

4.11 Transportation

This section describes the existing transportation conditions in the vicinity of the Project sites, identifies associated regulatory requirements, evaluates potential Project and cumulative impacts, and identifies mitigation measures for any significant or potentially significant impacts related to implementation of the Newell Creek Pipeline (NCP) Improvement Project (Proposed Project). The section is based on review of existing County of Santa Cruz and Santa Cruz County Regional Transportation Commission (SCCRTC) plans, studies and transportation-related documents, as well as a construction traffic analysis prepared for the City of Santa Cruz Water Department (City) (HDR 2021).

A summary of the comments received during the scoping period for this environmental impact report (EIR) is provided in Table 2-1 in Chapter 2, Introduction, and a complete list of comments is provided in Appendix A. There were no comments related to transportation.

4.11.1 Existing Conditions

4.11.1.1 Project Access and Roadway Network

Access to Proposed Project Sites

The existing NCP and Proposed Project are located in the Santa Cruz Mountains in the unincorporated area of Santa Cruz County, except for the portion of the NCP that extends onto the City's Graham Hill Water Treatment Plant (GHWTP) property, which is located within the City of Santa Cruz, but is surrounded by unincorporated lands. Regional access to the Proposed Project region is provided from State Route 1 (locally referred to as Highway 1) and State Route 17 (locally referred to as Highway 17), both to the south of the Proposed Project, and State Route 9 (locally referred to as Highway 9) to the west of the Proposed Project.

Local roads, primarily within the unincorporated area of Santa Cruz County, provide access to the Proposed Project sites. Access to the Proposed Project northern segment is provided by Graham Hill Road, Mount Hermon Road, and Highway 9, as well as several County roads, including Glen Arbor Road, Newell Creek Road, Brackney Road, San Lorenzo Way, and Rose Acres Lane. Access to the Proposed Project southern segment is primarily provided from Graham Hill Road, Mount Hermon Road, and Highway 9, as well as Lockewood Lane and Sims Road. Pipeline Road, a partially paved trail through Henry Cowell Redwoods State Park, provides access to the existing NCP pipe section in this location. In addition to the public roadways providing access to the Proposed Project segments, City easements on private land serve portions of the existing alignments and would continue to serve the Proposed Project segments with some minor modifications and additions.

Roadway Network

State Highways

State Highway 9 is a generally north-south, two-lane, 27-mile, undivided highway that connects the City of Santa Cruz with unincorporated Santa Cruz County areas including the communities of Felton, Ben Lomond, and Boulder Creek in the San Lorenzo Valley (SLV). Highway 9 ends in the City of Saratoga in Santa Clara County where it connects with Highway 17. Highway 9 also connects with Highway 1 within the City of Santa Cruz. There

are no parking or bicycle facilities provided along Highway 9. The posted speed limit ranges between 25 and 45 miles per hour (mph). Highway 9 is a heavily used commuter and recreational travel route within the SLV.

State Highway 17 is a north-south, four-lane divided freeway that connects the City of Santa Cruz with unincorporated Santa Cruz County areas, as well as to Santa Clara County and the San Jose metropolitan area. Highway 17 ends in the City of San Jose where it connects with Interstate 880 (I-880). Highway 17 also connects with Highway 1 within the City of Santa Cruz. Highway 17 provides regional access to the SLV via Mount Hermon Road in the City of Scotts Valley and Ocean Street in the City of Santa Cruz to Graham Hill Road. There are no parking or bicycle facilities provided on Highway 17 and the posted speed limit ranges between 50 mph to 65 mph.

Highway 17 is a winding, mountainous road, and segments along this route are narrow, do not have shoulders, or have a narrow median with guard rail. Although this road does not have signalized intersections, there are several unsignalized intersections with acceleration/deceleration lanes as well as t-intersections with local roads. The route is heavily used for commuter travel on weekdays and for recreational travel on weekends, and is, therefore, subject to delay (AMBAG 2018a). In addition to its challenging roadway configuration, weather-related conditions such as thick fog, heavy rains, and mudslides affect roadway operations on Highway 17.

State Highway 1 provides access to San Francisco to the north and Monterey to the south. Regionally, Highway 1 is the major inter- and intra-county route for Santa Cruz County. Within the City of Santa Cruz, it is oriented in an east-west direction, although the interregional alignment of Highway 1 is primarily north-south. It is a four-lane arterial street along Mission Street from the west side of Santa Cruz to Chestnut Street Extension, a four-lane expressway between Mission Street-Chestnut Street and River Street, and a four-lane freeway east of River Street. The speed limit on Highway 1 is 25 mph along Mission Street, 45 mph along the expressway section, and 55 and 65 mph on the freeway sections. Recurrent congestion results in queuing on Highway 1 that extends for several miles during peak hours.

Local Streets and Roads

Three functional street classifications are identified in the County of Santa Cruz General Plan (1994):

- Arterial: a signalized street that serves through-traffic and provides access to major destinations.
- Collector: a street that collects traffic from local residential streets and distributes it to arterials.
- Local: a street that provides access to adjacent properties.

Newell Creek Road is a two-lane north-south local road extending approximately 1.5 miles from Glen Arbor Road in Ben Lomond to its terminus at the Newell Creek Dam. Newell Creek Road is a private road and access is restricted by a gate for approximately 0.8 miles south of the dam upon which it becomes a public County road to its intersection with Glen Arbor Road. The posted speed limit is 25 mph.

Glen Arbor Road is a two-lane north-south collector road with one travel lane in each direction conveying vehicular traffic from the SLV to the Zayante area. The road extends east from Highway 9, which is a signalized intersection. The road is an emergency evacuation route and bypass for a segment of Highway 9, extending approximately 1.75 miles through the community of Ben Lomond. The posted speed limit is 30 mph.

Graham Hill Road is a two-lane north-south arterial road that has 11-foot lane widths with less than 2-foot to 3-foot wide shoulders and no parking. The road extends approximately 6 miles from the Santa Cruz city limits to Highway 9 in Felton. Graham Hill Road provides access to Henry Cowell Redwoods State Park and serves as an alternative route to Highway 9 between the City of Santa Cruz and the unincorporated SLV. Graham Hill Road has a posted speed limit of 35 mph, except the speed limit is 45 mph for a segment between Treetop Drive and the Santa Cruz County Juvenile Center.

Mount Hermon Road is a four-lane, east-west major arterial, with two travel lanes in each direction separated by an intermittent raised median. Mount Hermon Road extends from Highway 17 in the City of Scotts Valley on the east to Graham Hill Road in the unincorporated Santa Cruz County on the west. It serves as the primary commercial street through the City of Scotts Valley and provides regional access between Highway 17 and Highway 9 in Felton. The posted speed limit ranges between 35 mph and 45 mph.

East Zayante Road is a two-lane, north-south road that extends north from Graham Hill Road.

Quail Hollow Road is a two-lane, east-west local road that extends between East Zayante Road on the southeast and Glen Arbor Road on the northwest.

Lockewood Lane is a two-lane two-way residential roadway that connects Graham Hill Road to Mount Hermon Road.

Sims Road is a two-lane two-way residential roadway that connects Graham Hill Road to La Madrona Drive.

La Madrona Drive is a two-lane two-way roadway that acts as a frontage road to Highway 17 where drivers can access northbound or southbound.

Other Local Roads. Other local residential roads in the vicinity of the Project sites include: Brackney Road, Caledonium Avenue, Fremont Avenue, Schaff Road, Rose Acres, and San Lorenzo Way in the Project northern segment and numerous local roads off of Graham Hill Road in the Project southern segment, including Lockewood Lane and Sims Road.

4.11.1.2 Other Transportation Modes

Pedestrian Facilities

No sidewalks or pedestrian paths are located in the vicinity of the Proposed Project sites. While there are some pedestrian facilities (sidewalks, paths, and crosswalks) in town centers in Felton and Ben Lomond, the rural nature of the area has left most pedestrians outside of the town centers walking along the shoulders of Highway 9 and on local roads (SCCRTC et al. 2019). Improvements are proposed for Highway 9 that would provide a new sidewalk from the SLV High School toward the Highway 9/Graham Hill Road intersection on the southbound side of Highway 9. As part of this improvement, shoulder widening would be constructed so that a minimum 4-foot wide shoulder is provided on the southbound side of the highway at all locations where the sidewalk is constructed at the highway grade (California Department of Transportation [Caltrans] 2021). The Project is expected to be completed in 2027.

Bicycle Facilities

No bicycle lanes are located in the vicinity of the Proposed Project sites. While there are no dedicated bicycle lanes or paths along Highway 9 or local roads in the SLV, the highway is regularly used by bicyclists commuting through and between town centers, cyclists accessing parks, as well as recreational cyclists, sometimes traveling the entire length of Highway 9 from Santa Clara County/Saratoga to Santa Cruz. Where shoulders exist, cyclists often use that space, but otherwise are sharing the road surface with motorists (SCCRTC et al. 2019).

Public Transit Service

The Santa Cruz Metropolitan Transit District (SCMTD), also known as Santa Cruz METRO, provides public transit services throughout Santa Cruz County. The three main types of services provided by SCMTD are local fixed-route bus service, Highway 17 Express Bus service, and specialized ParaCruz services for people with disabilities. The nearest SCMTD transit center to the Project site is the Cavallaro Transit Center in the City of Santa Cruz, located approximately 2-4.5 miles southwest of the Proposed Project sites. SCMTD Route 35 serves the SLV, connecting the City of Santa Cruz to Boulder Creek via Scotts Valley. Route 35 offers 30-minute service and operates several bus stops along Glen Arbor Road in the Proposed Project northern segment (SCMTD 2021).

Rail Operations

There is currently no passenger rail service in Santa Cruz County. However, the Santa Cruz Big Trees and Pacific Railway Company operates a tourist-oriented passenger service between Felton and the Santa Cruz Beach Boardwalk on its nine-mile track line from Santa Cruz to its current terminus at Roaring Camp. The service was provided daily during mid-June through the end of August, and weekends and holidays in May, early June, September through October, late November, and December. In the past year, the train services was provided on weekends. The trains run twice in each direction every day during regular operations. A rail crossing on Graham Hill Road exists south of the road's intersection with East Zayante Road.

4.11.1.3 Existing Traffic Conditions

Vehicle Traffic

Vehicle traffic conditions are measured by average daily traffic (ADT), peak-hour traffic volumes, level of service (LOS), average delay, and/or volume-to-capacity (V/C) ratio. Average daily traffic is the total number of cars passing over a segment of the roadway, in both directions on an average day. Peak-hour volumes are the total number of cars passing over a roadway segment during the peak hour in the morning (AM) or afternoon/evening (PM).

To evaluate the performance of roadways and levels of traffic congestion, many jurisdictions, including Santa Cruz County, use the LOS measurement. LOS is a scale that describes the level of traffic congestion and delay at intersections or on roadway segments based on the amount of auto traffic that a roadway or intersection can accommodate and factors such as maneuverability, driver dissatisfaction, and delay. Traffic flows along local streets typically are controlled by the volume and capacity of the nearest intersection. Intersections are rated based on a scale of LOS A through LOS F, with LOS A representing free-flowing conditions and LOS F

representing congested conditions. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

The Santa Cruz County General Plan Circulation Element Policy 3.12.1 considers LOS C as its objective and LOS D as the minimum acceptable LOS (County of Santa Cruz 1994). Caltrans, which has jurisdiction over state highways, endeavors to maintain a target LOS at the transition between LOS C and D. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If a state highway facility is operating at less than the appropriate target LOS under existing conditions, the existing LOS should be maintained (Caltrans, 2002).

Existing Annual Average Daily Traffic Volumes

Traffic count data are available for state highways and arterials within Santa Cruz County. According to the most recent available traffic count data from Caltrans (2019), average daily traffic volumes for the most-traveled segments of Highways 9 and 17 within Santa Cruz County were 25,000 and 85,000 vehicles, respectively (Caltrans, 2019). Truck volumes on the most-traveled segments of Highways 9 and 17 within Santa Cruz County were 1,800 and 2,100 trucks per day, respectively (Caltrans, 2019).

Table 4.11-1 shows the average annual daily traffic (AADT) for roadways in the Project vicinity based on 2019 data where available. The County of Santa Cruz keeps a geographic information system (GIS) with traffic count data that they have received or conducted. The County GIS map provided traffic counts for Graham Hill Road, Sims Road, and Mount Hermon Road. Traffic on Graham Hill Road and Sims Road were counted in 2019 while Mount Hermon Road was counted in 2012 (HDR 2021). The most recent County data (2019) identify approximately 3,700 ADT on Glen Arbor Road. The table also shows projected volumes in the year 2024 based on forecasts in the SCCRTC’s traffic model. The SCCRTC travel demand model was used to develop a growth rate between the 2019 and 2040 volume outputs. The growth rate was calculated as 0.8% per year, which was used to estimate traffic volumes in the year 2024 when several of the Proposed Project pipeline sections would be under construction.

Table 4.11-1. Roadway Average Annual Daily Traffic Volumes

Road	Existing (Year)	Future (2024)
Graham Hill Road	14,980 (2019)	15,600
Mount Hermon Road	19,130 (2012)	21,060
Sims Road	4,140 (2019)	4,310
Highway 9	8,860 (2019)	9,230
Highway 17	89,670 (2019)	93,340

Source: HDR 2021.

4.11.1.4 Planned Transportation System Improvements

Metropolitan Transportation Improvement Program

AMBAG, as the designated Metropolitan Planning Organization (MPO) for the Monterey Bay area, is required by state and federal laws to develop and adopt a Metropolitan Transportation Improvement Program (MTIP), a multi-year transportation project program that includes multi-modal projects, including but not limited to major

highway, arterial, transit, bikeway, and pedestrian projects. The 2016 MTIP is a four-year program that covers the federal fiscal years from October 1, 2016 through September 30, 2020. The MTIP implements the 2040 Monterey Bay Area Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) adopted by the AMBAG Board of Directors in June 2018. The 2040 MTP/SCS is a financially constrained document and includes identified transportation improvement projects for the region. Planned projects along access routes to the NCP include: pavement maintenance and replacement along a segment of Mt. Hermon Road; pavement maintenance on Glen Arbor Road; and multimodal improvements on Graham Hill Road from the City of Santa Cruz to Highway 9. AMBAG is in the process of preparing the 2045 MTIP.

Regional Transportation Plan Improvements

The SCCRTC periodically completes a Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) according to state guidelines to guide short- and long-range transportation planning and project implementation for the County. The 2018 RTP provides guidance for transportation policy and projects through the year 2040. Projects identified in the RTP that are within the project vicinity include the long-term improvements listed below. Improvements that are currently programmed and funded are included in the cumulative projects list shown on Table 4.0-1 in Section 4.0, Introduction to Analysis.

- Glen Arbor Road Improvements: Roadway and roadside improvements on the entire length of Glen Arbor Road, including bicycle lanes, transit turnouts, left turn pockets, merge lanes, and intersection improvements. Roadwork includes major rehabilitation of the road and roadsides.
- Glen Arbor Road Recycle, Overlay, and Chip Seal: Pavement recycling, asphalt overlay, chip seal, restriping, and installation of a subdrain on 0.52 miles of Glen Arbor Road from Highway 9 to Quail Hollow Road.
- Graham Hill Road Multimodal Improvements: From the City of Santa Cruz to Highway 9, bicycle lanes, sidewalks, transit turnouts, merge lanes, traffic signals, major rehabilitation and maintenance, drainage improvements, and a signal upgrade at Highway 9 (also listed in MTP/SCS).
- Mount Hermon Road Improvements: Roadway and roadside improvements from Lockhart Gulch to Graham Hill Road, including bicycle lanes, transit turnouts, left turn pockets, merge lanes, and intersection improvements (also listed in MTP/SCS).
- Quail Hollow Road Bridge Replacement Project: Complete replacement of the existing two-lane structure and roadway approaches with a two-lane, clear-span, concrete bridge and standard bridge approaches (also listed in County CIP).
- Quail Hollow Road Improvements: Road rehabilitation, maintenance, and improvements along the entire length of Quail Hollow Road from East Zayante Road to Glen Arbor Road, including left lane pockets, sidewalks, bicycle lanes, and transit turnouts.
- Rancho Rio Ave at Newell Creek Bridge Replacement Project: Replacement of the existing one-lane structure and roadway approaches with a two-lane, clear-span, concrete slab bridge and standard bridge approaches (also listed in County CIP).
- San Lorenzo River Valley Trail: 15-mile, paved multi-use path for bicyclists and pedestrians from Boulder Creek to Santa Cruz.
- San Lorenzo Valley Trail: Highway 9 – Downtown Felton Bike Lanes & Sidewalks: Installation of sidewalks and bicycle lanes on Highway 9 through downtown Felton (also listed in MTP/SCS).

- San Lorenzo Valley Trail: Highway 9 – North Felton Bike Lanes & Sidewalks: Installation of sidewalk/pedestrian path, shoulder widening to 5 feet to accommodate bicycle lanes from Felton-Empire/Graham Hill Road to Glen Arbor Road, Ben Lomond, including new and replacement bicycle and pedestrian bridges (also listed in MTP/SCS).
- San Lorenzo Way Bridge Replacement Project: Replacement of the existing one-lane structure and roadway approaches with a two-lane, clear-span bridge and standard bridge approaches (also listed in County CIP).
- Highway 17 Access Management: Operational improvements to existing facilities, including ramp modifications, acceleration/deceleration lanes, turning lanes, driveway consolidation, driveway channelization, etc.

Santa Cruz County Planned Improvements

The County's Final 2020-2021 Capital Improvement Program (CIP) presents a five-year financing implementation plan for capital improvements within the unincorporated County. Programmed projects nearest to the Proposed Project sites include the Lompico Road Bridge Replacement over Lompico Creek north of Felton, the Rancho Rio Avenue Bridge Replacement over Newell Creek in Ben Lomond east of the Proposed Project, the Quail Hollow Road Bridge Replacement over Zayante Creek east of the Proposed Project, and the San Lorenzo Way Bridge Replacement over the San Lorenzo River west of the Proposed Project.

Planned State Highway Improvements

Highway 17

Highway 17 connects Santa Cruz with Scotts Valley and San Jose and other Santa Clara County communities. Unlike other expressways or freeways, Highway 17 provides local access to many neighborhoods via local street intersections and driveways. Because of this contrast, several challenges stem from an imbalance between access and mobility, and mountainous terrain further limits many standard transportation projects. As a result of these issues, Caltrans has partnered with SCCRTC and Santa Cruz County on the Highway 17 Access Management Plan to address these challenges. The Highway 17 Access Management Plan represents a long-range planning-level study, which is the first step in a long process. The preliminary objectives of the plan include reducing conflict points and preserving the function and operation of the Highway 17 corridor as well as the local road network.

Highway 9

The *Transportation Concept Report for State Route 9* (Caltrans 2007) identifies long-range needs for active transportation on Highway 9. The SCCRTC's *Highway 9/San Lorenzo Valley Complete Streets Corridor Plan* is a planning study that provides a vision, guiding principles, and realistic strategies to improve how people get around the SLV. This plan focuses on the section of Highway 9 which serves as the "Main Street" and economic center for the towns, villages, and communities of Felton, Ben Lomond, Brookdale, and Boulder Creek, as well as connecting county maintained roads (SCCRTC 2019). Priorities identified in the plan improve safety for pedestrians, bicyclists and motorists; improve access to schools, businesses, residences, and transit; and improve traffic operations throughout this travel corridor. Some of the highest priorities for the corridor in the vicinity of the Proposed Project sites include the following:

- SLV Schools Campus Circulation: Improve traffic flow and bike and pedestrian access to SLV elementary, middle, and high schools
- Highway 9/Graham Hill Road Intersection: Redesign intersection to improve circulation, pedestrian, and bicycle access through the intersection
- Felton: Pedestrian, roadway, and parking modifications
- Ben Lomond: multimodal improvements in the town center and Highlands Park connection on Highway 9

4.11.2 Regulatory Framework

4.11.2.1 Federal

There are no federal regulations related to transportation that are directly applicable to the Proposed Project.

4.11.2.2 State

Caltrans manages the state’s highway facilities. Caltrans is responsible for constructing, enhancing, and maintaining the state highway and interstate freeway systems. Any change to the state roadway system requires an encroachment permit from Caltrans.

California Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which created a process to change the way transportation impacts are analyzed under the California Environmental Quality Act (CEQA). SB 743 required the Governor’s Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) as the metric for evaluating transportation/traffic impacts. Under the new transportation guidelines, LOS or vehicle delay, will no longer be considered an environmental impact under CEQA. Amendments to the CEQA Guidelines required under SB 743 were approved on December 28, 2018, and the new section 15064.3 identifies vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA and is currently being implemented as of July 1, 2020. Related legislation, SB 32 (2016) requires California to reduce greenhouse gas emissions 40% below 1990 levels by 2030. The California Air Resources Board has determined that it is not possible to achieve this goal without reducing VMT growth and specifically California needs to reduce per capita VMT across all economic sectors. SB 743 is primarily focused on passenger-cars and the reduction in per capita VMT as it relates to individual trips.

The OPR Technical Advisory (OPR 2018) provides guidance and tools to properly carry out the principles within SB 743 and how to evaluate transportation impacts in CEQA. Both the City and County of Santa Cruz have adopted VMT thresholds as described in Section 4.11.2.3.

4.11.2.3 Local

A number of regional and local agencies are involved with transportation planning and implementation of transportation programs and improvements within the Santa Cruz County. The County maintains local

roadways and transportation facilities. As previously indicated, Caltrans has jurisdiction over state highway segments that traverse the County, including portions of Highways 9 and 17.

AMBAG is the federally designated MPO for transportation planning activities in the tri-county Monterey Bay region (Santa Cruz, Monterey, and San Benito counties). It is the lead agency responsible for developing and administering plans and programs to maintain eligibility and receive federal funds for the transportation systems in the region. AMBAG conducts regional transportation planning activities through the MTP, maintenance of a regional travel demand model, and demographic forecasts. AMBAG works with regional transportation planning agencies, transit providers, state and federal governments, and organizations having interest in or responsibility for transportation planning and programming.

The SCCRTC is the state-designated Regional Transportation Planning Authority for transportation planning activities in Santa Cruz County. SCCRTC oversees planning and funding programs for local and countywide projects within Santa Cruz County using state and federal transportation funds.

City of Santa Cruz

SB 743 Implementation - VMT Threshold

On June 9, 2020 the City of Santa Cruz City Council enacted Resolution NS-29, which adopts a VMT threshold as the new transportation measure of environmental transportation impacts. The threshold generally establishes that a project exceeding a level of 15% below the County-wide average VMT may result in a significant transportation impact. The City has published procedures and guidelines for how best to implement SB 743 and VMT analysis for projects occurring within the City (City of Santa Cruz 2020). VMT is analyzed based on the type of land use and then screened for non-significant transportation impacts. The guidelines closely follow the recommendations and procedures as stated in the OPR Technical Advisory document described in Section 4.11.2.1. For projects not screened out for non-significant transportation impacts, a VMT analysis utilizing the City's Travel Demand Model is required. The Travel Demand Model estimates daily trips based on various trip purposes within each Traffic Analysis Zone (TAZ) as well as local demographics based on employment and population. Finally, Transportation Demand Management (TDM) strategies and VMT reduction based on the land use analyzed are available to reduce VMT to less-than-significant levels.

General Plan

As required by State of California law, the City of Santa Cruz has adopted the General Plan 2030 document as the most recent update to their general plan (City of Santa Cruz 2012). Within the General Plan, the Mobility Element sets forth policies to ease the ability of people and vehicles to move around the City (City of Santa Cruz 2012). Specific policies identified in the Circulation Element that are relevant to the Proposed Project are identified below.

- M3.2.1 Maintain the condition of the existing road system.
- M3.2.2 Ensure safe and efficient arterial operations.

County of Santa Cruz

SB 743 Implementation - VMT Threshold

The County of Santa Cruz adopted a VMT threshold in 2020 and has published guidelines for the implementation of SB 743 as it pertains to VMT (County of Santa Cruz 2020). Similar to what is described in the OPR Technical Advisory and the City's VMT threshold, the County's VMT threshold generally establishes that a project exceeding a level of 15% below the County-wide average VMT may result in a significant transportation impact. The County Guidelines indicate that the VMT analysis process is based on the type of land use and can be screened out for a less-than-significant transportation impact based on a variety of factors, including: small projects, projects near high quality transit, local-serving retail, affordable housing, local essential services, map-based screening, and specified redevelopment projects.

If a project is unable to be screened out, and is not within an area where average VMT is below or at the County's VMT threshold level as indicated by the map-based screening figures located within the County's VMT guidelines, then further analysis is required by utilizing the County's "Sketch Planning Tool" or otherwise having a qualified transportation consultant analyze the project's VMT by using the Santa Cruz County Travel Demand Model. The Santa Cruz County Travel Demand Model estimates daily trips based on various trip purposes within each TAZ as well as local demographics based on employment and population. Finally, TDM strategies and VMT reduction based on the land use analyzed are available to reduce VMT to less-than-significant levels.

General Plan

As required by State of California law, the County has adopted a General Plan and Local Coastal Program that work in tandem with each other to create and address goals and policies as related to the transportation system of the County. Within the General Plan, the Circulation Element serves as the key policy statement of the County regarding transportation facilities serving unincorporated areas (County of Santa Cruz 1994). The Circulation Element contains several policies and programs that fulfill this purpose..

- **3.12.1. Level of Service (LOS) Policy:** In reviewing the traffic impacts of proposed development projects or proposed roadway improvements, LOS C should be considered the objective, but LOS D as the minimum acceptable (where costs, right-of-way requirements, or environmental impacts of maintaining LOS under this policy are excessive, capacity enhancement may be considered infeasible). Review development projects or proposed roadway improvements to the Congestion Management Program network for consistency with Congestion Management Plan goals.

Proposed development projects that would cause LOS at an intersection or on an uninterrupted highway segment to fall below D during the weekday peak hour will be required to mitigate their traffic impacts. Proposed development projects that would add traffic at intersections or on highway segments already at LOS E or F shall also be required to mitigate any traffic volume resulting in a 1% increase in the volume/capacity ratio of the sum of all critical movements. Projects shall be denied until additional capacity is provided or where overriding finding of public necessity and or benefit is provided.

Encroachment Permits

For any construction in the public right-of-way, the County requires an encroachment permit. The associated fee and permit process are described in the Santa Cruz County Code, Chapter 9.70, Streets and Roads. As part of the encroachment permit process, if pedestrian, bicycle, or vehicle traffic would be impacted, a traffic control plan must be provided. Several provisions are provided on the encroachment permit application (County of Santa Cruz 2021a).

4.11.3 Impacts and Mitigation Measures

This section contains the evaluation of potential environmental impacts associated with the Proposed Project related to transportation. The section identifies the thresholds of significance used in evaluating the impacts, describes the methods used in conducting the analysis, and evaluates the Proposed Project's impacts and contribution to significant cumulative impacts, if any are identified. Mitigation measures are presented for identified significant or potentially significant impacts, and the level of significance with mitigation also is identified.

4.11.3.1 Thresholds of Significance

The thresholds of significance used to evaluate the impacts of the Proposed Project related to transportation are based on Public Resources Code Section 15064.3, Appendix G of the CEQA Guidelines and the VMT thresholds and Implementation Guidelines adopted by Santa Cruz County and the City of Santa Cruz described in Section 4.11.2.3. A significant impact would occur if the Proposed Project would:

- 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. Cause an increase in VMT which is greater than 15% below the regional average VMT.
- D. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- E. Result in inadequate emergency access.
- F. Substantially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

4.11.3.2 Analytical Methods

The impact analyses in this section evaluate the potential for construction-related traffic impacts. Project construction would occur over multiple years, with the first construction period occurring between approximately late 2022/early 2023 and early 2025, and the remaining pipe sections in the northern segment would be constructed in 2030 to 2032. The construction phases of the Proposed Project are analyzed based on the construction scenario developed in Chapter 3, Project Description, and summarized on Table 3-4.

The Brackney North, Graham Hill Road North, and Graham Hill Road South pipe sections would be constructed first with an estimated construction schedule of about 24 months for the Graham Hill Road sections and

approximately 9 months for the Brackney North section, including pipeline installation, road repaving, abandonment of the existing NCP, and post-construction revegetation where needed.

Construction would be scheduled on weekdays generally between 8 AM and 5 PM, except construction along Graham Hill Road would be scheduled on weekdays between the hours of 8 AM and 4 PM with road lane closures only permitted between 9 AM and 3 PM, consistent with County of Santa Cruz encroachment permit requirements.

Once the Proposed Project construction is complete, operations would include continued implementation of pump start-up and valve operations at the Felton Booster Pump Station, when needed to pump water to/from Loch Lomond Reservoir as currently exists. Once installed, maintenance of the pipeline would include intermittent, periodic inspections and maintenance of air valves with access provided to the pipeline sections by existing roads and easements. The Brackney North pipeline section likely would have air valves on either end of the new pipeline and would not need to be accessed in the future unless removed for replacement. No new unpaved areas would be created that would require maintenance.

Application of Relevant Standard Practices

The City has adopted standard construction practices (see Section 3.6.6, Standard Construction Practices) that would be implemented by the City or its contractors during construction to avoid or minimize impacts. However, there are no City Standard Construction Practices applicable to transportation that are part of the Proposed Project.

Impacts have been evaluated with respect to the thresholds of significance, as described above. In the event adverse environmental impacts would occur even with consideration of applicable policies and regulations, impacts would be potentially significant, and mitigation measures are provided to reduce impacts to less-than-significant levels.

4.11.3.3 Project Impact Analysis

Areas of No Impact

The Proposed Project would not have impacts with respect to the following thresholds of significance as described below.

- **Geometric Design Hazards (Significance Threshold D).** The Proposed Project would not result in operation of new facilities and would not change existing roadway configurations or designs. Therefore, the Proposed Project would not result in direct permanent impacts associated with hazardous design features, such as sharp curves or dangerous intersections or incompatible land uses.

Project Impacts

Impact TRA-1: Conflict with Program, Plan, Ordinance, or Policy Addressing the Circulation System (Significance Threshold A). Construction and operation of the Proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. *(Less than Significant)*

Construction

All of the Proposed Project pipeline section locations are located within unincorporated Santa Cruz County. Construction-related trips would use roadways immediately adjacent to the pipeline sections, as well as other local and regional roads and highways to access the construction site.

There are no known programs, plans, ordinances or policies that address effects construction activities on the circulation system, including, transit, road, bicycle or pedestrian facilities. During construction, there would be temporary lane closures during weekdays along Graham Hill Road in the Proposed Project southern segment, and potentially along Glen Arbor Road and Newell Creek Road in the Proposed Project northern segment. Traffic controls would be implemented to minimize traffic delays. There would be overlapping construction schedules with the Graham Hill Road and Brackney North sections, resulting in temporary construction trips as summarized on Table 4.11-2 in Impact TRA-4. However, these trips would not create a measurable impact to any roadway or intersection in the area and would not conflict with the County of Santa Cruz’s LOS policy. Construction would result in temporary traffic that would be eliminated from the roadway network upon completion of construction, and the Proposed Project does include widening or inducing travel on County roadways. Construction would not affect bicycle or pedestrian facilities as none exist in the areas of proposed construction. Construction-related trips and lane closures could result in temporary delays, but would not impede service. Further, construction of the Proposed Project would not conflict with any of the planned multimodal improvements in the area discussed in Section 4.11.1.4. Effects of construction-related trips and lane closures on emergency access is discussed in Impact TRA-3.

Operations

Once Project construction is complete, operations would entail routine inspection and maintenance by City staff as currently exists for the existing NCP with no expected increase in daily vehicle trips. Thus, roadway operations in the area would not substantially differ from existing conditions. The Proposed Project would not increase roadway capacity, generate a permanent increase in traffic, or change traffic patterns that could cause an impact to the circulation system including transit, roadway, bicycle, and pedestrian facilities. Therefore, operation of the Proposed Project would not conflict with adopted policies, plans, or programs addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities. As such, construction and operation of the Proposed Project would result in a less-than-significant impact.

Mitigation Measures

As described above, the Proposed Project would not result in a significant impact related to conflicts with adopted policies addressing the circulation system, and therefore, no mitigation measures are required.

Impact TRA-2: Vehicle Miles Traveled (Significance Thresholds B and C). Construction and operation of the Proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) or cause an increase in VMT that exceeds City and County thresholds (greater than 15% below the regional average VMT). (*Less than Significant*)

The Proposed Project would not result in operation of new facilities or increases in trips associated with routine maintenance and operations, and therefore, would not directly generate new VMT or conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b). Therefore, Project operations would have no direct impacts related to changes in VMT. The Proposed Project would result in temporary increased trips during construction, but once completed, would not generate increased trips aside from existing maintenance of the NCP.

CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The Proposed Project is not a land use or transportation project, and therefore, would be categorized under (3), qualitative analysis, as this Subdivision (b)(3) recognizes that lead agencies may not be able to quantitatively estimate VMT for every project type. In these situations, lead agencies are directed to evaluate factors such as the availability of transit, proximity to other destinations, and other factors that may affect the amount of driving required by the project. Additionally, Subdivision (b)(3) indicates that a qualitative analysis of construction traffic is often appropriate.

A qualitative analysis of VMT is provided in this analysis because the Proposed Project consists of temporary construction-related trips as described in Impact TRA-3. The construction of the Proposed Project would not generate any permanent trips and would not require widening of existing roadways or construction of new roadways. Once construction is completed, VMT would return to pre-project conditions and all temporary, construction-related VMT would be eliminated. Therefore, construction of the Proposed Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) and impacts would be less than significant.

OPR’s Technical Advisory provides several “screening thresholds” that may be applied to identify land use projects that should be expected to cause a less-than-significant VMT impact without detailed study; specifically, the “screening threshold for small projects” states that projects that generate fewer than 110 daily trips generally may be assumed to cause a less-than-significant impact (OPR 2018). As of October 2020, the County of Santa Cruz has published guidelines for the implementation of SB 743, along with screening criteria that uses the guidance published within the OPR technical advisory as a reference point. Specifically, the guidance excludes from further analysis “small projects” that generate fewer than 100 net new trips per day. The City of Santa Cruz also has developed implementation guidelines for SB 743, including the same screening criteria that excludes “small projects” that generate less than 110 trips per day from further analysis, which matches the recommended guidance within the OPR Technical Advisory. However, neither OPR nor the County or City’s VMT guidelines provide additional guidance for temporary, construction-related trips. Construction traffic and trips would be completely eliminated upon completion of construction, and therefore, there would be no permanent daily trips added to County roadways and VMT would not be increased due to the Proposed Project.

Therefore, Proposed Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) or cause an increase in VMT which is greater than 15% below the regional average VMT, the VMT threshold adopted by both the City and County. Therefore, impacts would be less than significant.

Mitigation Measures

As described above, the Proposed Project would not result in significant impacts related to increased VMT, and therefore, no mitigation measures are required.

Impact TRA-3: Emergency Access (Significance Thresholds E, and F). Construction of the Proposed Project would not result in inadequate emergency access or impair implementation of or interfere with an emergency evacuation plan. *(Less than Significant)*

The Proposed Project would be constructed along roadways within the unincorporated area of Santa Cruz County. The construction of the Project would result in a temporary increase in local trips as a result of construction-related workforce traffic, material deliveries, and construction activities. The primary impacts would include short-term and intermittent delays due to lane closures. All construction traffic and parking would occur within designated staging areas as shown on Figures 3-6, 3-9, 3-10, 3-11, and 3-19 in Chapter 3, Project Description.

Construction of the first three pipe sections (Brackney North, Graham Hill North and Graham Hill South) were evaluated as they have overlapping construction schedules, which would involve trips related to equipment, materials, and workers using the same roadways. The construction activities would occur primarily between 9:00 AM and 3:00 PM, Monday through Friday along Graham Hill Road and from approximately 8 AM to 5 PM for the other Proposed Project pipe sections. To provide a conservative analysis, all workers were assumed to arrive during the AM peak hour and leave the site during the PM peak hour and all truck trips were averaged for an 8-hour workday to estimate peak hour trips, except the Graham Hill Road pipe sections would have a 7-hour work day. The number of truck trips were converted using Passenger Car Equivalency (PCE) factors to more accurately account for the effect of construction trucks on the circulation system. All truck trips were converted to PCE trips using a factor of 2.0 PCE for vendor trucks and 3.0 PCE for haul trucks. The trip generation estimates of the overlapping construction phases that constitute the peak construction phase are shown in Table 4.11-2.

As shown in Table 4.11-2, the Proposed Project peak phase of construction activities would generate approximately 104 to 156 daily trips, 34 to 44 AM peak hour trips (32 to 37 inbound and 2 to 7 outbound), and 34 to 44 PM peak hour trips (2 to 7 inbound and 34 to 44 outbound). With the application of PCE factors to truck trips, the Proposed Project would generate approximately 172 to 316 total PCE daily trips, 48 to 68 PCE trips during the AM peak hour (39 to 49 inbound and 9 to 19 outbound) and 48 to 68 PCE trips during the PM peak hour (9 to 19 inbound and 39 to 49 outbound). This table shows the trips generated during construction of the first three pipe sections. Future installation of the other pipe sections in the northern segment would result in fewer trips as there are no overlapping construction schedules as shown on Table 3-4 in Section 3, Project Description.

Table 4.11-2: Estimated Maximum Daily and Peak Hour Project Construction Trips¹

Vehicles Generated		Daily ²	AM Peak Hour			PM Peak Hour		
Type	Amount	Trips	In	Out	Total	In	Out	Total
Brackney North Section								
Workers	12 vehicles	24	12	0	12	0	12	12
Deliveries	6-8 vehicles	12-16	0-1	0-1	0-2	0-1	0-1	0-2
Haul Materials	1-5 vehicles	2-10	0-1	0-1	0-2	0-1	0-1	0-2
Graham Hill Road Sections								
Workers	18 vehicles	36	18	0	18	0	18	18
Deliveries	8-16 vehicles	8-16	0-1	0-1	0-2	0-1	0-1	0-2
Haul Materials	22-54 vehicles	22-54	2-4	2-4	4-8	2-4	2-4	4-8
TOTAL TRIPS		104-156	32-37	2-7	34-44	32-37	2-7	34-44
PASSENGER-CAR EQUIVALENCE (PCE)								
Brackney North Section								
Workers	12 vehicles	24	12	0	12	0	12	12
Deliveries (2.0 PCE)	6-8 vehicles	24-32	1-2	1-2	2-4	1-2	1-2	2-4
Haul Materials (3.0 PCE)	1-5 vehicles	6-30	1-3	1-3	2-6	1-3	1-3	2-6
Graham Hill Road Sections								
Workers	18 vehicles	36	18	0	18	0	18	18
Deliveries (2.0 PCE)	8-16 vehicles	16-32	1-2	1-2	2-4	1-2	1-2	2-4
Haul Materials (3.0 PCE)	22-54 vehicles	66-162	6-12	6-12	12-24	6-12	6-12	12-24
TOTAL PCE TRIPS		172-316	39-49	9-19	48-68	9-19	39-49	48-68

Notes: PCE = Passenger Car Equivalents.

¹ This table shows the first trips generated during construction of the first three pipe sections. Future development in the other pipe sections in the northern segment would result in fewer trips as there are no overlapping construction schedules.

² Daily trips represent the number of trips to and from the project component site (i.e., two trips represent one vehicle traveling to the work area and leaving the work area).

SOURCE: City of Santa Cruz Water Department, Carollo Engineers, Mott MacDonald

All construction traffic that would be generated as a result of the Proposed Project would be temporary. However, installation of the Proposed Project within public roadways would require temporary lane closures in some locations with implementation of traffic controls established in a traffic control plan. Construction and staging areas would be located to not block any egress or ingress points to existing roads or private driveways, except when construction occurs immediately adjacent to private properties. The following project components could result in temporary lane closures: project mobilization, trenching for pipe installation, road repaving, and revegetation, if needed adjacent to roadways.

Due to pipe installation in roadways, it is expected that temporary lane closures and traffic controls would be required for the following pipeline sections as further described below:

- Northern segment: Newell Creek Road, Glen Arbor Drive, San Lorenzo Way sections
- Southern segment: Graham Hill Road North and South sections.

Northern Segment

Construction of the Brackney North pipe section may require intermittent road closures, however the majority of construction activities would take place off-road and would not require road closures. Construction vehicles

going to the construction site have access using Glen Arbor Road and Brackney Road. The signal at the Highway 9/Glen Arbor Road intersection would allow construction haul trucks to access the northern end of the Brackney North construction site. The Highway 9/Brackney Road intersection is at an angle which could present a safety issue for construction haul trucks leaving the site and turning right or left onto Highway 9. It is estimated there would be 16 construction haul trucks accessing the site using Brackney Road per day for nine months during construction. Traffic flaggers would be utilized to stop traffic to allow construction haul trucks to safely exit Brackney Road. The traffic flaggers would follow standards outlined by California Manual on Uniform Traffic Control Devices (CA MUTCD) (HDR 2021).

Daily, temporary and intermittent road closures are also anticipated when construction occurs in the Newell Creek Road and Glen Arbor Road pipe sections. It is expected that one lane would be closed during the daily work period with traffic controls as established in a traffic control plan that would be required by the County. Different segments of the road lanes would be closed as needed as the pipeline installation progresses down the roadway.

Southern Segment

Construction of the Graham Hill Road North and South sections would require closure of one lane during the work period (9 AM to 3 PM) on weekdays. Traffic controls would be implemented in accordance with a Traffic Control Plan required as part of issuance of a County roadway encroachment permit. The temporary lane closure on Graham Hill Road was analyzed to determine the impacts the construction activities would have on vehicles traveling on Graham Hill Road (HDR 2021). Conservatively, the construction activity was analyzed for 2024 model traffic. The following assumptions were made for the construction analysis: 1) full road closure would not be required; 2) typical work hours are from 9:00 AM to 3:00 PM; and 3) the road needs to be cleared by 4:00 PM in accordance with County requirements (HDR 2021).

A one-way, two-lane analysis was conducted for the typical day from 9:00 AM to 3:00 PM. The analysis assumed a 25 miles per hour posted construction speed limit and a 25-foot spacing for queue vehicles. It is recommended that the closure length be 0.5-mile or less as the additional delay and queue would not impact the residential nature of Graham Hill Road as much as larger closure lengths, which would result in the road exceeding capacity (at 0.8-mile of closure) during certain hours or excess queue lengths (at 0.75-mile of closure). Also, there is not an hour in which the 0.5-mile closure would cause an overcapacity of the roadway which would lead to very long queues and delay times. The one-way two-lane operation would follow the California Manual on Uniform Traffic Control Devices for flagger, sign, and striping requirements (HDR 2021).

With a 0.5-mile or less closure length, there are not expected to be any vehicles diverting to other routes as the additional delay due to the temporary lane closure is less than the additional travel time required to divert around the work area. Therefore, the primary impact of construction activities for the Proposed Project southern segment would be on Graham Hill Road. Road detours during construction are not recommended as other roadways are congested and there would be no noticeable travel time savings (HDR 2021). However, changeable message signs would be set up in the north by the Graham Hill Road/Highway 9 intersection and in the south by Ocean Street in Santa Cruz to inform the public to expect delays on Graham Hill Road, as will be further specified in the traffic control plan (HDR 2021).

Traffic Control Plans

Where construction would take place in public roadways, encroachment permits would need to be obtained in most cases from the County of Santa Cruz for work done within the public right-of-way, as described in Section 4.11.2.3, Local Regulatory Setting. The issuance of encroachment permits requires submission of traffic control plans. Implementation of these plans and requirements would ensure that access for emergency vehicles would be maintained during construction. The project areas of construction would be accessible to emergency responders and associated vehicles during construction and operation of the Proposed Project. Typical components of a traffic control plan that are proposed to be included in the traffic control plan for construction along Graham Hill Road include:

- Temporary traffic control devices or flaggers in accordance with the Federal Highway Administration Manual on Uniform Traffic Control Devices
- Notification to the appropriate jurisdiction to identify locations where construction is ongoing. This may include slow-moving-vehicle warning signs, signage to warn of merging trucks, barriers for separating construction and non-construction traffic, use of traffic control flag personnel during temporary lane closures, and any additional measures required for the sole convenience of safely passing non-construction traffic through and around construction areas.
- Scheduling of heavy truck traffic hauling materials and equipment to the site during non-peak periods to the maximum extent possible. Scheduling of worker shift changes so as not to coincide with existing background traffic peak periods if feasible.
- Establish procedures for coordinating with local emergency response agencies to ensure dissemination of information regarding emergency response vehicle routes affected by construction activities to ensure accessibility at all times in case of emergency.
- Limit lane closures during peak traffic periods.

Construction of the Proposed Project would comply with all applicable local requirements for work within and along public rights-of-way (ROWs), and with implementation of the required traffic control plan, would not result in inadequate emergency access. Roadways would remain open, and with traffic controllers, emergency vehicles would have access maintained during the daily construction period when lane closures would occur. Similarly, the Proposed Project would not increase operational traffic and vehicle trips associated with routine maintenance of facilities, as described in Impact TRA-1. The Proposed Project would not obstruct implementation of evacuation routes during daily lane closures. In the event of a major emergency that would require area-wide evacuations, daily construction would be halted and lanes opened.

Additionally, the Proposed Project would not impair implementation of or interfere with an emergency evacuation plan. The Santa Cruz County Office of Response, Recovery & Resilience (OR3) was created in December 2020 and serves as the emergency management office for responding to ongoing disasters. Evacuations are frequently a response to natural disasters in order to protect people from potential harm. People may be evacuated because they are in the direct path of a natural disaster or because emergency responders may lose the ability to rescue residents due to road closures. The County uses a variety of methods to notify residents when an evacuation is necessary. These include reverse 911 calls, text or phone messages through Code Red (for those who have signed up) and/or door to door notifications. Evacuation areas are determined by the incident command team, who are in charge of responding to the disaster (Santa Cruz County Office of Response, Recovery & Resilience 2021).

Therefore, the Proposed Project's impacts associated with inadequate emergency access or obstruction of implementation of evacuation plans would be less than significant.

Mitigation Measures

The Proposed Project would not result in significant impacts related to inadequate emergency access or obstruction of evacuation plans, and therefore, no mitigation measures are required.

4.11.3.4 Cumulative Impacts Analysis

This section provides an evaluation of cumulative transportation impacts associated with the Proposed Project and past, present, and reasonably foreseeable future projects, as identified in Table 4.0-1 in Section 4.0, Introduction to Analyses, and as relevant to this topic. The geographic area for the analysis of cumulative impacts related to transportation consists of the Proposed Project sites along various public roadways that would support haul truck, vendor truck, and worker vehicle access to the component sites.

Impact TRA-4: Cumulative Transportation Impacts (Significance Thresholds A, B, C, D, E, and F). The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to transportation. *(Less than Significant)*

The construction of the Proposed Project would occur over several phases, beginning in late 2022 and ending in 2031. As shown in Table 4.0-1, there are two cumulative projects that are located at or near the Project sites that could be under construction during this same period of time as the Proposed Project. Table 4.0-1 displays the estimated construction schedule for cumulative projects, where known. The only cumulative projects with an overlap of construction schedules are two improvement projects at the GHWTP (Concrete Tanks Project and Facility Improvement Project). Other cumulative projects using roads within the Proposed Project construction areas would be completed before Proposed Project construction begins (Newell Creek Dam Inlet/Outlet Improvement Project and San Lorenzo Way Bridge Replacement) or would occur after completion of the Graham Hill Road pipe sections (intertie pipeline with Scotts Valley, for which no project timeline has been established).

Construction of the GHWTP projects would result in temporary increases in daily trips due to worker, delivery and haul trips, but would not use the portion of Graham Hill Road where the Proposed Project is located, except for the entrance to the GHWTP. The GHWTP cumulative projects would not require lane closures as construction would occur on the GHWTP site. Therefore, cumulative impacts related to transportation resulting from construction activities within/along Graham Hill Road would not be significant. Cumulative projects could add minimal trips related to operation and maintenance, but the Proposed Project would not add new operational trips, and thus would not contribute to cumulative operational transportation impacts. Therefore, construction and operation of the Proposed Project in combination with other cumulative projects would not be expected to conflict with adopted policies addressing the circulation system or conflict with or exceed VMT thresholds as there would be no cumulative impacts to roadways used during Project construction. Similarly, construction of the Proposed Project in combination with other cumulative projects would not be expected to create hazardous roadway conditions or inadequate emergency access as other cumulative projects are not expected to result in lane closures along Graham Hill Road, Glen Arbor Road, or Newell Creek Road. Therefore, no significant cumulative transportation impacts would occur.

4.11.4 References

- Association of Monterey Bay Area Governments (AMBAG). 2018a. 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy and Regional Transportation Plans for Monterey, San Benito, and Santa Cruz Counties: Final Environmental Impact Report. SCH#2015121080. June 2018.
- Association of Monterey Bay Area Governments (AMBAG). 2018b. *Moving Forward Monterey Bay 2040*. Adopted June 13, 2018. Available online at: <https://www.ambag.org/plans/2040-metropolitan-transportation-plan-sustainable-communities-strategy>.
- California Department of Transportation (Caltrans). 2002. *Guide for the Preparation of Traffic Impact Studies*.
- Caltrans. Transportation Planning Fact Sheet State Route(SR) 9 in Santa Cruz County. September 2007
- Caltrans. 2015. *Transportation Concept Report: State Route 17, District 5*.
- Caltrans. 2019. Traffic Census Program. Accessed September 13, 2021 at <http://www.dot.ca.gov/trafficops/census/>.
- Caltrans. 2021. “State Route 9 Felton Safety Improvements.” Accessed September 7, 2021 at <https://dot.ca.gov/caltrans-near-me/district-5/district-5-current-projects/05-1m400>.
- California Governor’s Office of Planning and Research (OPR). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018. Accessed September 7, 2021 at http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.
- City of Santa Cruz. 2012. *City of Santa Cruz General Plan 2030*. Chapter 5: Mobility. Adopted June 2012. Accessed September 7, 2021 at <http://www.cityofsantacruz.com/home/showdocument?id=71130>.
- City of Santa Cruz. 2020. SB 743 Implementation Guidelines. May 27, 2020.
- City of Scotts Valley. 2021. City of Scotts Valley Encroachment Permit Application. Accessed September 7, 2021 at <https://www.scottsvally.org/DocumentCenter/View/80/Encroachment-Permit-Application-PDF>.
- County of Santa Cruz. 1994. *1994 General Plan and Local Coastal Program for the County of Santa Cruz, California*. Chapter 3: Circulation. Effective December 19, 1994. Updated through February 18, 2020. Accessed September 7, 2021 at https://www.sccoplanning.com/Portals/2/County/userfiles/106/GP_Chapter%203_Circulation.pdf.
- County of Santa Cruz. 2016. Santa Cruz County Bike Map. Accessed September 7, 2021 at <https://sccrtc.org/wp-content/uploads/2016/09/SantaCruzCountyBikeMap2016-Front.pdf>.

County of Santa Cruz. 2020. *Analyzing Vehicle Miles Traveled for CEQA Compliance: SB 743 Implementation Guidelines for the County of Santa Cruz*. October 2020. Accessed September 7, 2021 at http://sccoplanning.com/Portals/2/County/Planning/env/SantaCruzCounty_VMTGuidelines_110320.pdf.

County of Santa Cruz 2021a. County of Santa Cruz Department of Public Works – Encroachment Permits. Accessed April 6, 2021 at <https://www.dpw.co.santa-cruz.ca.us/Portals/19/pdfs/EncroachmentEditable.pdf>.

County of Santa Cruz GIS Map. 2021b. Accessed September 14, 2021. Available online: <https://gis.santacruzcounty.us/gisweb/>

Santa Cruz County Office of Response, Recovery & Resilience. “Evacuations.” Accessed October 28, 2021 at <https://www.co.santa-cruz.ca.us/OR3/Response/Evacuations.aspx>.

HDR. 2021. Memo - Newell Creek Pipeline Felton/Graham Hill Replacement Project Construction Traffic Analysis. TO: Doug Valby, Lewis Kay, Mike Munson, Leslie Tice. FROM David Petree, HDR. November 16, 2021.

Santa Cruz Metropolitan Transit District (). 2021. Route Schedule, Summer 2021. Accessed September 7, 2021 at <http://www.scmtd.com/en/routes/schedule>.

Santa Cruz County Regional Transportation Commission (SCCRTC). 2018. *Final 2040 Santa Cruz County Regional Transportation Plan*. Adopted June 14, 2018. Accessed September 7, 2021 at <https://sccrtc.org/funding-planning/long-range-plans/rtp/2040-plan/>.

SCCRTC, Kimley-Horn, Trail People. 2019. Highway 9 San Lorenzo Valley Complete Streets Corridor Plan. Accessed September 8, 2021 at <https://sccrtc.org/projects/streets-highways/hwy-9-plan/#draftreport>.

INTENTIONALLY LEFT BLANK