00388	0.06038	28.9012
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02638	0.02558	0.02235	0.30104	0.00000	0.00000	0.09920	0.09920	0.00000	0.02325	0.02325	—	89.7821	89.7821	0.00185	0.00079	0.00655	90.0714

Vendor	0.00362	0.00093	0.03840	0.02402	0.00019	0.00037	0.00723	0.00760	0.00019	0.00195	0.00213	—	27.6198	27.6198	0.00266	0.00388	0.00156	28.8442
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01121	0.01098	0.00957	0.12651	0.00000	0.00000	0.04232	0.04232	0.00000	0.00990	0.00990	—	39.4796	39.4796	0.00070	0.00035	0.04792	39.6486
Vendor	0.00159	0.00042	0.01652	0.01041	0.00008	0.00016	0.00310	0.00326	0.00008	0.00084	0.00092	—	12.1070	12.1070	0.00117	0.00170	0.01141	12.6545
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00205	0.00200	0.00175	0.02309	0.00000	0.00000	0.00772	0.00772	0.00000	0.00181	0.00181	—	6.53630	6.53630	0.00012	0.00006	0.00793	6.56428
Vendor	0.00029	0.00008	0.00301	0.00190	0.00001	0.00003	0.00057	0.00060	0.00001	0.00015	0.00017	—	2.00445	2.00445	0.00019	0.00028	0.00189	2.09509
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Linear, Grading & Excavation (2028)

3.2.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53430	0.44749	4.04140	5.50426	0.00799	0.11097	—	0.11097	0.10209	—	0.10209	—	806.375	806.375	0.03271	0.00654	—	809.143
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.53430	0.44749	4.04140	5.50426	0.00799	0.11097	—	0.11097	0.10209	—	0.10209	—	806.375	806.375	0.03271	0.00654	—	809.143
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.23421	0.19616	1.77157	2.41283	0.00350	0.04864	—	0.04864	0.04475	—	0.04475	—	353.480	353.480	0.01434	0.00287	—	354.693
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.04274	0.03580	0.32331	0.44034	0.00064	0.00888	—	0.00888	0.00817	—	0.00817	—	58.5226	58.5226	0.00237	0.00047	—	58.7234
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02479	0.02426	0.01767	0.30432	0.00000	0.00000	0.09920	0.09920	0.00000	0.02325	0.02325	—	93.3582	93.3582	0.00132	0.00079	0.22176	93.8495
Vendor	0.00345	0.00075	0.03456	0.02291	0.00019	0.00019	0.00723	0.00742	0.00019	0.00195	0.00213	—	26.8978	26.8978	0.00246	0.00388	0.05429	28.1698
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02479	0.02426	0.02209	0.28284	0.00000	0.00000	0.09920	0.09920	0.00000	0.02325	0.02325	—	88.2339	88.2339	0.00159	0.00079	0.00575	88.5159
Vendor	0.00341	0.00075	0.03614	0.02342	0.00019	0.00019	0.00723	0.00742	0.00019	0.00195	0.00213	—	26.9010	26.9010	0.00248	0.00388	0.00141	28.1206
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01075	0.01040	0.00809	0.11888	0.00000	0.00000	0.04232	0.04232	0.00000	0.00990	0.00990	—	38.7990	38.7990	0.00070	0.00035	0.04191	38.9620
Vendor	0.00150	0.00034	0.01561	0.01015	0.00008	0.00008	0.00310	0.00318	0.00008	0.00084	0.00092	—	11.7914	11.7914	0.00108	0.00170	0.01027	12.3354
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00196	0.00190	0.00148	0.02170	0.00000	0.00000	0.00772	0.00772	0.00000	0.00181	0.00181	—	6.42361	6.42361	0.00012	0.00006	0.00694	6.45060
Vendor	0.00027	0.00006	0.00285	0.00185	0.00001	0.00001	0.00057	0.00058	0.00001	0.00015	0.00017	—	1.95219	1.95219	0.00018	0.00028	0.00170	2.04227
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	3/20/2027	10/29/2027	5.00000	160.000	—
Linear, Grading & Excavation	Linear, Grading & Excavation	3/20/2028	10/27/2028	5.00000	160.000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.000000	8.00000	87.0000	0.43000
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Linear, Grubbing & Land Clearing	Pressure Washers	Diesel	Average	12.0000	8.00000	14.0000	0.30000
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Linear, Grading & Excavation	Plate Compactors	Diesel	Average	1.000000	8.00000	8.00000	0.43000
Linear, Grading & Excavation	Cement and Mortar Mixers	Diesel	Average	1.000000	8.00000	10.00000	0.56000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	Worker	12.0000	11.7000	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	1.000000	8.40000	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00000	20.0000	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	Worker	12.0000	11.7000	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.000000	8.40000	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.00000	20.0000	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Linear, Grubbing & Land Clearing	0.00000	0.00000	10.5000	0.00000	0.00000
Linear, Grading & Excavation	0.00000	0.00000	10.5000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	203.983	0.03300	0.00400
2028	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.40000	annual days of extreme heat
Extreme Precipitation	9.70000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7600	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	3	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	3	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	7.51711

AQ-PM	12.5078
AQ-DPM	6.27256
Drinking Water	43.0623
Lead Risk Housing	24.4234
Pesticides	81.0000
Toxic Releases	24.8312
Traffic	55.8500
Effect Indicators	—
CleanUp Sites	17.0773
Groundwater	22.1152
Haz Waste Facilities/Generators	62.4752
Impaired Water Bodies	12.4528
Solid Waste	91.0424
Sensitive Population	—
Asthma	32.7767
Cardio-vascular	5.95713
Low Birth Weights	26.8668
Socioeconomic Factor Indicators	—
Education	52.8727
Housing	35.8175
Linguistic	42.8069
Poverty	24.7236
Unemployment	11.8688

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	77.74926216
Employed	89.43924034
Median HI	85.71795201
Education	—
Bachelor's or higher	77.49262158
High school enrollment	100
Preschool enrollment	63.67252663
Transportation	—
Auto Access	62.47914795
Active commuting	37.66200436
Social	—
2-parent households	68.35621712
Voting	89.81136918
Neighborhood	—
Alcohol availability	78.73732837
Park access	29.65481843
Retail density	13.48646221
Supermarket access	28.41011164
Tree canopy	89.88836135
Housing	—
Homeownership	68.76684204
Housing habitability	85.51263955
Low-inc homeowner severe housing cost burden	55.97330938
Low-inc renter severe housing cost burden	89.60605672
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	81.97099962
Arthritis	0.0

Asthma ER Admissions	69.5
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	79.8
Cognitively Disabled	85.7
Physically Disabled	68.4
Heart Attack ER Admissions	96.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	52.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	4.9
SLR Inundation Area	74.1
Children	79.8
Elderly	9.2
English Speaking	45.8
Foreign-born	53.4

Outdoor Workers	37.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	83.0
Traffic Density	52.2
Traffic Access	23.0
Other Indices	—
Hardship	32.0
Other Decision Support	—
2016 Voting	88.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	19.0000
Healthy Places Index Score for Project Location (b)	87.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Construction: Construction Phases	PD: 320 working days total occurring across 2 construction seasons (appx May - Oct.). Conservatively assumed equal split of phasing across 2 construction seasons
Construction: Off-Road Equipment	Default eqpt adjusted to reflect project-specific info provided in PD: "For bridge construction, foundations would be excavated using a small excavator; Concrete would be mixed on-site and forming materials would be removed following construction Construction equipment would include...mini-excavators, a SWECO trail dozer, motorized wheelbarrows (ride-on and walk-behind), and plate compactors would be used for trail construction; and chainsaws, brush cutters, hedgers, power pole saws, and remote-controlled mowers/masticators would be used for trail corridor clearing." 12 Pressure Washers added to conservatively represent full 12-man crew using handheld landscaping tools with small gas-powered motors (e.g., chainsaws, pole-saws, hedgers)
Construction: Trips and VMT	worker trips reflect max conservative estimate of crew size/day. Vendor trips added to account for on-site work trucks identified in PD

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	End Date	5/3/2027	10/29/2027
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	Work Days per Phase	32.0000	160.000
Linear, Grading & Excavation	Linear, Grading & Excavation	Start Date	5/4/2027	3/20/2028
Linear, Grading & Excavation	Linear, Grading & Excavation	End Date	11/21/2027	10/27/2028
Linear, Grading & Excavation	Linear, Grading & Excavation	Work Days per Phase	144.000	160.000

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	Number per Day	2.00000	1.000000

8.4.6. Trips and VMT

Phase Name	Trip Type	Model Parameter	Default Value	New Value
Linear, Grubbing & Land Clearing	Worker	One-Way Trips per Day	35.0000	12.0000
Linear, Grubbing & Land Clearing	Vendor	One-Way Trips per Day	0.00000	1.000000
Linear, Grading & Excavation	Worker	One-Way Trips per Day	15.0000	12.0000

Purisima - Verde Parking Area Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Purisima - Verde Parking Area
Construction Start Date	3/20/2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.70000
Precipitation (days)	41.8000
Location	37.383943380526176, -122.4044633693648
County	San Mateo
City	Unincorporated
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1227
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.41

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Parking Lot	115.000	Space	2.60000	0.00000	0.00000	—	—	—
City Park	1.000000	Acre	1.000000	0.00000	0.00000	0.00000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.64948	3.07158	27.4806	28.7962	0.04893	1.14375	7.81090	8.95465	1.05225	3.97386	5.02612	—	5,436.17	5,436.17	0.21692	0.04416	0.36959	5,455.08
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.64948	3.07158	27.4871	28.7649	0.04893	1.14375	7.81090	8.95465	1.05225	3.97386	5.02612	—	5,428.70	5,428.70	0.21731	0.04416	0.00959	5,447.30
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.10345	0.93490	7.96222	9.48801	0.01514	0.32290	1.78295	2.10584	0.29707	0.88119	1.17825	—	1,695.63	1,695.63	0.06724	0.01381	0.07383	1,701.51
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20138	0.17062	1.45311	1.73156	0.00276	0.05893	0.32539	0.38432	0.05421	0.16082	0.21503	—	280.732	280.732	0.01113	0.00229	0.01222	281.704

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	3.64948	3.07158	27.4806	28.7962	0.04893	1.14375	7.81090	8.95465	1.05225	3.97386	5.02612	—	5,436.17	5,436.17	0.21692	0.04416	0.36959	5,455.08
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	3.64948	3.07158	27.4871	28.7649	0.04893	1.14375	7.81090	8.95465	1.05225	3.97386	5.02612	—	5,428.70	5,428.70	0.21731	0.04416	0.00959	5,447.30
2029	0.56759	0.54610	0.79416	1.11216	0.00173	0.01284	0.00000	0.01284	0.01181	0.00000	0.01181	—	133.510	133.510	0.00542	0.00108	0.00000	133.968
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	1.10345	0.93490	7.96222	9.48801	0.01514	0.32290	1.78295	2.10584	0.29707	0.88119	1.17825	—	1,695.63	1,695.63	0.06724	0.01381	0.07383	1,701.51
2029	0.08886	0.08549	0.12433	0.17411	0.00027	0.00201	0.00000	0.00201	0.00185	0.00000	0.00185	—	20.9017	20.9017	0.00085	0.00017	0.00000	20.9734
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.20138	0.17062	1.45311	1.73156	0.00276	0.05893	0.32539	0.38432	0.05421	0.16082	0.21503	—	280.732	280.732	0.01113	0.00229	0.01222	281.704
2029	0.01622	0.01560	0.02269	0.03178	0.00005	0.00037	0.00000	0.00037	0.00034	0.00000	0.00034	—	3.46052	3.46052	0.00014	0.00003	0.00000	3.47239

2.2.2. Onsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	3.61333	3.03620	27.4549	28.3524	0.04893	1.14375	7.66623	8.80999	1.05225	3.93995	4.99221	—	5,300.02	5,300.02	0.21499	0.04300	0.00000	5,318.21
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	3.61333	3.03620	27.4549	28.3524	0.04893	1.14375	7.66623	8.80999	1.05225	3.93995	4.99221	—	5,300.02	5,300.02	0.21499	0.04300	0.00000	5,318.21
2029	0.56759	0.54610	0.79416	1.11216	0.00173	0.01284	0.00000	0.01284	0.01181	0.00000	0.01181	—	133.510	133.510	0.00542	0.00108	0.00000	133.968
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	1.08451	0.91657	7.94796	9.27857	0.01514	0.32290	1.70840	2.03129	0.29707	0.86375	1.16081	—	1,627.28	1,627.28	0.06601	0.01320	0.00000	1,632.87

2029	0.08886	0.08549	0.12433	0.17411	0.00027	0.00201	0.00000	0.00201	0.00185	0.00000	0.00185	—	20.9017	20.9017	0.00085	0.00017	0.00000	20.9734
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.19792	0.16727	1.45050	1.69334	0.00276	0.05893	0.31178	0.37071	0.05421	0.15763	0.21185	—	269.415	269.415	0.01093	0.00219	0.00000	270.340
2029	0.01622	0.01560	0.02269	0.03178	0.00005	0.00037	0.00000	0.00037	0.00034	0.00000	0.00034	—	3.46052	3.46052	0.00014	0.00003	0.00000	3.47239

2.2.3. Offsite Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.04131	0.04043	0.02945	0.50720	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	—	155.597	155.597	0.00220	0.00132	0.36959	156.416
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.04131	0.04043	0.03682	0.47139	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	—	147.057	147.057	0.00265	0.00132	0.00959	147.526
2029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.01894	0.01833	0.01426	0.20943	0.00000	0.00000	0.07455	0.07455	0.00000	0.01744	0.01744	—	68.3529	68.3529	0.00123	0.00061	0.07383	68.6400
2029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.00346	0.00334	0.00260	0.03822	0.00000	0.00000	0.01361	0.01361	0.00000	0.00318	0.00318	—	11.3166	11.3166	0.00020	0.00010	0.01222	11.3641
2029	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3. Construction Emissions Details

3.1. Site Preparation (2028)

3.1.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.61333	3.03620	27.4549	28.3524	0.04893	1.14375	—	1.14375	1.05225	—	1.05225	—	5,300.02	5,300.02	0.21499	0.04300	—	5,318.21
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.61333	3.03620	27.4549	28.3524	0.04893	1.14375	—	1.14375	1.05225	—	1.05225	—	5,300.02	5,300.02	0.21499	0.04300	—	5,318.21
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58407	0.49078	4.43791	4.58299	0.00791	0.18488	—	0.18488	0.17009	—	0.17009	—	856.716	856.716	0.03475	0.00695	—	859.656
Dust From Material Movement	—	—	—	—	—	—	1.23920	1.23920	—	0.63687	0.63687	—	—	—	—	—	—	—

Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10659	0.08957	0.80992	0.83640	0.00144	0.03374	—	0.03374	0.03104	—	0.03104	—	141.839	141.839	0.00575	0.00115	—	142.326
Dust From Material Movement	—	—	—	—	—	—	0.22615	0.22615	—	0.11623	0.11623	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03615	0.03538	0.02577	0.44380	0.00000	0.00000	0.14466	0.14466	0.00000	0.03391	0.03391	—	136.147	136.147	0.00193	0.00116	0.32339	136.864
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03615	0.03538	0.03222	0.41247	0.00000	0.00000	0.14466	0.14466	0.00000	0.03391	0.03391	—	128.674	128.674	0.00231	0.00116	0.00839	129.086
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00578	0.00559	0.00435	0.06393	0.00000	0.00000	0.02276	0.02276	0.00000	0.00532	0.00532	—	20.8646	20.8646	0.00037	0.00019	0.02254	20.9522
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00106	0.00102	0.00079	0.01167	0.00000	0.00000	0.00415	0.00415	0.00000	0.00097	0.00097	—	3.45436	3.45436	0.00006	0.00003	0.00373	3.46888
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading (2028)

3.2.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85583	1.55941	13.7880	17.3209	0.02734	0.56820	—	0.56820	0.52275	—	0.52275	—	2,960.88	2,960.88	0.12011	0.02402	—	2,971.04
Dust From Material Movement	—	—	—	—	—	—	2.76221	2.76221	—	1.33565	1.33565	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31524	0.26489	2.34208	2.94217	0.00464	0.09652	—	0.09652	0.08880	—	0.08880	—	502.944	502.944	0.02040	0.00408	—	504.670

Dust From Material Movement	—	—	—	—	—	—	0.46920	0.46920	—	0.22688	0.22688	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05753	0.04834	0.42743	0.53695	0.00085	0.01761	—	0.01761	0.01621	—	0.01621	—	83.2681	83.2681	0.00338	0.00068	—	83.5539
Dust From Material Movement	—	—	—	—	—	—	0.08563	0.08563	—	0.04141	0.04141	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03099	0.03032	0.02209	0.38040	0.00000	0.00000	0.12400	0.12400	0.00000	0.02906	0.02906	—	116.698	116.698	0.00165	0.00099	0.27719	117.312
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00521	0.00504	0.00392	0.05758	0.00000	0.00000	0.02050	0.02050	0.00000	0.00480	0.00480	—	18.7933	18.7933	0.00034	0.00017	0.02030	18.8722
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00095	0.00092	0.00072	0.01051	0.00000	0.00000	0.00374	0.00374	0.00000	0.00088	0.00088	—	3.11144	3.11144	0.00006	0.00003	0.00336	3.12451
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Paving (2028)

3.3.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74648	0.62588	5.84990	8.80025	0.01296	0.21041	—	0.21041	0.19358	—	0.19358	—	1,350.28	1,350.28	0.05477	0.01095	—	1,354.92
Paving	0.09594	0.09594	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74648	0.62588	5.84990	8.80025	0.01296	0.21041	—	0.21041	0.19358	—	0.19358	—	1,350.28	1,350.28	0.05477	0.01095	—	1,354.92
Paving	0.09594	0.09594	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.14521	0.12175	1.13793	1.71183	0.00252	0.04093	—	0.04093	0.03765	—	0.03765	—	262.657	262.657	0.01065	0.00213	—	263.559
Paving	0.01866	0.01866	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.02650	0.02222	0.20767	0.31241	0.00046	0.00747	—	0.00747	0.00687	—	0.00687	—	43.4859	43.4859	0.00176	0.00035	—	43.6352
Paving	0.00341	0.00341	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04131	0.04043	0.02945	0.50720	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	—	155.597	155.597	0.00220	0.00132	0.36959	156.416
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04131	0.04043	0.03682	0.47139	0.00000	0.00000	0.16533	0.16533	0.00000	0.03875	0.03875	—	147.057	147.057	0.00265	0.00132	0.00959	147.526
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00795	0.00769	0.00599	0.08792	0.00000	0.00000	0.03130	0.03130	0.00000	0.00732	0.00732	—	28.6951	28.6951	0.00051	0.00026	0.03100	28.8156

Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00145	0.00140	0.00109	0.01605	0.00000	0.00000	0.00571	0.00571	0.00000	0.00134	0.00134	—	4.75080	4.75080	0.00009	0.00004	0.00513	4.77075
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Architectural Coating (2028)

3.4.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12985	0.10731	0.80814	1.11833	0.00173	0.01536	—	0.01536	0.01413	—	0.01413	—	133.517	133.517	0.00542	0.00108	—	133.975
Architectural Coatings	0.44374	0.44374	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00483	0.00399	0.03005	0.04158	0.00006	0.00057	—	0.00057	0.00053	—	0.00053	—	4.96443	4.96443	0.00020	0.00004	—	4.98147

Architect Coatings	0.01650	0.01650	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00088	0.00073	0.00548	0.00759	0.00001	0.00010	—	0.00010	0.00010	—	0.00010	—	0.82192	0.82192	0.00003	0.00001	—	0.82474
Architectural Coatings	0.00301	0.00301	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Architectural Coating (2029)

3.5.1. Onsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12385	0.10236	0.79416	1.11216	0.00173	0.01284	—	0.01284	0.01181	—	0.01181	—	133.510	133.510	0.00542	0.00108	—	133.968
Architectural Coatings	0.44374	0.44374	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01939	0.01602	0.12433	0.17411	0.00027	0.00201	—	0.00201	0.00185	—	0.00185	—	20.9017	20.9017	0.00085	0.00017	—	20.9734

Architectural Coatings	0.06947	0.06947	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00354	0.00292	0.02269	0.03178	0.00005	0.00037	—	0.00037	0.00034	—	0.00034	—	3.46052	3.46052	0.00014	0.00003	—	3.47239
Architectural Coatings	0.01268	0.01268	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	3/20/2028	6/8/2028	5.00000	59.0000	—
Grading	Grading	6/9/2028	9/4/2028	5.00000	62.0000	—
Paving	Paving	9/5/2028	12/12/2028	5.00000	71.0000	—
Architectural Coating	Architectural Coating	12/13/2028	3/21/2029	5.00000	71.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00000	8.00000	84.0000	0.37000
Paving	Cement and Mortar Mixers	Diesel	Average	2.00000	6.00000	10.00000	0.56000
Paving	Pavers	Diesel	Average	1.000000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	6.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	6.00000	36.0000	0.38000
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	17.5000	11.7000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	15.0000	11.7000	LDA,LDT1,LDT2
Grading	Vendor	—	8.40000	HHDT,MHDT

Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	Worker	20.0000	11.7000	LDA,LDT1,LDT2
Paving	Vendor	—	8.40000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	0.00000	11.7000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00000	0.00000	0.00000	0.00000	6,795.36

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

Site Preparation	—	—	88.5000	0.00000	0.00000
Grading	—	—	62.0000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	2.60000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Parking Lot	2.60000	100%
Paving	City Park	0.00000	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2028	0.00000	203.983	0.03300	0.00400
2029	0.00000	203.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.40000	annual days of extreme heat
Extreme Precipitation	9.70000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	32.7600	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	3	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	3	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	7.51711
AQ-PM	12.5078
AQ-DPM	6.27256
Drinking Water	43.0623
Lead Risk Housing	24.4234
Pesticides	81.0000
Toxic Releases	24.8312
Traffic	55.8500
Effect Indicators	—
CleanUp Sites	17.0773
Groundwater	22.1152
Haz Waste Facilities/Generators	62.4752
Impaired Water Bodies	12.4528
Solid Waste	91.0424
Sensitive Population	—
Asthma	32.7767
Cardio-vascular	5.95713
Low Birth Weights	26.8668

Socioeconomic Factor Indicators	—
Education	52.8727
Housing	35.8175
Linguistic	42.8069
Poverty	24.7236
Unemployment	11.8688

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	77.74926216
Employed	89.43924034
Median HI	85.71795201
Education	—
Bachelor's or higher	77.49262158
High school enrollment	100
Preschool enrollment	63.67252663
Transportation	—
Auto Access	62.47914795
Active commuting	37.66200436
Social	—
2-parent households	68.35621712
Voting	89.81136918
Neighborhood	—
Alcohol availability	78.73732837
Park access	29.65481843
Retail density	13.48646221

Supermarket access	28.41011164
Tree canopy	89.88836135
Housing	—
Homeownership	68.76684204
Housing habitability	85.51263955
Low-inc homeowner severe housing cost burden	55.97330938
Low-inc renter severe housing cost burden	89.60605672
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	81.97099962
Arthritis	0.0
Asthma ER Admissions	69.5
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	79.8
Cognitively Disabled	85.7
Physically Disabled	68.4
Heart Attack ER Admissions	96.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	52.6
Physical Health Not Good	0.0
Stroke	0.0

Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	4.9
SLR Inundation Area	74.1
Children	79.8
Elderly	9.2
English Speaking	45.8
Foreign-born	53.4
Outdoor Workers	37.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	83.0
Traffic Density	52.2
Traffic Access	23.0
Other Indices	—
Hardship	32.0
Other Decision Support	—
2016 Voting	88.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	19.0000
Healthy Places Index Score for Project Location (b)	87.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	land use types based on project site diagram. # of spaces provided in PD. Acreages measured in Google Earth
Construction: Construction Phases	Note: As there is no building construction phase proposed, the building construction phase has been removed and the adjusted # of days attributed to the building construction phase were distributed evenly amongst the other phases. 12-month construction schedule derived from PD

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	1.03500	2.60000
Landscape Area	sq. ft	—	0.00000

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	4/18/2028	3/20/2028

Site Preparation	Site Preparation	End Date	4/25/2028	6/8/2028
Site Preparation	Site Preparation	Work Days per Phase	5.00000	59.0000
Grading	Grading	Start Date	4/26/2028	6/9/2028
Grading	Grading	End Date	5/7/2028	9/4/2028
Grading	Grading	Work Days per Phase	8.00000	62.0000
Paving	Paving	Start Date	3/27/2029	9/5/2028
Paving	Paving	End Date	4/21/2029	12/12/2028
Paving	Paving	Work Days per Phase	18.0000	71.0000
Architectural Coating	Architectural Coating	Start Date	4/22/2029	12/13/2028
Architectural Coating	Architectural Coating	End Date	5/17/2029	3/21/2029
Architectural Coating	Architectural Coating	Work Days per Phase	18.0000	71.0000

Appendix C

Biological Resources: Special-Status Species Tables

Table C-1 Special-Status Plants and Their Potential for Occurrence in the Project Area

Species	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential for Occurrence
San Mateo thorn-mint *Acanthomintha duttonii*	FE	SE	1B.1	Chaparral, valley and foothill grassland. Uncommon serpentinite vertisol clays; in relatively open areas. 165–985 ft in elevation. Blooms April–June. Annual.	Not expected to occur. The project area does not contain serpentine soils suitable for San Mateo thorn-mint.
Blasdale's bent grass *Agrostis blasdalei*	—	—	1B.2	Coastal dunes, coastal bluff scrub, coastal prairie. Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation. 15–1,200 ft in elevation. Blooms May–July. Geophyte.	Not expected to occur. The project area does not contain coastal sandy or dune habitat suitable for Blasdale's bent grass.
Franciscan onion *Allium peninsulare* var. *franciscanum*	—	—	1B.2	Ultramafic. Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine; sometimes on volcanics. Dry hillsides. 15–1,150 ft in elevation. Blooms, May–June. Geophyte.	Not expected to occur. The project area does not contain serpentine or volcanic soils suitable for Franciscan onion.
Bent-flowered fiddleneck *Amsinckia lunaris*	—	—	1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 10–2,610 ft in elevation. Blooms March–June. Annual.	May occur. Woodland and grassland vegetation in project area may provide suitable habitat for bent-flower fiddleneck.
Robbins' broomrape *Aphyllon robbinsii*	—	—	1B.1	Coastal bluff scrub, coastal dunes. Rocky or sandy soil on bluffs, diffs, landslides, or shell mounds; possibly on sand dunes. Only confirmed host is *Eriophyllum staechadifolium*. Blooms April–July. Annual.	Not expected to occur. The project area does not contain sandy bluffs or dunes suitable for Robbins' broomrape.
Anderson's manzanita *Arctostaphylos andersonii*	—	—	1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest. Open sites, redwood forest. 195–2,495 ft in elevation. Blooms November–May. Perennial.	May occur. Midpen 2021The project area contains coniferous forest that may be suitable for Anderson's manzanita.
Montara manzanita *Arctostaphylos montaraensis*	—	—	1B.2	Chaparral, coastal scrub. Slopes and ridges. 885–1,510 ft in elevation. Blooms January–March. Perennial.	May occur. The project area contains chaparral and scrub habitat suitable for Montara manzanita.
King's Mountain manzanita *Arctostaphylos regismontana*	—	—	1B.2	Broadleaved upland forest, chaparral, north coast coniferous forest. Granitic or sandstone outcrops. 785–2,315 ft in elevation. Blooms December–April. Perennial.	May occur. The project area contains coniferous forest and shrub habitat that may be suitable for King's Mountain manzanita.
Coastal marsh milk-vetch *Astragalus pycnostachyus* var. *pycnostachyus*	—	—	1B.2	Wetland. Coastal dunes, marshes and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0–510 ft in elevation. Blooms April–October. Perennial.	Not expected to occur. The project area does not contain salt marsh habitat suitable for coastal marsh milk-vetch.
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	—	—	1B.1	Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0–755 ft in elevation. Blooms May–October. Annual.	Not expected to occur. Congdon's tarplant generally grows at lower elevation and nearer the Bay margin than the project area (Midpen 2021).
Pappose tarplant *Centromadia parryi* ssp. *parryi*	—	—	1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernally mesic, often alkaline sites. 5–1,380 ft in elevation. Blooms May–November. Annual.	May occur. The project area contains shrub and herbaceous habitat that may be suitable for pappose tarplant.

Species	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential for Occurrence
Point Reyes salty bird's-beak *Chloropyron maritimum* ssp. *palustre*	—	—	1B.2	Salt marsh, Wetland. Coastal salt marsh. Usually in coastal salt marsh with genera *Salicornia*, *Distichlis*, *Jaumea*, *Spartina*, etc. 0–375 ft in elevation. Blooms June–October. Annual.	Not expected to occur. The project area does not contain salt marsh habitat suitable for Point Reyes salty bird's-beak.
San Francisco Bay spineflower *Chorizanthe cuspidata* var. *cuspidata*	—	—	1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. Closely related to *Chorizanthe pungens*. Sandy soil on terraces and slopes. 10–705 ft in elevation. Blooms April–July. Annual.	Not expected to occur. The project area does not contain scrub habitat within immediate coastal influence suitable for San Francisco Bay spineflower.
Franciscan thistle *Cirsium andrewsii*	—	—	1B.2	Ultramafic. Coastal bluff scrub, broadleaved upland forest, coastal scrub, coastal prairie. Sometimes serpentine seeps. 0–490 ft in elevation. Blooms March–July. Perennial.	May occur. Scrub vegetation in the project area may provide habitat suitable for Franciscan thistle.
Fountain thistle *Cirsium fontinale* var. *fontinale*	FE	SE	1B.1	Valley and foothill grassland, chaparral, cismontane woodland, meadows and seeps, ultramafic, wetland. Serpentine seeps and grassland. 150–605 ft in elevation. Blooms, May–October. Perennial.	May occur. Grasslands and meadows in the project area may provide habitat suitable for fountain thistle.
Lost thistle *Cirsium praeteriens*	—	—	1A	Little information exists on this plant; it was collected from the Palo Alto area at the turn of the 20th century. Although not seen since 1901, this *Cirsium* is thought to be quite distinct from other *Cirsium* species. 0–330 ft in elevation. Blooms June–July. Perennial.	May occur. The project area may contain shrub and herbaceous habitat suitable for *Cirsium* species, which may be suitable for lost thistle.
Round-headed collinsia *Collinsia corymbosa*	—	—	1B.2	Coastal dunes. 35–100 ft in elevation. Blooms April–June. Annual.	Not expected to occur. The project area does not contain coastal dune habitat suitable for round-headed collinsia.
San Francisco collinsia *Collinsia multicolor*	—	—	1B.2	Closed-cone coniferous forest, coastal scrub. On decomposed shale (mudstone) mixed with humus; sometimes on serpentine. 100–820 ft in elevation. Blooms, March–May. Annual.	Not expected to occur. The project area does not contain shale or serpentine soils suitable for San Francisco collinsia.
Western leatherwood *Dirca occidentalis*	—	—	1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland. On brushy slopes, mesic sites; mostly in mixed evergreen and foothill woodland communities. 80–1,395 ft in elevation. Blooms January–March. Perennial.	May occur. Riparian vegetation in the project area may provide habitat suitable for western leatherwood.
San Mateo woolly sunflower *Eriophyllum latilobum*	FE	SE	1B.1	Ultramafic. Cismontane woodland, coastal scrub, lower montane coniferous forest. Often on roadcuts; found on and off of serpentine. 100–2,000 ft in elevation. Blooms May–June. Perennial.	Not expected to occur. The project area does not contain ultramafic habitat suitable for San Mateo woolly sunflower.
Hoover's button-celery *Eryngium aristulatum* var. *hooveri*	—	—	1B.1	Vernal pools, wetland. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. 5–165 ft in elevation. Blooms July. Annual/Perennial.	May occur. Wet depressions in the project area may provide habitat suitable for Hoover's button-celery.

Species	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential for Occurrence
Jepson's coyote-thistle *Eryngium jepsonii*	—	—	1B.2	Vernal pools, valley and foothill grassland. Clay. 10–985 ft in elevation. Blooms April–August. Perennial.	May occur. The project area contains grassland habitat suitable for Jepson's coyote-thistle.
Minute pocket moss *Fissidens pauperculus*	—	—	1B.2	Redwood. North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 35–3,360 ft in elevation. Blooms. Perennial.	May occur. Redwood forest habitat in the project area may provide habitat suitable for minute pocket moss.
Hillsborough chocolate lily *Fritillaria biflora* var. *ineziana*	—	—	1B.1	Ultramafic. Cismontane woodland, valley and foothill grassland. Probably only on serpentine; most recent site is in serpentine grassland. 295–525 ft in elevation. Blooms March–April. Geophyte.	Not expected to occur. The project area does not contain serpentine soils suitable for Hillsborough chocolate lily.
Fragrant fritillary *Fritillaria liliacea*	—	—	1B.2	Coastal scrub, valley and foothill grassland, coastal prairie, cismontane woodland. Often on serpentine; various soils reported though usually on clay, in grassland. 10–1,310 ft in elevation. Blooms February–April. Geophyte.	Not expected to occur. The project area does not contain serpentine soils suitable for fragrant fritillary.
Short-leaved evax *Hesperevax sparsiflora* var. *brevifolia*	—	—	1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0–705 ft in elevation. Blooms March–June. Annual.	Not expected to occur. The project area does not contain habitat within immediate coastal influence suitable for short-leaved evax.
Marin western flax *Hesperolinon congestum*	FT	ST	1B.1	Ultramafic. Chaparral, valley and foothill grassland. In serpentine barrens and in serpentine grassland and chaparral. 195–1,215 ft in elevation. Blooms April–July. Annual.	Not expected to occur. The project area does not contain serpentine soils suitable for Marin western flax.
Kellogg's horkelia *Horkelia cuneata* var. *sericea*	—	—	1B.1	Closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Old dunes, coastal sandhills; openings. 15–705 ft in elevation. Blooms April–September. Perennial.	Not expected to occur. Kellogg's horkelia is primarily found in dunes, which are not present in the project area.
Point Reyes horkelia *Horkelia marinensis*	—	—	1B.2	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities. 5–2,545 ft in elevation. Blooms May–September. Perennial.	Not expected to occur. The project area does not contain habitat within the immediate influence of the coast suitable for Point Reyes horkelia.
Island tube lichen *Hypogymnia schizidiata*	—	—	1B.3	Chaparral, closed-cone coniferous forest. On bark and wood of hardwoods and conifers. 1,180–1,330 ft in elevation. Perennial.	May occur. Forest vegetation in the project area may provide habitat suitable for island tube lichen.
Coast iris *Iris longipetala*	—	—	4.2	Wetland Coastal prairie, lower montane coniferous forest, meadows and seeps. Mesic sites, heavy soils. 0–1,970 ft in elevation. Blooms March–May. Geophyte.	May occur. Forest and seep habitat in the project area may provide habitat suitable for coast iris. Although not currently a state or federally protected species, coast iris is protected under existing Midpen policy.
Perennial goldfields *Lasthenia californica* ssp. *macrantha*	—	—	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. 15–605 ft in elevation. Blooms January–November. Perennial.	Not expected to occur. The project area does not contain scrub habitat within immediate coastal influence suitable for perennial goldfields.

Species	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential for Occurrence
Legenere *Legenere limosa*	—	—	1B.1	Vernal pools, wetland. In beds of vernal pools. 5–2,885 ft in elevation. Blooms April–June. Annual.	Not expected to occur. The project area does not contain vernal pool habitat suitable for legenere.
Coast yellow leptosiphon *Leptosiphon croceus*	—	SE	1B.1	Coastal bluff scrub, coastal prairie. 35–490 ft in elevation. Blooms April–May. Annual.	Not expected to occur. The project area does not contain coastal bluff scrub or prairie habitat suitable for coast yellow leptosiphon.
Rose leptosiphon *Leptosiphon rosaceus*	—	—	1B.1	Coastal bluff scrub. 35–460 ft in elevation. Blooms April–July. Annual.	Not expected to occur. The project area does not contain habitat within immediate coastal influence suitable for rose leptosiphon.
Crystal Springs lessingia *Lessingia arachnoidea*	—	—	1B.2	Coastal sage scrub, valley and foothill grassland, cismontane woodland. Grassy slopes on serpentine; sometimes on roadsides. 295–655 ft in elevation. Blooms July–October. Annual.	Not expected to occur. The project area does not contain serpentine habitat suitable for Crystal Springs lessingia.
Ornduff's meadowfoam *Limnanthes douglasii* ssp. *ornduffii*	—	—	1B.1	Meadows and seeps, agricultural fields. 35–65 ft in elevation. Blooms November–May. Annual.	Not expected to occur. The project area does not contain wet meadow habitat near the coast suitable for Ornduff's meadowfoam (Midpen 2021).
San Mateo tree lupine *Lupinus arboreus* var. *eximius*	—	—	3.2	Coastal scrub, chaparral. Sandy soils, rocky hills, difficult to identify. 295–1,805 ft in elevation. Blooms April–July. Perennial.	May occur. Scrub vegetation in the project area may provide habitat suitable for San Mateo tree lupine. Although not a state or federally protected species, San Mateo tree lupine is protected under existing Midpen policy.
Arcuate bushmallow *Malacothamnus arcuatus* var. *arcuatus*	—	—	1B.2	Chaparral, cismontane woodland. Gravelly alluvium. 5–2,410 ft in elevation. Blooms April–July. Perennial.	Not expected to occur. Arcuate bushmallow is known to occur in Midpen preserves; however only within drier, leeward chaparral (Midpen 2021).
Marsh microseris *Microseris paludosa*	—	—	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. 15–985 ft in elevation. Blooms April–June. Perennial.	Not expected to occur. The project area does not contain coastal habitat suitable for marsh microseris.
Woodland woollythreads *Monolopia gracilens*	—	—	1B.2	Ultramafic. Chaparral, valley and foothill grassland, cismontane woodland, broadleafed upland forest, north coast coniferous forest. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns but may have only weak affinity to serpentine. 330–3,935 ft in elevation. Blooms, March–July. Annual.	May occur. Grassland and coniferous forest in the project area may provide habitat suitable for woodland woollythreads.
Dudley's lousewort *Pedicularis dudleyi*	—	SR	1B.2	Chaparral, north coast coniferous forest, valley and foothill grassland. Deep shady woods of older coast redwood forests; also in maritime chaparral. 195–2,955 ft in elevation. Blooms April–June. Perennial.	May occur. Redwood forest in the project area may provide habitat suitable for Dudley's lousewort.
White-rayed pentachaeta *Pentachaeta bellidiflora*	FE	SE	1B.1	Ultramafic. Valley and foothill grassland, cismontane woodland. Open dry rocky slopes and grassy areas, often on soils	Not expected to occur. The project area does not contain serpentine soils suitable for white-rayed pentachaeta.

Species	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential for Occurrence
				derived from serpentine bedrock. 115–2,000 ft in elevation. Blooms March–May. Annual.	
White-flowered rein orchid *Piperia candida*	—	—	1B.2	Ultramafic. North coast coniferous forest, lower montane coniferous forest, broadleafed upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 150–5,300 ft in elevation. Blooms, May–September. Perennial.	May occur. The project area contains coniferous forest which may provide habitat suitable for white-flowered rein orchid.
Choris' popcornflower *Plagiobothrys chorisianus* var. *chorisianus*	—	—	1B.2	Chaparral, coastal scrub, coastal prairie. Mesic sites. 50–525 ft in elevation. Blooms March–June. Annual.	Known to occur. The species is known to occur in Purisima. Shrub and grassland vegetation in the project area may provide habitat suitable for Choris' popcornflower.
Hickman's popcornflower *Plagiobothrys chorisianus* var. *hickmanii*	—	—	4.2	Wetland. Closed-cone coniferous forest, chaparral, coastal scrub, marshes and swamps, vernal pools. 50–605 ft in elevation. Blooms April–June. Annual.	May occur. Forest and scrub habitat in the project area may provide habitat suitable for Hickman's popcornflower. Although not currently a state or federally protected species, Hickman's popcornflower is protected under existing Midpen policy.
Oregon polemonium *Polemonium carneum*	—	—	2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. 0–6,005 ft in elevation. Blooms April–September. Perennial.	May occur. Shrub and forest vegetation in the project area may provide habitat suitable for Oregon polemonium.
Hickman's cinquefoil *Potentilla hickmanii*	FE	SE	1B.1	Wetland. Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, marshes and swamps. Freshwater marshes, seeps, and small streams in open or forested areas along the coast. 15–410 ft in elevation. Blooms April–August. Perennial.	May occur. The project area contains wet meadow, stream, and forest habitat potentially suitable for Hickman's cinquefoil.
Sanford's arrowhead *Sagittaria sanfordii*	—	—	1B.2	Wetland. Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2,135 ft in elevation. Blooms May–October. Geophyte.	May occur. Wet and riparian areas along waterways in the project area may provide habitat suitable for Sanford's arrowhead.
Chaparral ragwort *Senecio aphanactis*	—	—	2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 65–2,805 ft in elevation. Blooms January–April. Annual.	Not expected to occur. The species may occur in areas of chaparral that have recently burned (Midpen 2021); however, no such burned chapparal vegetation is present in the project area.
Scouler's catchfly *Silene scouleri* ssp. *scouleri*	—	—	2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. 0–1,970 ft in elevation. Blooms June–August. Perennial.	Not expected to occur. The project area does not contain coastal habitat suitable for Scouler's catchfly.
San Francisco campion *Silene verecunda* ssp. *verecunda*	—	—	1B.2	Ultramafic. Coastal scrub, valley and foothill grassland, coastal bluff scrub, chaparral, coastal prairie. Often on mudstone or shale; one site on serpentine. 100–2,115 ft in elevation. Blooms March–June. Perennial.	May occur. Grassland in the project area may provide habitat suitable for San Francisco campion.
Northern slender pondweed	—	—	2B.2	Wetland. Marshes and swamps. Shallow, clear water of lakes and drainage channels.	May occur. Riparian habitat and drainages in the project area may provide

Species	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential for Occurrence
Stuckenia filiformis ssp. *alpina*				985–7,055 ft in elevation. Blooms May–July. Geophyte.	habitat suitable for northern slender pondweed.
Two-fork clover *Trifolium amoenum*	FE	—	1B.1	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding diff face. 15–1,015 ft in elevation. Blooms April–June. Annual.	Not expected to occur. The project area does not contain coastal bluff scrub habitat suitable for two-fork clover, and is outside of the range of the species in Marin and Sonoma counties (Midpen 2021).
Santa Cruz clover *Trifolium buckwestiorum*	—	—	1B.1	Coastal prairie, broadleafed upland forest, and cismontane woodland. Moist grassland. Gravelly margins. 345–2,000 ft in elevation. Blooms April–October. Annual.	May occur. The project area contains grassland habitat suitable for Santa Cruz clover.
Saline clover *Trifolium hydrophilum*	—	—	1B.2	Wetland. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0–985 ft in elevation. Blooms April–June. Annual.	May occur. Grassland and riparian vegetation in the project area may provide habitat suitable for saline clover.
San Francisco owl's-clover *Triphysaria floribunda*	—	—	1B.2	Coastal prairie, coastal scrub, valley and foothill grassland. On serpentine and non-serpentine substrate (such as at Pt. Reyes). 5–490 ft in elevation. Blooms April–June. Annual.	May occur. Shrub and grassland vegetation in the project area may provide habitat suitable for San Francisco owl's-clover.
Coastal triquetrella *Triquetrella californica*	—	—	1B.2	Coastal bluff scrub, coastal scrub. Grows within approximately 100 feet from the coast in coastal scrub, grasslands and in open gravels on roadsides, hillsides, rocky slopes, and fields. On gravel or thin soil over outcrops. 35–330 ft in elevation. Perennial.	Not expected to occur. The project area is not close enough to the coast to provide habitat suitable for coastal triquetrella.

Notes: CESA = California Endangered Species Act; CEQA = California Environmental Quality Act; CRPR = California Rare Plant Rank; CNDDB = California Natural Diversity Database; ESA = Endangered Species Act; NPPA = Native Plant Protection Act; subsp. = subspecies; var. = variety.

[1] Legal Status Definitions

Federal:
- FE Endangered (legally protected)
- FT Threatened (legally protected)

State:
- SE Endangered (legally protected)
- ST Threatened (legally protected)
- SR State-listed as rare (legally protected by NPPA)

California Rare Plant Ranks:
- 1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
- 2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks:
- 0.1 Seriously threatened in California (more than 80% of occurrences threatened; high degree and immediacy of threat)
- 0.2 Moderately threatened in California (20–80% occurrences threatened; moderate degree and immediacy of threat)

[2] Potential for Occurrence Definitions

Known to Occur: The species has been observed within Purisima, and suitable habitat for the species is available in near-term project areas.

May Occur; Habitat suitable for the species is available and there have been nearby recorded occurrences of the species.

Not Expected to Occur; The species is unlikely to be present because of poor habitat quality, lack of habitat features suitable for the species, or restricted current distribution of the species.

Sources: CNDDB 2025a; CNPS 2025; Midpen 2021; USFWS 2025.

Table C-2 Special-Status Wildlife and Their Potential for Occurrence in the Project Area

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
Invertebrates				
Crotch's bumble bee *Bombus crotchii*	—	SC	Found primarily in California: mediterranean, Pacific coast, western desert, Great Valley, and adjacent foothills through most of southwestern California. Habitat includes open grassland and scrub. Nests underground.	May occur. Grassland and scrub habitat in the project area may provide habitat suitable for Crotch's bumble bees, and the species has been detected in San Mateo County (Xerces Society et al. 2025).
Western bumble bee *Bombus occidentalis*	—	SC	Once common throughout much of its range, in California, this species is currently largely restricted to high elevation sites in the Sierra Nevada and the northern California coast. Habitat includes open grassy areas, chaparral, scrub, and meadows. Requires suitable nesting sites for the colonies, availability of nectar and pollen from floral resources throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens.	Not expected to occur. The project area does not overlap the current range of western bumble bee (CNDDB 2025b).
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	—	Valley and foothill grassland. Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is *Sedum spathulifolium*.	Not expected to occur. San Bruno elfin butterfly is known primarily from three locations, none of which overlap with the project area.
Monarch *Danaus plexippus*	FP	—	Habitat requirements include host plants for larvae (primarily milkweeds [*Asclepias* spp.]); adult nectar sources (i.e., flowering plants); and sites for roosting, thermoregulation, mating, hibernation, and predator escape. Additionally, monarch butterfly requires conditions and resources for initiating and completing migration both to and from winter roosting areas. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Known to occur. Monarch butterflies are known to migrate throughout the project area, and may use floral resources throughout the project area. Purisima contains overwintering habitat for monarchs in groves of eucalyptus (*Eucalyptus* spp.), Monterey pine (*Pinus radiata*), and Monterey cyprus (*Hesperocyparis macrocarpa*) within 2 miles of the California coast (Midpen 2021).
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	—	Coastal dunes, ultramafic, valley and foothill grassland. Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *O. purpurscens* are the secondary host plants.	Not expected to occur. The project area does not contain habitat suitable for Bay checkerspot butterfly (Midpen 2021).
Mission blue butterfly *Icaricia icarioides missionensis*	FE	—	Coastal prairie Inhabits grasslands of the San Francisco peninsula. Three larval host plants: *Lupinus albifrons*, *Lupinus variicolor*, and *Lupinus formosus*, of which *Lupinus albifrons* is favored.	Not expected to occur. Remaining populations of the Mission blue butterfly are found only in a few locations around the San Francisco Bay area, outside of the project area (Midpen 2021).
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*	FE	—	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be *Viola adunca*.	Not expected to occur. The project area does not contain coastal dune habitat suitable for Myrtle's silverspot butterfly.

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
Fish				
Green sturgeon - southern DPS *Acipenser medirostris* pop. 1	FT	SSC	Spawns in the Sacramento, Feather and Yuba rivers. Presence in upper Stanislaus and San Joaquin rivers may indicate spawning. Non-spawning adults occupy marine/estuarine waters. Delta estuary is important for rearing juveniles. Spawning occurs primarily in cool (11–15 C) sections of mainstem rivers in deep pools (25–30 feet) with substrate containing small to medium sized sand, gravel, cobble, or boulder.	Not expected to occur. The expected range of the southern DPS of green sturgeon is restricted to the Sacramento/San Joaquin flowing waters, San Francisco Bay, and their tributaries, and does not include waterways within the project area.
Tidewater goby *Eucyclogobius newberryi*	FE	SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River in Del Norte County. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not expected to occur. Tidewater goby have been recorded along the southern portion of the San Mateo County coast; however, an apparent natural gap in the distribution of the species occurs along the portion of the coast that includes the Preserve's waterways (Midpen 2021).
Coho salmon - central California coast ESU *Oncorhynchus kisutch* pop. 4	FE	SE	Federal listing includes populationss between Punta Gorda and San Lorenzo River. State listing includes populations south of Punta Gorda. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	Not expected to occur. Passage into the project area is blocked by natural and anthropogenic barriers (CNDDB 2025c); however, activities which occur near streams or other waterways may have downstream impacts.
Steelhead - central California coast DPS *Oncorhynchus mykiss irideus* pop. 8	FT	—	Sacramento/San Joaquin flowing waters. From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	Not expected to occur. Passage into the project area is blocked by natural and anthropogenic barriers (CNDDB 2025c); however, activities which occur near streams or other waterways may have downstream impacts.
Longfin smelt San Francisco Bay-Delta DPS *Spirinchus thaleichthys* pop. 2	FE	ST SSC	Estuary. Euryhaline, nektonic, and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	Not expected to occur. The range of the San Francisco Bay-Delta DPS of longfin smelt is restricted to the San Francisco Bay and its tributaries, and does not include waterways within the project area.
Amphibians				
California tiger salamander - central California DPS *Ambystoma californiense* pop. 1	FT	ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not expected to occur. Southeastern San Mateo County represents the northernmost limit of the species' range on the San Francisco Peninsula, south of the project area (Midpen 2021x).
Santa Cruz black salamander *Aneides niger*	—	SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties. Adults found under rocks, talus, and damp woody debris.	May occur. Santa Cruz black salamander is known to occur in multiple Midpen preserves (Midpen 2021), and the project area contains habitat suitable for the species; however, there are no known occurrences within Purisima.
California giant salamander *Dicamptodon ensatus*	—	SSC	Meadow and seep, north coast coniferous forest, and riparian forest. Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County. Aquatic	May occur. Habitat suitable for California giant salamander is present in the project area (Midpen 2021).

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
			larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	
Foothill yellow-legged frog (Central Coast DPS) *Rana boylii* pop. 4	FT	SE	San Francisco Peninsula and Diablo Range south of San Francisco Bay Estuary, and south through the Santa Cruz and Gabilan mountains east of the Salinas River in the southern inner Coast Ranges. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	Not expected to occur. Foothill yellow-legged frog has been extirpated throughout much of San Mateo County, and is not expected to occur in the project area (Midpen 2021).
California red-legged frog *Rana draytonii*	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Known to occur. California red-legged frogs are known to occur in Purisima, and the Preserve contains designated critical habitat for the species (Midpen 2021). The species may be present in the project area.
Red-bellied newt *Taricha rivularis*	—	SSC	Broadleaved upland forest, north coast coniferous forest, redwood, riparian forest, and riparian woodland. Coastal drainages from Humboldt County south to Sonoma County, inland to Lake County. Isolated population of uncertain origin in Santa Clara County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over approximately 0.6 miles to breed, typically in streams with moderate flow and clean rocky substrate.	Not expected to occur. Red-bellied newts have been observed at Monte Bello Open Space Preserve, southeast of Purisima; however, this population is disjunct and isolated from other known populations and unlikely to occur in the project area (Midpen 2021).
Reptiles				
Northwestern pond turtle *Actinemys marmorata*	FP	SSC	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to approximately 0.3 miles (0.5 km) from water for egg-laying.	May occur. Waterways in the project area provide habitat suitable for northwestern pond turtle. The species has been observed in other Midpen preserves; however, there are no known occurrences within Purisima.(Midpen 2021).
Green turtle *Chelonia mydas*	FT	—	Marine bay. Marine. Completely herbivorous; needs adequate supply of seagrasses and algae.	Not expected to occur. The project area does not contain marine habitat suitable for green turtles.
San Francisco gartersnake *Thamnophis sirtalis tetrataenia*	FE	SE FP	Artificial standing waters, marsh and swamp, Sacramento/San Joaquin standing waters, wetland. Vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	Not expected to occur. San Francisco gartersnake is only found in a few localized areas along the coast, none of which overlap with the project area (Midpen 2021).
Birds				
Grasshopper sparrow *Ammodramus savannarum*		SSC	Valley and foothill grassland. Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands	Known to occur. The project area contains grassland habitat suitable for grasshopper sparrow, and the species

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
			with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	has been observed on other Midpen preserves (Midpen 2021).
Golden eagle *Aquila chrysaetos*	—	FP	Broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodlands, upper montane coniferous forest, and valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	May occur. The species has been previously, though uncommonly, observed at Purisima (Midpen 2021). Open space habitat suitable for foraging is present in the project area.
Short-eared owl *Asio flammeus*	—	SSC	Great Basin grassland, marsh and swamp, meadow and seep, valley and foothill grassland, and wetlands. Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	May occur. Short-eared owls may occur irregularly on Purisima; however, there are no known breeding season records from the Preserve, and the species is unlikely to breed in the project area.
Long-eared owl *Asio otus*	—	SSC	Cismontane woodland, Great Basin scrub, riparian forest, riparian woodland, and upper montane coniferous forest. Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	May occur. The project area contains riparian habitat and open lands suitable for long-eared owl.
Burrowing owl *Athene cunicularia*	—	SC SSC	Coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	May occur. Overwintering burrowing owls have been previously detected at Purisima and habitat suitable for the species is present in the project area, including American badger dens (Midpen 2021; Diamond et al. 2022); however, Purisima is outside of the known breeding area of burrowing owls.
Marbled murrelet *Brachyramphus marmoratus*	FT	SE	Lower montane coniferous forest, old growth, redwood. Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas fir.	May occur. Marbled murrelets may occur in old-growth redwood in the project area, which may provide nesting habitat suitable for the species. Marbled murrelets have been previously detected in the preserve (Midpen 2021).
Vaux's swift *Chaetura vauxi*	—	SSC	Lower montane coniferous forest, north coast coniferous forest, old growth, redwood. Redwood, Douglas fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	May occur. Vaux's swift may occur during migration or foraging (Cornell Lab of Ornithology 2025, from P2S Bio Review), and redwood forest vegetation in the project area may provide nesting habitat.
Western snowy plover *Charadrius nivosus nivosus*	FT	SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not expected to occur. The project area does not contain sandy beach habitat or large lake shoreline suitable for western snowy plover.
Northern harrier *Circus hudsonius*	—	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation,	May occur. The project area contains grassland vegetation, including grazing areas, suitable for northern harrier.

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
			usually at marsh edge; nest built of a large mound of sticks in wet areas.	
Olive-sided flycatcher *Contopus cooperi*	—	SSC	Lower montane coniferous forest, redwood, upper montane coniferous forest. Nesting habitats are mixed conifer, montane hardwood-conifer, Douglas fir, redwood, red fir and lodgepole pine. Most numerous in montane conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain.	May occur. Olive-sided flycatcher has been observed nearby and may breed in multiple Midpen preserves (Midpen 2021), and the project area contains forest habitat suitable for the species.
Yellow rail *Coturnicops noveboracensis*	—	SSC	Freshwater marsh, meadow and seep. Summer resident in eastern Sierra Nevada in Mono County. Fresh-water marshlands.	Not expected to occur. The project area does not contain sufficient freshwater marshland suitable for yellow rail.
Black swift *Cypseloides niger*	—	SSC	Coastal belt of Santa Cruz and Monterey Co; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on diffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely	May occur. Black swift may forage over the project area and has been observed in other Midpen preserves (Midpen 2021); however, the project area does not contain nesting habitat suitable for black swifts.
White-tailed kite *Elanus leucurus*	—	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	May occur. Grasslands habitat suitable for white-tailed kite is present in the project area.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	—	SSC	Marsh and swamp. Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	Known to occur. The project area contains marsh habitat suitable for saltmarsh common yellowthroat, and the species has been previously observed in Purisima during the breeding season (Midpen 2021).
California condor *Gymnogyps californianus*	FE	SE FP	Chaparral, valley and foothill grassland. Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	Not expected to occur. The project area is outside of the expected current range of California condor populations.
Bald eagle *Haliaeetus leucocephalus*	FD	SE FP	Lower montane coniferous forest, old growth. Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	May occur. Bald eagles may forage within the project area; however, there are no known nesting records in the Preserve (Midpen 2021), and the species is not expected to breed in the project area.
Yellow-breasted chat *Icteria virens*	—	SSC	Riparian forest, riparian scrub, riparian woodland. Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	May occur. The species has not been previously recorded in San Mateo County (CNDDB 2025); however, the project area contains riparian habitat suitable for nesting and foraging yellow-breasted chats.

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
Loggerhead shrike *Lanius ludovicianus*	—	SSC	Broadleaved upland forest, desert wash, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodlands, riparian woodland, Sonoran desert scrub. Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	May occur. The project area provides forest, woodland, and open habitat suitable for nesting and foraging loggerhead shrikes.
California black rail *Laterallus jamaicensis coturniculus*	—	ST FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not expected to occur. The project area does not contain marsh habitat suitable for California black rail.
Alameda song sparrow *Melospiza melodia pusillula*	—	SSC	Salt marsh. Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits pickleweed (Salicornia spp.) marshes; nests low in Grindelia bushes (high enough to escape high tides) and in pickleweed.	Not expected to occur. The project area does not contain San Francisco Bay marsh habitat suitable for or within the range of Alameda song sparrow.
Bryant's savannah sparrow *Passerculus sandwichensis alaudinus*	—	SSC	Occurs in grasslands, meadows, pastures, grassy roadsides, sedge wetlands, and fields with crop cover. Can also nest in tidal saltmarshes and estuaries.	May occur. The project area contains grassland habitat suitable for Bryant's savannah sparrow, and the species has been observed at other Midpen preserves (Midpen 2021).
Short-tailed albatross *Phoebastria albatrus*	FE	SSC	During the non-breeding season, short-tailed albatross range along the Pacific Rim, from southern Japan, to the west coast of Canada and the United States, primarily along continental shelf margin.	Not expected to occur. Short-tailed albatross is an occasional visitor along the Pacific coast; however, the project area does not contain shoreline or oceanic habitat suitable for the species.
Hawaiian petrel *Pterodroma sandwichensis*	FE	SE	Remote or high elevation areas on the islands of Hawaii, Maui, Molokai, Lanai, and Kauai. Seen occasionally offshore of the California coast during pelagic bird watching trips.	Not expected to occur. Although limited records exist of Hawaiian petrels occurring on the California coast, this species is generally only found in small, restricted populations on the Hawaiian islands and foraging over open-ocean waters. Furthermore, the project area does not contain shoreline or oceanic habitat suitable for the species
California Ridgway's rail *Rallus obsoletus obsoletus*	FE	SE FP	Brackish marsh, marsh and swamp, salt marsh, wetlands. Salt-water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	Not expected to occur. The project area does not contain San Francisco Bay marsh or sloughs suitable for California Ridgway's rail.
Bank swallow *Riparia riparia*	—	ST	Riparian scrub, riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/diffs with fine-textured/sandy soils near streams, rivers, lakes, or ocean to dig nesting hole.	Not expected to occur. The project area does not contain habitat suitable for bank swallow colonies (Midpen 2021).

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
Yellow warbler *Setophaga petechia*	—	SSC	Riparian forest, riparian scrub, riparian woodland. Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	May occur. The project area contains riparian habitat suitable for nesting and foraging yellow warblers.
California least tern *Sternula antillarum browni*	FE	SE FP	Alkali playa, wetland. Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Not expected to occur. The project area does not contain coastal playa or wetland habitat suitable for California least tern.
Mammals				
Pallid bat *Antrozous pallidus*	—	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Tree roosting has also been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	May occur. Pallid bats are known to occur at other Midpen preserves (Midpen 2021), and the project area contains potential roost habitat including trees and buildings.
Northern California ringtail *Bassariscus astutus raptor*	—	FP	Dens most often in rock crevices, boulder piles, or talus, but also tree hollows, root cavities, and rural buildings. Rarely use same den for more than a few days. Females with litters change dens within 10 days of birth and almost daily after 20 days.	May occur. Although the species is expected to be rare (Midpen 2021), riparian habitat and woodlands in the project area may contain suitable denning habitat for northern California ringtail.
Townsend's big-eared bat *Corynorhinus townsendii*	—	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Requires large cavities for roosting, which may include abandoned buildings and mines, caves, and basal cavities of trees. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	May occur. Townsend's big-eared bats have been observed at other Midpen preserves (Midpen 2021), and the project area contains potential roost habitat for the species, including trees and buildings.
Steller sea lion *Eumetopias jubatus*	FD MMPA	—	Marine intertidal and splash zone communities, protected deepwater coastal communities, rock shore. Breeds on Ano Nuevo, San Miguel and Farallon islands, Pt. St. George, and Sugarloaf. Hauls-out on islands and rocks. Needs haul-out and breeding sites with unrestricted access to water, near aquatic food supply and with no human disturbance.	Not expected to occur. The project area does not contain marine habitat suitable for Steller sea lions.
Western red bat *Lasiurus frantzii*	—	SSC	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Known to occur. Western red bats have been previously detected at Purisima (Midpen 2021), and the project area contains trees and open areas suitable for roosting and foraging.
Big free-tailed bat *Nyctinomops macrotis*	—	SSC	Low-lying arid areas in southern California. Need high diffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Not expected to occur. The project area does not contain high diffs or rocky

Species	Federal Status[1]	State Status[1]	Habitat	Potential for Occurrence
				outcrops suitable for roosting big free-tailed bats.
Mountain lion *Puma concolor*	—	SC	Mountain lions inhabit a wide range of ecosystems, including mountainous regions, forests, deserts, and wetlands. Mountain lions establish and defend large territories and can travel large distances in search of prey or mates. In April of 2020, the California Fish and Game Commission found that listing of the Central Coast and Southern California Evolutionarily Significant Units may be warranted, and designated mountain lion within these ESUs as a candidate species.	Known to occur. Mountain lions are present throughout the Santa Cruz Mountains, have been recorded in multiple Midpen preserves, and could potentially occur in the project area (Midpen 2021). In addition to dispersal and foraging, dens and breeding habitat (e.g., rock crevices, fallen logs) may also be present in or near the project area.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	FE	SE FP	Marsh and swamp, wetland. Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat, but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow, build loosely organized nests. Requires higher areas for flood escape.	Not expected to occur. The project area does not contain any San Francisco Bay wetland habitat suitable for or within the range of salt-marsh harvest mouse.
Salt-marsh wandering shrew *Sorex vagrans halicoetes*	—	SSC	Marsh and swamp, wetland. Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6-8 feet above sea level where abundant driftwood is scattered among pickleweed (*Salicornia* spp.).	Not expected to occur. The project area does not contain any San Francisco Bay wetland habitat suitable for or within the range of salt-marsh wandering shrew.
American badger *Taxidea taxus*	—	SSC	American badgers are most commonly found in treeless areas including tallgrass and shortgrass prairies, grass-dominated meadows and fields within forested habitats, and shrub-steppe communities. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Known to occur. American badgers are known to occur in grassland habitat types in Purisima (Midpen 2021; Diamond et al. 2022).

Notes: CEQA = California Environmental Quality Act; CNDDB = California Natural Diversity Database; DPS = distinct population segment; ESU = evolutionarily significant unit; ssp. = subspecies.

[1] Legal Status Definitions

Federal:
- FE Endangered (legally protected)
- FT Threatened (legally protected)
- FP Federally proposed for listing (no formal protection other than CEQA consideration)
- FD Federally delisted

MMPA Marine Mammal Protection Act

State:
- SE Endangered (legally protected)
- ST Threatened (legally protected)
- SC State candidate for listing (legally protected)
- FP Fully protected (legally protected)
- SSC Species of special concern (no formal protection other than CEQA consideration)

[2] Potential for Occurrence Definitions

Known to Occur: The species has been observed within Purisima, and suitable habitat for the species is available in near-term project areas.
May Occur: Habitat suitable for the species is available and there have been nearby recorded occurrences of the species.
Not Expected to Occur: The species is unlikely to be present because of poor habitat quality, lack of habitat features suitable for the species, or restricted current distribution of the species.

Sources: CDFW 2025; CNDDB 2025a; CNDDB 2025b; CNDDB 2025c; Diamond et al. 2022; Midpen 2021; USFWS 2025; Xerces Society et al. 2025.

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CNDDB. *See* California Natural Diversity Database.

CNPS. *See* California Native Plants Society.

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US Fish and Wildlife Service. 2025. Information for Planning and Consultation electronic records search. Available: https://ecos.fws.gov/ipac/. Retrieved December 3, 2025.

USFWS. *See* US Fish and Wildlife Service.

Xerces Society. *See* The Xerces Society for Invertebrate Conservation.

Appendix D

Noise Modeling

Construction Equipment Average Noise Levels

Project Name: Purisama Use and Management Plan

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (dBA L_{eq})
Thresholds		
Daytime Standard	596	55.0
13130 Skyline Blvd, Woodside, CA 94062	274	63.7
600 Verde Rd, Half Moon Bay, CA 94019	1800	42.6
1000 Verde Rd, Half Moon Bay, CA 94019	400	59.5
500 Irish Ridge Rd, Half Moon Bay, CA 94019	1100	48.1

Equipment[1]	Reference Emission Noise Levels (dBA L_{max}) at 50 feet[2]	Usage Factor[2]
Dozer	82	0.4
Grader	85	0.4

Ground Type	Soft
Source Height	5
Receiver Height	5
Ground Factor[3]	0.58

Predicted Noise Level [4]	dBA L_{eq} at 50 feet[4]
Dozer	78.0
Grader	81.0

Combined Predicted Noise Level (dBA L_{eq} at 50 feet)
82.8

Sources:

[1] Where measured values are not available, noise levels based on the Construction Noise Control Specifiction 721.560 were used.

[2] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[3] Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[4] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

Vegetation Management Equipment Average Noise Levels

Project Name: Purisama Use and Management Plan

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (dBA L_{eq})
Thresholds		
Daytime Standard	489	55.0

Equipment[1]	Reference Emission Noise Levels (dBA L_{max}) at 50 feet[2]	Usage Factor[2]
Dozer	82	0.4
Chain Saw	84	0.2

Ground Type	Soft
Source Height	5
Receiver Height	5
Ground Factor[3]	0.58

Predicted Noise Level [4]	dBA L_{eq} at 50 feet[4]
Dozer	78.0
Chain Saw	77.0

Combined Predicted Noise Level (dBA L_{eq} at 50 feet)
80.6

Sources:

[1] Where measured values are not available, noise levels based on the Construction Noise Control Specifiction 721.560 were used.

[2] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[3] Based on Figure 4-26 from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 86).

[4] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2018 (pg 177).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2018: pg 86); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Impact Pile Driver	20	95	101	11	95.0	88.0	50	101.0	94.0
Vibratory Pile Driver	20	95	101	44	95.0	88.0	50	101.0	94.0
Blasting	100	94	94	0	94.0		50	94.0	94.0
Shears (on backhoe)	40	85	96	5	85.0	81.0	50	96.0	92.0
Sand Blasting (Single Nozzle)	20	85	96	9	85.0	78.0	50	96.0	89.0
Vibrating Hopper	50	85	87	1	85.0	82.0	50	87.0	84.0
Grapple (on Backhoe)	40	85	87	1	85.0	81.0	50	87.0	83.0
Concrete Saw	20	90	90	55	90.0	83.0	50	90.0	83.0
Mounted Impact Hammer (hoe ram)	20	90	90	212	90.0	83.0	50	90.0	83.0
Pavement Scarafier	20	85	90	2	85.0	78.0	50	90.0	83.0
Jackhammer	20	85	89	133	85.0	78.0	50	89.0	82.0
Pneumatic Tools	50	85	85	90	85.0	82.0	50	85.0	82.0
Grader	40	85	85	0	85.0	81.0	50	85.0	81.0
Vacuum Excavator (Vac-truck)	40	85	85	149	85.0	81.0	50	85.0	81.0
Scraper	40	85	84	12	85.0	81.0	50	84.0	80.0
Tractor	40	84	84	0	84.0	80.0	50	84.0	80.0
Clam Shovel (dropping)	20	93	87	4	93.0	86.0	50	87.0	80.0
Hydra Break Ram	10	90	90	0	90.0	80.0	50	90.0	80.0
Boring Jack Power Unit	50	80	83	1	80.0	77.0	50	83.0	80.0
Gradall	40	85	83	70	85.0	81.0	50	83.0	79.0
Ventilation Fan	100	85	79	13	85.0	85.0	50	79.0	79.0
Dozer	40	85	82	55	85.0	81.0	50	82.0	78.0
Slurry Plant	100	78	78	1	78.0	78.0	50	78.0	78.0
Generator	50	82	81	19	82.0	79.0	50	81.0	78.0
Pumps	50	77	81	17	77.0	74.0	50	81.0	78.0
Excavator	40	85	81	170	85.0	81.0	50	81.0	77.0
Auger Drill Rig	20	85	84	36	85.0	78.0	50	84.0	77.0
Chain Saw	20	85	84	46	85.0	78.0	50	84.0	77.0
Drum Mixer	50	80	80	1	80.0	77.0	50	80.0	77.0
Slurry Trenching Machine	50	82	80	75	82.0	79.0	50	80.0	77.0
Soil Mix Drill Rig	50	80	80	0	80.0	77.0	50	80.0	77.0
Compactor (ground)	20	80	83	57	80.0	73.0	50	83.0	76.0
Horizontal Boring Hydr. Jack	25	80	82	6	80.0	74.0	50	82.0	76.0
Concrete Mixer Truck	40	85	79	40	85.0	81.0	50	79.0	75.0
Front End Loader	40	80	79	96	80.0	76.0	50	79.0	75.0
Concrete Batch Plant	15	83	83	0	83.0	74.8	50	83.0	74.8
Backhoe	40	80	78	372	80.0	76.0	50	78.0	74.0
Compressor (air)	40	80	78	18	80.0	76.0	50	78.0	74.0
Concrete Pump Truck	20	82	81	30	82.0	75.0	50	81.0	74.0
Rock Drill	20	85	81	3	85.0	78.0	50	81.0	74.0
Paver	50	85	77	9	85.0	82.0	50	77.0	74.0
Crane	16	85	81	405	85.0	77.0	50	81.0	73.0
Bar Bender	20	80	80	0	80.0	73.0	50	80.0	73.0
Roller	20	85	80	16	85.0	78.0	50	80.0	73.0
Vibratory Concrete Mixer	20	80	80	1	80.0	73.0	50	80.0	73.0
Refrigerator Unit	100	82	73	3	82.0	82.0	50	73.0	73.0
Dump Truck	40	84	76	31	84.0	80.0	50	76.0	72.0
Drill Rig Truck	20	84	79	22	84.0	77.0	50	79.0	72.0
Rivit Buster/chipping gun	20	85	79	19	85.0	78.0	50	79.0	72.0
Vacuum Street Sweeper	10	80	82	19	80.0	70.0	50	82.0	72.0
Pickup Truck	40	55	75	1	55.0	51.0	50	75.0	71.0
Flat Bed Truck	40	84	74	4	84.0	80.0	50	74.0	70.0
Welder / Torch	40	73	74	5	73.0	69.0	50	74.0	70.0
Generator (<25KVA, VMS signs)	50	70	73	74	70.0	67.0	50	73.0	70.0
Warning Horn	5	85	83	12	85.0	72.0	50	83.0	70.0
Man Lift	20	85	75	23	85.0	78.0	50	75.0	68.0

Source: FHWA Roadway Construction Noise Model, January 2006. Table 9.1; U.S. Department of Transportation; CA/T Construction Spec. 721.560;
Where Highlighted Yellow, Spec. Lmax was used in leiu of Actual Measured Lmax; Where highlighted red, should only be used for lmax calculation.

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Project Name: [PLACEHOLDER]

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor		
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Auto Circulation (Verde Road Parking Area Project) compared to Daytime Standard	53.0	@	50	soft	5	5	0.58	55.0	@	42
Irish Ridge Maintence Equipment (Chainsaw, Dozer, and Excavator)	74.0	@	50	soft	5	5	0.58	55.0	@	272
Human Speech	95.0	@	3	soft	5	5	0.58	55.0	@	106

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

Parking Lot Noise Calculation

KEY: Orange cells are for input.

Green cells are data to present in a written analysis (output).

Inputs

	Verde Road Parking Area
Number of automobiles per hour	115

Outputs

	Noise Level (dBA L_{eq})		Distance (feet)
Reference Level	53.0	@	50

Source

Federal Transit Administration. 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed February 4, 2019. See pages 45–47, including Equation 4-14.

Ground Vibration Distance Propagation Calculations for Stationary Sources

KEY: Orange cells are for input.

Grey cells are intermediate calculations performed by the model.

Green cells are data to present in a written analysis (output).

Project Name: [PLACEHOLDER PLEASE CHANGE]

STEP 1: Determine units in which to perform calculation.

— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.

— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Vibratory Roller	94	@	25	80	@	73

**The Lv metric (VdB) is used to assess the likelihood for vibration to result in human annoyance.*

Land Use Category	Human Annoyance Criteria GBV Impact Levels (VdB re 1 micro-inch/sec)		
	Frequent Events	Occacional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB	65 VdB	65 VdB
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: Federal Transit Administration, pg 126

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STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Vibratory Roller	0.210	@	25	0.200	@	26

**The PPV metric (in/sec) is used for assessing the likelihood for the potential of structural damage.*

Construction Vibration Damage Criteria		
Building/Structural Category	PPV, in/sec	Approximate Lv
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildng	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: Federal Transit Administration, pg 186

Notes:

- Computation of propagated vibration levels is based on the equations presented on pg. 185 of FTA 2018.
- Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.
- Frequent Events are defined as more than 70 events per day; occasional events as 30-70 events per day; and infrequent events as fewer than 30 events per day

Reference:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Equipment	PPV at 25 ft, in/sec	Approximate LV at 25 ft
Pile Driver (impact - upper range)	1.518	112
Pile Driver (Sonic - upper range)	0.734	105
Pile Driver (impact - typical)	0.644	104
Vibratory Roller	0.21	94
Clam Shovel	0.202	94
Clam Shovel	0.202	94
Pile Driver (Sonic - typical)	0.17	93
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Hydromill (Slurry Wall)	0.008	66
Small Bulldozer	0.003	58

Reference

FTA Noise and Vibration Manual Page 184

FTA Noise and Vibration Manual Page 184
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Notes:
Computation of propagated vibration levels is based on the equations presented on

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available:

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Overall Modeling Input Form

For Quanatative Excel-Based Project Analysis

To be completed by project staff prior to initiating noise & vibration modeling

KEY:	User to manually make entry	User to select from drop down	Instructions/Notes	*Example text to be replaced by user*

Project Team

Project Modeler	*Kenneth Nguyen*	*Prepared Date*	*12/3/2025*
Senior Modeler	*Dimitri Antoniou*	*Reviewed Date*	*12/4/2025*

Project Initiation

Project Identification

Ascent Project Name	*Space Preserve Comprehe*	Proj. Folder Link	20230185.01 - Midpen - Puri	Current Site Plan(s)	Noise	< KMZ file has all six rectified to their corresponding location	
Deliverable Type	*IS/MND*	Lead Agency	*MidPen*	TIA (if avail.)	*Should be discussed*	Has ADT?	
Address or Cross Streets	*Purisima Creek Redwoods Open Space Preserve*	Jurasdiction	*San Mateo County*	Completed RFI			

***All entries must match project description/site plan. User to populate source colume with source/link of data*

Project Specific Details

Noise Sensitive Receptor Inputs

Name	Significance Criteria Location	Distance to Project Center	Jurasdiction
SR-1	Highway 35	190	San Mateo County
SR-2	Purisama-to-the Sea	XX	San Mateo County
SR-3	Verde Road Parking Area	1800	San Mateo County
SR-4	North Trail Project	430	San Mateo County
SR-5	Irish Ridge	200	San Mateo County

Noise Standards

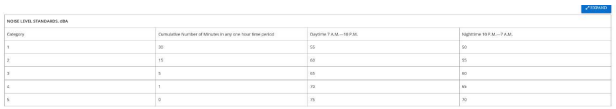
	Construction		Operational					
	Absolute Level	Ambient Increase	Daytime L50	Daytime Lmax	Nighttime L50	Nighttime Lmax	Ambient Increase	Vibration Standard
SR-1	Daytime Exemption	Daytime Exemption	55				Perceptible Increase (+3)	FTA
SR-2	Daytime Exemption	Daytime Exemption	55	75	50	70	Perceptible Increase (+3)	FTA
SR-3	Daytime Exemption	Daytime Exemption	55	75	50	70	Perceptible Increase (+3)	FTA
SR-4	Daytime Exemption	Daytime Exemption	55	75	50	70	Perceptible Increase (+3)	FTA
SR-5	Daytime Exemption	Daytime Exemption	55	75	50	70	Perceptible Increase (+3)	FTA

***standards identified shall use the most location-specific thresholds, whenever possible. Federal or State based standards should be used where needed.*

Noise Level Thresholds of Significance

Construction Phase			Operational Phase			
			Daytime		Nighttime	
Applicable Standards	*Values*	*Descriptor*	*55*	*L50*	*50*	*L50*
Daytime (Leq)	*XX*		*75*	*Lmax*	*70*	*Lmax*

***Some jurasdiction may have multiple standards, all appicable standards should be recorded and addressed*



e) Noise sources associated with demolition, construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 6:00 P.M. and 7:00 A.M. weekdays, 5:00 P.M. and 9:00 A.M. on Saturdays or at any time on Sundays, Thanksgiving and Christmas.

Project Specific Model Setup Parameters

Modeler to review project description and coordinate with PM/author to determine project specific information

	Highway 35	Purisama-to-the-Sea	Verde Road Parking Area	North Trail	Purisama Multimod	Irish Ridge
Project Phases to Model	Full Construction	Construction Noise Only	Construction Noise and Operations	Construction Noise Only	Operational Only	Operational Only
Loudest Construction Phase	Grading	Trail Construction	Grading	Trail Construction	N/A	N/A
Equipment List	Scenario 1	Scenario 2	Scenario 1	Scenario 1	N/A	N/A
Operational Sources	Auto Circulation	Trail Users	Auto Circulation	Trail Users	Traffic Increases due	Heavy Equipment (e.g. Dozers, Chainsaws, and excavators)
Vibration Intensive Activities (i.e. pile-driving, blasting, or earth moving activities)	No	No	No	No	No	No

Modeling Scope Summary

Construction Specific Inputs

	Construction Source Identification			*Construction Vibration Source Identification*		
	Source Type	*Noise Level at 50 feet*	*Reference*	*Source Type*	*Vibration Level at 25 feet*	*Reference*
Scenario 1	*Grader*	*85*	*FWHA*	*Vibratory Rollers*	*94*	*FTA*
	Dozer	82	*FHWA*			
Scenario 2	*Excavator*	*81*	*FHWA*	*Loaded Truck*	*86*	*FTA*
	Chainsaw	*84*	*FHWA*			

Operational Specific Inputs

Operational Source Identification			
Source Type	*Numbers*	*Noise Level at 50 feet*	*Reference*
Auto Circulation	*Parking Lot Calculator*	*Dependant*	*FTA*

***user must identify all individual sources/source categories to be modeled and list them here, based on the SOW and PD.*

***The source of the activity data, should be determined based on the SOW and discussions with the Sr., then linked in the Activity Data Source Colume*