Addendum to the Final Environmental Impact Report Newell Creek Pipeline Improvement Project

Brackney North Section

SCH NO. 2021010166

NOVEMBER 2023

Prepared for:

CITY OF SANTA CRUZ WATER DEPARTMENT
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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
Air Basin	North Central Coast Air Basin
AQMP	Air Quality Management Plan
CEQA	California Environmental Quality Act
City	City of Santa Cruz
CO_2e	carbon dioxide equivalent
dBA	A-weighted decibels
EIR	Environmental Impact Report
FBPS	Felton Booster Pump Station
GHG	greenhouse gas
GHTWP	Graham Hill Water Treatment Plant
HDD	horizontal directional drilling
L_{eq}	equivalent noise level
MBARD	Monterey Bay Air Resources District
MMRP	mitigation monitoring and reporting program
MT CO_2e	metric tons of carbon dioxide equivalent
NCP	Newell Creek Pipeline
PM_{10}	coarse particulate matter
ROW	Right-of-way
RWQCB	Regional Water Quality Control Board
TAC	toxic air contaminant
VMT	vehicle miles traveled

1 Introduction and Background

Project Title: Newell Creek Pipeline Improvement Project Brackney North Section

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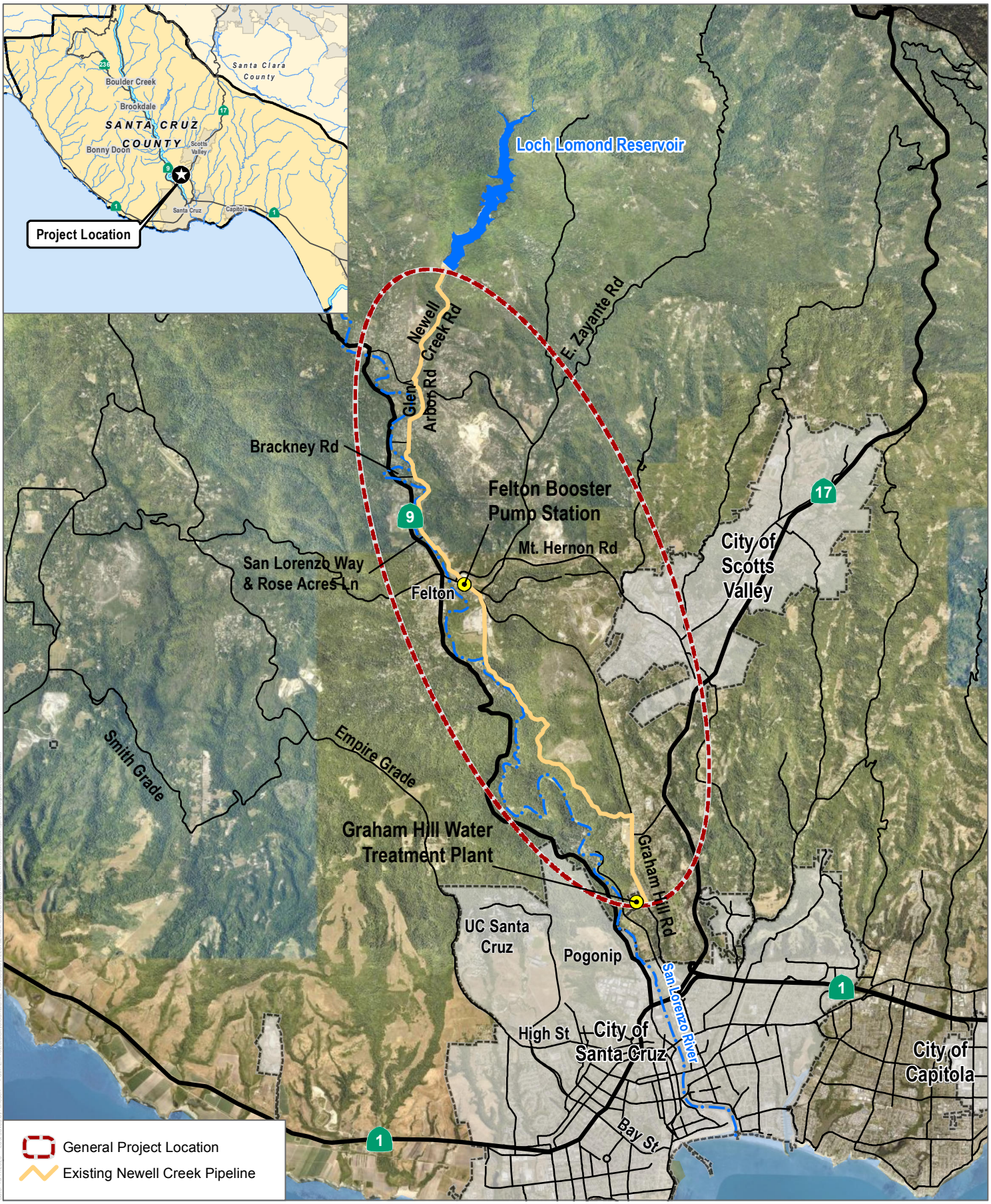
Project Location: The certified Final Environmental Impact Report (EIR) for the Newell Creek Pipeline (NCP) Improvement Project involves approximately 8.75 miles of the existing and replacement Newell Creek Pipeline (NCP), the majority of which is located in the unincorporated area of Santa Cruz County, see Figure 1. The EIR project area's northern limit is the City's Newell Creek Dam in Ben Lomond, and the southern limit is the City's Graham Hill Water Treatment Plant located in Santa Cruz City limits. This Addendum to the Final EIR concerns itself with the Brackney North section of the NCP. The Brackney North section extends approximately 2,700 feet between the intersection of Glen Arbor Road and Schaaf Road on the north and Brackney Road on the south as shown in Figure 2.

1.1 Introduction

This document constitutes an Addendum to the Final Environmental Impact Report (EIR) for the NCP Improvement Project (State Clearinghouse No. 2021010166), certified and the NCP Improvement Project approved by the City of Santa Cruz (City) on May 10, 2022. The NCP Improvement Project Final EIR evaluated the potential environmental impacts of replacement of 8.75 miles of the existing NCP with a new pipeline that primarily would be installed within existing road pavement, road right-of-way (ROW), and/or City easements. The EIR separated the NCP into eight pipeline sections: Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, Graham Hill Road North, and Graham Hill Road South. Section 2 of this EIR Addendum provides additional information on the approved NCP Improvement Project. This EIR Addendum has been prepared to address and evaluate minor modifications to the NCP Improvement Project's Brackney North section since certification of the NCP Improvement Project EIR, see Section 3.



SOURCE: ESRI 2020, City of Santa Cruz 2020

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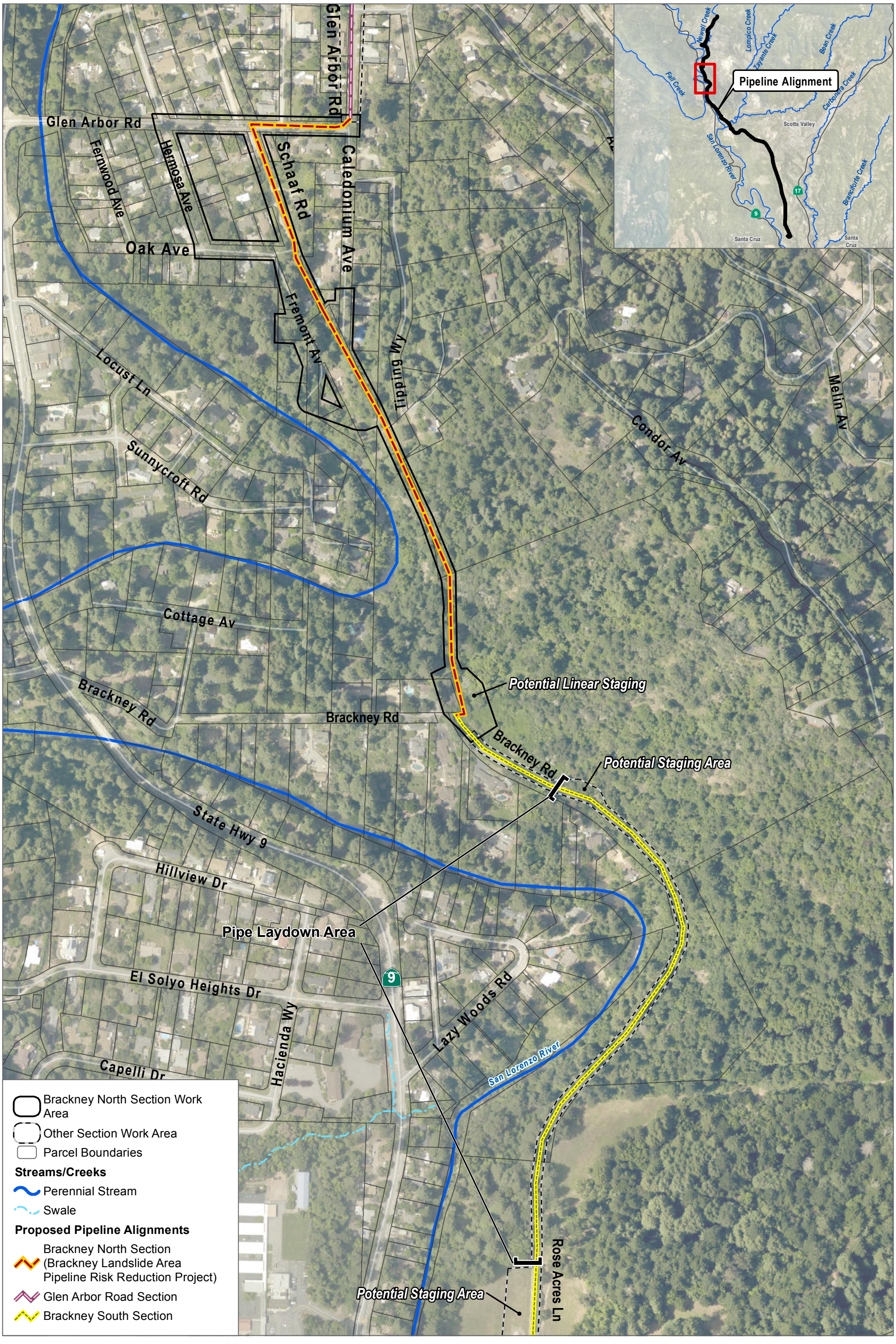
0 3,750 7,500 Feet

FIGURE 1

Project Location

Newell Creek Pipeline Improvement Project EIR Addendum



SOURCE: Bing 2023: County of Santa Cruz 2021

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0 150 300 Feet

FIGURE 2

Brackney North Section Location

Newell Creek Pipeline Improvement Project EIR Addendum

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1.2 California Environmental Quality Act Compliance

1.2.1 Use of EIR Addendums

The California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.) and regulations implementing CEQA, known as the CEQA Guidelines (14 California Code of Regulations Section 15000 et seq.), serve as the main framework of environmental law and policy in California. CEQA applies to most public agency discretionary actions that have the potential to adversely affect the environment. CEQA requires public agencies to inform decision makers and the public about the potential environmental impacts of proposed projects and to avoid or reduce those environmental impacts to the extent feasible. If significant adverse impacts cannot be avoided, reduced, or mitigated to below a level of significance, the public agency is required to prepare an EIR and balance the project's environmental concerns with other goals and benefits in a statement of overriding considerations.

Once an EIR or other CEQA document has been certified for a project, Sections 15162-15164 of the CEQA Guidelines define the standards for determining the appropriate level of subsequent environmental review, and Section 15164 addresses the specific circumstances requiring the preparation of an addendum to an EIR. If new significant impacts or a substantial increase in the severity of previously identified impacts would result with changes to a project, preparation and circulation of a subsequent or supplemental EIR for additional public review is required. However, when it can be determined that neither the proposed changes to the project, changed circumstances, or new information result in the identification of new significant impacts, or the substantial increase in the severity of significant impacts identified in the certified EIR, an addendum to the EIR may be prepared. Public review of an addendum is not required under CEQA.

Pursuant to Section 15164(a) of the CEQA Guidelines, the lead agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. Under CEQA Guidelines Section 15162, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

- Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:
    - The project will have one or more significant effects not discussed in the previous EIR;
    - Significant effects previously examined will be substantially more severe than shown in the previous EIR;

- Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

1.2.2 Determination

The City has determined that an Addendum to the certified NCP Improvement Project Final EIR is the appropriate environmental documentation for the proposed modifications to the Brackney North section. The certified NCP Improvement Project Final EIR evaluated in detail the construction of the Brackney North section and since the certification of the EIR, minor modifications to the Brackney North section have been made. Overall, the type, location, and nature of the Brackney North section is consistent with the description in the NCP Improvement Project Final EIR. Modifications have been made to the Brackney North section construction duration, daily work hours, number of construction workers, and use of nighttime lighting. However, these modifications in the project description do not warrant a subsequent CEQA document, such as an EIR or negative declaration (per Section 15162 of the CEQA Guidelines) as explained in this EIR Addendum. In addition, there are no changes in the project circumstances, or any substantial new information that would warrant preparation of such a subsequent CEQA document (per Section 15162 of the CEQA Guidelines). The environmental analysis in this Addendum examines whether the revisions to the description of the NCP Improvement Project, and specifically regarding the Brackney North section, would result in any new significant impacts that were not previously identified in the prior EIR or would result in any substantial increases in the severity of previously identified effects. The review found that the modifications to the Brackney North section would not result in new significant or substantially more significant impacts than were analyzed in the certified EIR. Additionally, the review did not identify new mitigation measures or alternatives substantially different from those analyzed in the EIR that would reduce significant impacts, or new feasible mitigation measures or alternatives previously found not to be feasible.

The information contained within this Addendum is provided as a disclosure document, consistent with Section 15164 of the CEQA Guidelines and will provide a basis for the City to make an administrative determination that the prior EIR and environmental determinations fully address the proposed modifications to the approved NCP Improvement Project. This Addendum will be considered during the City Council's potential action to approve the Brackney North section plans and specifications and to authorize to bid and award of a construction contract.

2 Previously Evaluated Newell Creek Pipeline Improvement Project

2.1 Overview of Previously Evaluated Newell Creek Pipeline Improvement Project Components

The previously approved and evaluated NCP Improvement Project involves replacement of 8.75 miles of the existing NCP with a new 24-inch raw water pipeline, except for one section that would be 30-inches in diameter. The NCP Improvement Project primarily would be installed within existing road pavement, road ROW, which includes road pavement and unpaved shoulders adjacent to the paved road, and/or existing or new City easements. The NCP Improvement Project Final EIR separated the NCP Improvement Project into eight pipeline sections: Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, Graham Hill Road North, and Graham Hill Road South, see Figures 3A and 3B. The NCP Improvement Project includes cathodic protection for the new pipelines and installation and/or replacement of minor appurtenances, such as air release valves and isolation valves.

Upon completion of construction, construction sites would be revegetated and/or restored, and disturbed roadways where trenching occurred to install the pipeline would be repaved. Once each pipeline section is installed and interconnections are made, the existing NCP would be abandoned in place and above-ground appurtenances would be removed. Generally, all above-ground features of the existing pipeline would be removed including air valves, nine hydrants within Henry Cowell Redwoods State Park, and vent pipes.

The EIR identified Brackney North section as one of three pipeline sections prioritized for replacement in the near term.

2.2 Previously Evaluated Brackney North Section

The Brackney North section, also referred to as the Brackney Landslide Risk Reduction Project, extends approximately 2,600 feet between the intersection of Glen Arbor Road and Schaaf Road on the north and Brackney Road on the south as shown on Figure 2. The Brackney North section alignment is located along an abandoned railroad bed near the San Lorenzo River between the Glen Arbor Road and Brackney Road neighborhoods. Installation of the Brackney North section would involve two pipeline installation methods: trenchless installation via horizontal directional drilling (HDD) and open cut trenching. The HDD installed pipeline would be located at depths of approximately 80 to 100 feet. Acquisition of additional permanent and temporary construction easements or property would be attained. Engineering designs have been completed for the Brackney North section.

2.2.1 Previously Evaluated Brackney North Section Construction Duration and Methods

Construction Duration

The NCP Improvement Project Final EIR assumed overall construction to be conducted in phases over multiple years from approximately 2023 to 2032. The NCP Improvement Project Final EIR assumed construction of the Brackney North section to take approximately 306 workdays, including pipeline installation, road repaving, abandonment of the existing NCP, and post-construction revegetation where needed, with work occurring from March through December of 2023.

Construction Methods

The Final EIR indicated that the majority of the Brackney North section (approximately 1,600 linear feet) would be a single fused HDPE pipeline installed using a horizontal directional drilling (HDD) trenchless method. Generally, the HDD method consists of a guided and steered trenchless construction technique to install the pipe into the subsurface. The pipe would be installed at depths of approximately 80 to 100 feet.

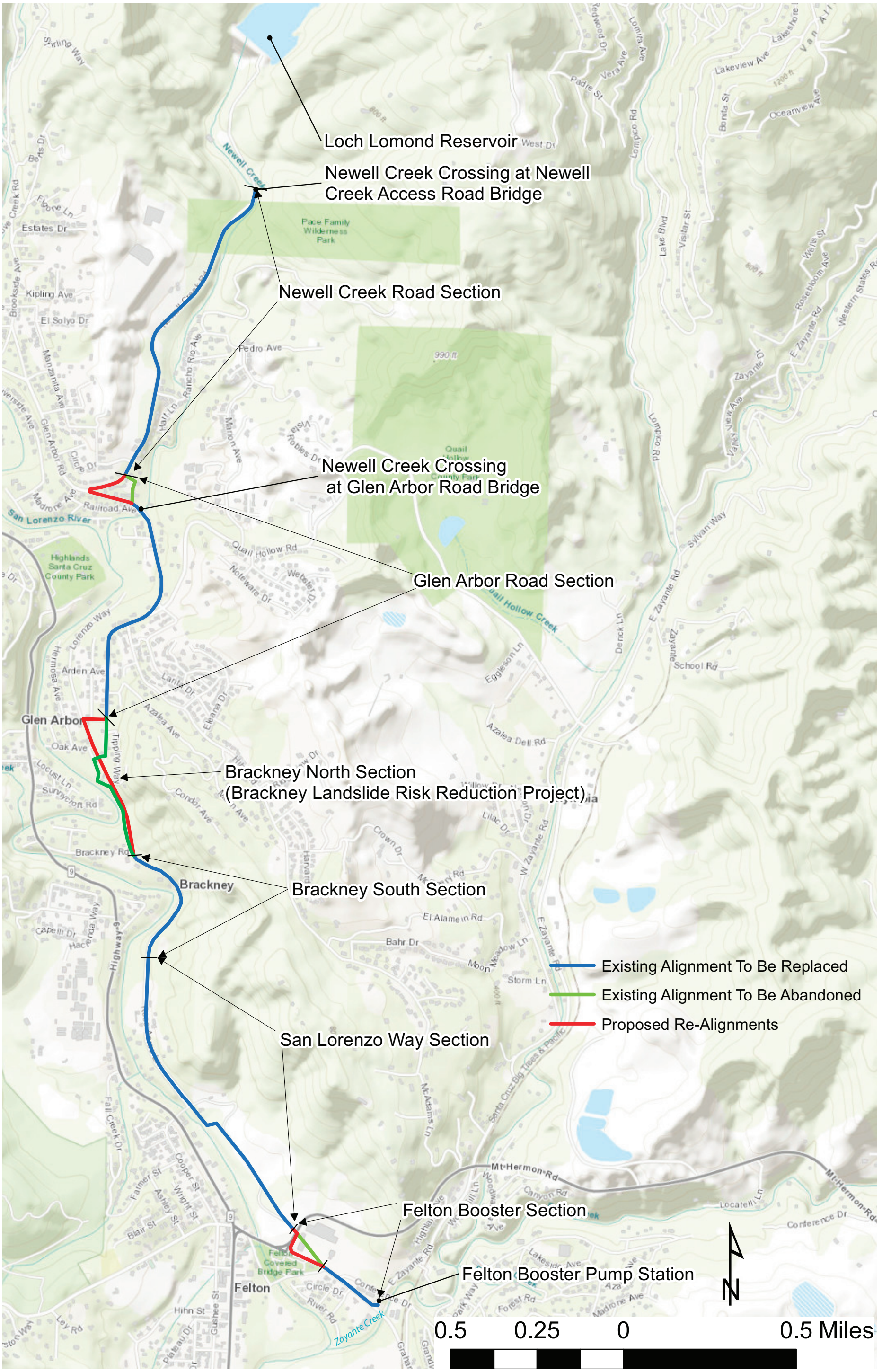
Installation of the Brackney North section pipeline also would include open cut trench construction for approximately 1,000 linear feet within a 4-foot-wide trench. Open trench construction would occur at the north tie-in along Glen Arbor Road to Schaaf Road and along Schaaf Road to the HDD entry point, and also at the southern tie-in at Brackney Road.

In accordance with the City's Standard Construction Practices described below, best management practices would be implemented where necessary to prevent erosion and water quality degradation and/or to protect sensitive natural resources.

Construction Access and Staging Areas

Access for vehicles carrying materials, equipment, and personnel to and from the North Brackney section site would be provided via existing roadways in the vicinity. The primary regional routes for construction traffic would likely be from State Route 1 (locally referred to as Highway 1) or State Route 17 (locally referred to as Highway 17) via Graham Hill Road or Mount Hermon Road. Highway 9 would provide the primary access to the Brackney North section.

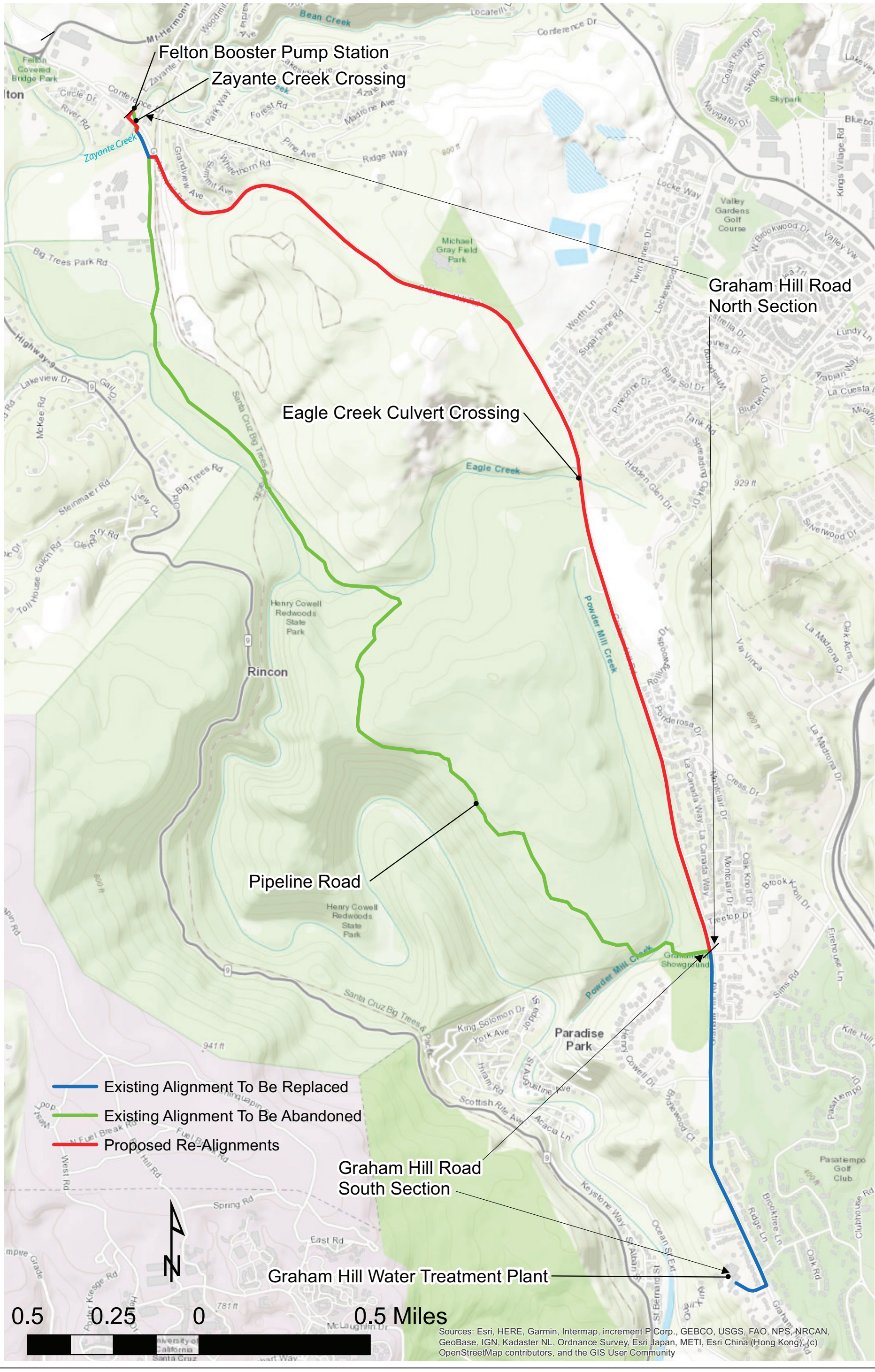
The primary local roadways serving the Brackney North section include Glen Arbor Road, Brackney Road, and San Lorenzo Way, as well as other local streets off of Glen Arbor Road. Work within County roadways would require an encroachment permit from the County of Santa Cruz that would require specified traffic control measures in a Traffic Control Plan.



SOURCE: City of Santa Cruz Water Department 2020

FIGURE 3A

Proposed Newell Creek Pipeline Improvement Project Northern Segment



SOURCE: City of Santa Cruz Water Department 2020

FIGURE 3B

Proposed Newell Creek Pipeline Improvement Project Southern Segment

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Construction staging/laydown areas have been identified in areas that are already fairly level along the existing roadways, and are shown in the Final EIR, including temporary work areas for the Brackney North section. Staging areas would be used for storage of materials and products and equipment laydown and temporary field office for construction contractor. Minimal clearing may be required for certain staging areas.

Construction Workers, Work Hours and Equipment

The NCP Improvement Project Final EIR assumed an average of approximately 8 construction workers to be working at the Brackney North section site each day for construction. The NCP Improvement Project Final EIR assumed construction would occur during normal weekday work hours, between 8 AM and 5 PM and in accordance with County of Santa Cruz encroachment permit requirements. The HDD installation method for the pipe in the Brackney North section was assumed to require approximately one day of continuous 24-hour installation.

As shown in Table 3.4 of the Final EIR, the Brackney North section would require use of heavy equipment such as excavators, tractors, loaders, backhoes, dumpers, mud pumps, an HDD drill rig, mud separation plant, forklift, dump truck, vacuum truck, water truck, welding truck, generators, flood lights, fusion machine, pavers, rollers, paving equipment, and a concrete mixer truck. Haul trucks would be used to transport materials to the site and to transport any spoils off site to a permanent disposal location. Flatbed trucks would be used to transport smaller quantities of material at the site. Water trucks and fuel trucks would also be used at the site. Specialized drilling and HDPE pipe welding equipment would be required in locations where trenchless installation methods are proposed in the Brackney North section.

2.3 Applicable Mitigation Measures and Standard Construction Practices

A mitigation monitoring and reporting program (MMRP) for the NCP Improvement Project was adopted by the City to ensure that all adopted mitigation measures are implemented. The adopted MMRP was prepared pursuant to CEQA (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations, Chapter 3, Sections 15074 and 15097), applies to the approved NCP Improvement Project and is included as Appendix A to this Addendum. In addition to mitigation measures, the MMRP includes Standard Construction Practices the NCP Improvement Project Final EIR identified that would be implemented by the City or its contractors during construction of the Brackney North section to avoid or minimize erosion and water quality degradation, protect sensitive species and habitat, reduce potential impacts to cultural resources, and reduce air quality and noise impacts. This MMRP is intended to be used by City staff, its contractors and consultants, and mitigation monitoring personnel to ensure compliance with mitigation measures and standard operational and construction practices that apply to the NCP Improvement Project. Mitigation measures and Standard Construction Practices that are applicable to the Brackney North section are summarized below; see Appendix A for the full wording of each measure.

- **MM BIO-1: Project Siting (Applicable to all Proposed Project sections).** The measure calls for protection of the specific locations of any sensitive biological resources, including special-status plants, special-status wildlife, sensitive vegetation communities and habitat areas, and

jurisdictional aquatic resources that are outside of but adjacent to construction work areas to minimize disturbance to these resources.

- **MM BIO-2: Special-Status Plant Surveys (Applicable to all Proposed Project sections).** The measure calls for special status plant surveys to avoid special-status plants protected under MM BIO-1.
- **MM BIO-3: Special-Status Plant Compensation.** The measure calls for development and implementation of a compensation plan if any special-status plant occurrences are found in future surveys and cannot be avoided, which shall be a component of the project's overall Habitat Mitigation and Monitoring Plan described in MM BIO-11.
- **MM BIO-7: Conduct San Francisco Dusky-Footed Woodrat Survey and Relocation (Applicable to Proposed Project Newell Creek Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, and Graham Hill Road North sections).** The measure provides requirements and protocols for conducting pre-construction San Francisco dusky-footed woodrat surveys.
- **MM BIO-8: Conduct Preconstruction Nesting Bird Surveys (Applicable to Proposed Project Graham Hill Road North section, Brackney North section, and any section where tree or vegetation removal is proposed).** The measure provides requirements and protocols for conducting pre-construction nesting bird surveys.
- **MM BIO-9: Conduct Preconstruction Roosting Bat Survey (Applicable to Proposed Project Newell Creek Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, and Graham Hill Road North sections).** The measure provides requirements and protocols for conducting pre-construction roosting bat surveys.
- **.MM BIO-10: Biological Construction Monitoring (Applicable to all sections with off-pavement ground disturbance).** The measure requires a qualified biologist to monitor vegetation removal and initial ground disturbing construction activities for off-pavement work and conduct periodic monitoring inspections for all other construction activities.
- **MM GEO-1: HDD Geologic Monitoring (Applicable to Brackney North section).** The measure requires a California Certified Engineering Geologist (CEG) or Registered Geotechnical Engineer (RGE) to monitor horizontal directional drilling (HDD) operations for potential ground subsidence or soil collapse along the HDD alignment.
- **MM GEO-2: HDD Inadvertent Fluid Return Plan (Applicable to Brackney North and Brackney South sections).** The measure requires preparation and implementation of an inadvertent fluid return contingency plan.
- **MM GEO-3: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring (Applicable to Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, and Graham Hill Road North sections).** The measure requires preparation of a Paleontological Resources Impact Mitigation Program, specifies paleontological monitoring requirements, and measures to be implemented in the event that paleontological resources are unearthed during grading.
- **MM NOI-1: Construction Noise (Applicable to all Proposed Project sections).** The measure sets forth specific measures and specifications to be implemented during construction to mitigate construction noise.

The City has adopted Standard Construction Practices that would be implemented by the City or its contractors during construction activities associated with the approved Project, where relevant. The following Standard Construction Practices were included as part of the approved Project:

- Erosion Control and Air Quality: Measures # 1-4.
- Water Quality Protection: Measures #5-9
- General Habitat Protection: Measures # 13-16
- Inadvertent Discoveries of Archaeological Resources and Human Remains: Measures #24-25
- Other Practices: Measures: Measures #26-27

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3 Proposed Modifications to the Previously Evaluated Brackney North Section

Proposed modifications to the previously approved and evaluated NCP Improvement Project Brackney North section include changes to the construction duration, daily work hours, number of daily workers, and use of nighttime lighting for construction. No changes or modifications to the Brackney North section are proposed regarding the overall construction footprint, location of staging areas, construction methods, or the type of construction equipment used than what was analyzed in the NCP Improvement Project Final EIR, except for a minor increase in the pipeline length. The pipeline length has increased from approximately 2,600 reported in the EIR to 2,700 linear feet due to advancement of engineering designs that provided final calculations of pipeline length. However, the overall alignment of the pipeline section and area of construction disturbance have not changed from what was evaluated in the EIR. Additionally, no project changes or modifications are proposed for any other pipeline section of the approved NCP Improvement Project.

The proposed modifications to the NCP Improvement Project Brackney North section include:

- **Construction Duration Change.** Construction is now estimated to begin at the end of June of 2024 instead of March 2023, with completion of construction estimated at the end of March 2025 instead of December 2023.
- **Weekday Construction Work Hour Change**. The Monday through Friday weekday daily work hours would be extended from 8 AM to 5 PM to 7 AM to 6 PM. Construction work between 7 AM and 8 AM would be limited to work activities such as meetings and daily work setup. All other construction work activities would occur between the hours of 8 AM and 6 PM. Weekday deliveries would occur between the hours of 8 AM and 6 PM.
- **Weekend Construction Work Hour Change.** The weekend daily work hours would be modified to allow work on Saturdays with the same work hours described in the Weekday Construction Work Hour Change above. The Contractor would be required to provide the City with advanced notification 96 hours prior to the commencement of the scheduled work. It is assumed that the Contractor would work all Saturdays when implementing the HDD installation method, which is estimated to be approximately 12 Saturdays. Trenched pipeline work may be done on occasional Saturdays and during tie-in work, if needed, for an additional 27 Saturdays. In total construction of the Brackney North section could result in construction work on 39 Saturdays.
- **24-Hour Work Period Change.** The work period for the HDD installation would be extended from one day of continuous 24-hour installation to two days, for a total of two 24-hour work periods.
- **Construction Workers.** Approximately 8 daily workers are expected for the HDD work in three defined work areas for the Brackney North section. With overlapping work, it is estimated that up to 24 daily workers could be present on the construction site instead of 8 estimated in the Final EIR.
- **Nighttime Lighting.** If used, nighttime lighting, i.e., for the two 24-hour operations and potentially some early evening hours in the winter, would consist of generator-powered lighting, such as flood lights, located at designated work areas. Features to prevent offsite lighting to adjacent residences would include: requiring lighting fixtures to be located and aimed so that they provide the required

level of illumination and uniformity in the work zone without the creation of unnecessary glare. Lighting fixtures would also use shielding and be directed downward.

4 Evaluation of Environmental Impacts to the Previously Evaluated Brackney North Section

Modifications have been made to the previously approved and evaluated NCP Improvement Project Brackney North section that include changes to the construction duration, daily work hours, number of daily works, and use of nighttime lighting. The proposed modifications would not change any project components for the other pipeline sections, nor the physical boundaries of the Brackney North section pipeline alignment or construction work areas. Therefore, the proposed modifications would not result in changes to physical impacts or other impacts analyzed in the NCP Improvement Project Final EIR for the following topics: cultural resources and tribal cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and wildfire. Similarly, the proposed modifications to the Brackney North section would not result in new impacts or change conclusions for the following impacts that were not found to be significant: aesthetics (scenic views, scenic resources and visual character), agriculture and forest resources, land use, mineral resources, population and housing, public services and recreation, and public utilities. Additionally, the proposed modifications would not result in changes that would alter the EIR conclusions that the project would not directly or indirectly result in growth inducement.

The NCP Improvement Project Final EIR identified two cumulative projects near the Brackney North section that were estimated to be completed prior to construction of the Brackney North section. One cumulative project which has been completed, the Newell Creek Dam Inlet/Outlet Improvement Project further north of the proposed Brackney North section modifications. However, the construction schedule for the second project, San Lorenzo Way Bridge Replacement Project, has been delayed from what was reported in the EIR, and is now scheduled for construction starting in the summer of 2024, which would overlap with the Brackney North construction schedule. However, no new significant or substantially more significant cumulative impacts would occur as explained below,

Further review of the proposed modifications to the previously evaluated Brackney North section is provided in this section for the following topics:

- Aesthetics (Light and Glare);
- Air Quality;
- Biological Resources (related to lighting);
- Energy;
- Greenhouse Gas (GHG) Emissions;
- Noise; and
- Transportation.

4.1 Aesthetics

NCP Improvement Project Final EIR Conclusions

With regard to potential aesthetic impacts, Appendix G of the CEQA Guidelines and the City of Santa Cruz CEQA Guidelines consider whether a project would have a substantial adverse effect on a scenic vista; substantially damage scenic resources; substantially degrade the existing visual character or quality of public views of the site and surroundings; create a new source of substantial light or glare; or have a substantial, demonstrable, negative aesthetic effect. The NCP Improvement Project Final EIR concluded that the NCP Improvement Project would have no impact on scenic vistas, scenic resources, visual quality, light and glare or cumulative aesthetics impacts. No mitigation measures were included in the EIR as significant impacts related to aesthetics were not identified in the EIR.

Review of Proposed Modifications to the Brackney North Section

The proposed modifications to the Brackney North section include potential use of lighting during some construction activities. If used, nighttime lighting, i.e., for the two 24-hour operations and potentially some early morning, i.e., approximately between 7 AM and 8 AM and early evening hours in the winter, i.e., between approximately 4 PM and 6 PM. would consist of generator-powered lighting, such as flood lights, located at designated work areas. Features to prevent offsite lighting to adjacent or nearby residences would include: locating and aiming lighting fixtures so that they provide the required level of illumination and uniformity in the work zone without the creation of unnecessary glare. Lighting fixtures would also use shielding and be directed downward.

Temporary lighting during construction could occur in any of the Brackney North section work areas. Existing residences are located near both areas. The northern area is located where conventional trenching construction methods are proposed. The two 24-hour construction periods would be generally located in the work areas where HDD entry and pullback zones would be located. The type of lighting that would be used in any of these areas would be temporary, intermittent, and would not be directed offsite. Except for one additional 24-hour work period, lighting would potentially be used for a limited time in the morning after 7 AM and in the evening between about 4 and 6 PM during late fall or winter periods when supplemental lighting may be needed, and would therefore, be of limited use and duration. Furthermore, as proposed, lighting would be shielded and would be sited to prevent offsite lighting or glare into nearby residences. The Final EIR did not identify cumulative projects near the Brackney North section area where modifications to the NCP Improvement Project are proposed, and thus, no new significant cumulative impacts would result related to lighting and aesthetics. Therefore, the proposed Brackney North section modifications would not cause illumination into nearby residences and would not result in new significant impacts or substantially more severe significant impacts than those evaluated in the certified NCP Improvement Project EIR.

4.2 Air Quality

NCP Improvement Project Final EIR Conclusions

The NCP Improvement Final EIR included criteria pollutant emissions modeling and analyzed the impacts of the approved NCP Improvement Project's air emissions to be less than significant. Maximum daily emissions during construction resulting from all phases of the NCP Improvement Project construction were estimated at approximately 14.2 pounds per day for particulate matter (PM_{10}), which was substantially lower than the Monterey Bay Air Resources District's (MBARD's) threshold of 82 pounds per day. In addition, because the NCP Improvement Project would not result in the emissions of criteria air pollutants that would exceed the applicable MBARD significance thresholds, and because the MBARD thresholds are based on levels that the North Central Coast Air Basin (Air Basin) can accommodate without affecting the attainment date for an ambient air quality standard (AAQS) and the AAQS are established to protect public health and welfare, the EIR concluded that the NCP Improvement Project would not result in health effects associated with criteria air pollutants and the impact would be less than significant. Finally, regarding toxic air contaminant (TAC) exposure potential, i.e., diesel fuel, due to the relatively short period of exposure at any individual sensitive receptor and minimal particulate emissions generated, TACs potentially emitted during construction were not found to result in concentrations causing significant health risks, which was found to be a less-than-significant impact. The Final EIR also concluded that the NCP Improvement Project would result in a less-than-significant impact related to odors, that the NCP Improvement Project's construction-related emissions and contribution to air quality impacts would not be cumulatively considerable, and that no cumulative odor impacts were identified. No mitigation measures were included in the EIR as significant impacts related to air quality were not identified in the EIR.

Review of Proposed Modifications to the Brackney North Section

The proposed modifications to the Brackney North section would extend the weekday daily work hours by two hours, changing from 8 AM to 5 PM to 7 AM to 6 PM at the Brackney North section construction site. In addition, there would be an associated increase in daily workers from 8 analyzed in the EIR to up to 24 workers on the maximum day. While some construction activities involving heavy equipment may occur during the extended hours, the addition of two hours to the modeled nine-hour workday and additional worker vehicles would not result in substantial increases in air emissions of the magnitude that would exceed MBARD emissions thresholds or result in a new significant impact. Similarly, the addition of approximately 39 weekend workdays on a Saturday would include the same hours of operation as the weekday, and would not substantially change estimated maximum day emissions. Likewise, the one additional 24-hour work period would not result in maximum daily emissions that would exceed the MBARD significance thresholds.[1]. Because no new significant impacts would occur with the proposed Brackney North section modifications, no new cumulative air quality impacts would occur, and the project's contribution to cumulative air emissions would not be cumulatively considerable. This is based on MBARD CEQA Guidelines that indicate that a project would not result in cumulative impacts if consistent with the Air Quality Management Plan for which the entire NCP Improvement Project was found consistent as explained in the

[1] For comparison purposes, to approximate a 24-hour workday, three times the maximum daily PM_{10} values included in the certified NCP Improvement Project EIR, which included construction of all NCP Improvement Project sections, would equate to 42.6 pounds per day, which would still be substantially less than the MBARD threshold of 82 pounds per day.

NCP Improvement Project Final EIR. Based on the preceding considerations, the proposed modifications to the Brackney North section would not result in new significant impacts or substantially more severe significant impacts than were analyzed in the certified NCP Improvement Project EIR.

4.3 Biological Resources

NCP Improvement Project Final EIR Conclusions

The NCP Improvement Project Final EIR identified potentially significant impacts to special status plant and wildlife species (San Franciso dusky-footed woodrat, nesting birds, and roosting bats) at the Brackney North section, including, all of which could be mitigated to a less-than-significant level with mitigation measures included in the EIR, Potential impacts to wildlife movement and cumulative impacts were found to be less than significant, both of which consideration all NCP Improvement Project sections.

Review of Proposed Modifications to the Brackney North Section

As indicated above, the proposed modifications to the Brackney North section would not modify NCP Improvement Project components for any NCP pipeline sections except at the Brackney North section, and the physical boundaries of the Brackney North section alignment and construction work areas would not change from what was identified and analyzed in the certified EIR. Therefore, no new areas would be affected that could potentially result in physical impacts to special status species and sensitive habitats.

The temporary use of nighttime lighting at the Brackney North section was not previously considered in the NCP Improvement Project Final EIR with regards to potential impacts to biological resources, however, the proposed lighting would be limited in use to early morning and early evening hours and one additional 24-hour work period. The potential extension of lighting for a limited time in in the morning and evening during winter periods would represent a minor extension of daylight hours. The localized use of lighting for one additional 24-hour construction period also would be very limited in area and duration. Furthermore, the lighting would be located at specified work areas that are not located immediately adjacent to the existing water courses, i.e., San Lorenzo River, where wildlife use and movement are more prevalent. Additionally, lighting if used, would be directed to the work area and set up to prevent offsite illumination. Given the temporary use of potential lighting during limited times of year and limited times of day, and overall limited duration of potential use of nighttime lighting, in combination with distance from potential sensitive habitats, temporary use of lighting would not result in new significant or substantially more significant impacts than were analyzed in the NCP Improvement Project EIR.

4.4 Energy

NCP Improvement Project Final EIR Conclusions

The NCP Improvement Project Final EIR included energy demand modeling and determined that because the NCP Improvement Project would not be unusual as compared to overall local and regional demand for energy resources and would be required to comply with existing regulations requiring energy efficient

construction vehicles, the NCP Improvement Project would not result in wasteful, inefficient, or unnecessary consumption of energy. Energy use during construction would be minimal and temporary. Operations would be similar to existing conditions and would not result in increased energy demand. No mitigation measures were included in the EIR as significant impacts related to energy were not identified in the EIR.

Review of Proposed Modifications to the Brackney North Section

The proposed modifications to the Brackney North section would increase energy demand during construction associated with equipment use and worker trips during the extended daily work hours, the addition of approximately 39 weekend workdays, and the one additional 24-hour work period. However, energy use during construction would continue to be minimal and temporary, and implementation of the proposed modifications to the NCP Improvement Project would not result in new significant impacts or substantially more severe significant impacts than were analyzed in the certified NCP Improvement Project EIR.

4.5 Greenhouse Gas Emissions

NCP Improvement Project Final EIR Conclusions

The certified NCP Improvement Project Final EIR included greenhouse gas (GHG) emission modeling for short-term construction and determined that amortized GHG emissions of approximately 70 metric tons (MT) per year carbon dioxide equivalent (CO_2e) associated with the NCP Improvement Project, which included all pipeline sections, would be substantially less than the applied significance threshold of 900 MT CO_2e per year. In addition, the NCP Improvement Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. No mitigation measures were included in the EIR as significant impacts related to GHGs were not identified in the EIR.

Review of Proposed Modifications to the Brackney North Section

The proposed modifications to the NCP Improvement Project would increase GHG emissions during construction associated with equipment use and daily workers during the extended weekday construction work period, the addition of approximately 39 weekend workdays, and the one additional 24-hour work period. Overall, the amortized GHG emissions during construction would continue to be minimal and temporary with implementation of the proposed modifications to the Brackney North section, including extended daily work hours. The proposed modifications would not result in new significant impacts or substantially more severe significant impacts than were analyzed in the certified NCP Improvement Project EIR.

4.6 Noise

NCP Improvement Project Final EIR Conclusions

The certified NCP Improvement Project Final EIR analyzed the impacts of the approved NCP Improvement Project regarding increases in permanent and temporary noise levels and generation of substantial temporary vibration levels during construction. The EIR concluded that the NCP Improvement Project would not include new noise generating sources that would result in long-term, permanent changes in operational noise levels or generation of substantial vibration, both found to be less-than-significant impacts.

Drawing from local policies and regulations, including those of the City and County of Santa Cruz, the EIR included a threshold to determine whether temporary construction noise levels would be significant. The threshold indicates that the NCP Improvement Project would result in the generation of a substantial temporary noise level in the vicinity of the NCP Improvement Project if the following standard would be exceeded:

- Construction Noise. For temporary construction activities, a significant impact would occur if construction noise exceeds 60 dBA (decibels, A-weighted) between 10:00 PM and 8:00 AM or 75 dBA between 5:00 PM and 10:00 PM. Between the hours of 8:00 AM and 5:00 PM on weekdays, construction noise is not limited, based on Santa Cruz County Code (SCCC) Section 8.30.10. Other factors considered in the determination of significance are pitch, duration of sound, time of day or night, necessity of the noise, and proximity to buildings used for sleeping.

For temporary noise increases, the EIR impact analysis included noise modeling that considered construction equipment expected to be used and proximity of sensitive receptors, such as residences and schools. The EIR also reported that Standard Construction Practice #26 requires the City to designate a Construction Noise Coordinator, notify adjacent property owners regarding planned nighttime construction activities, and specifies the protocol for responding to any local complaints that are received about construction noise. When a noise complaint is received, the Construction Noise Coordinator shall notify the City within 48 hours, determine the cause of the complaint, and implement as possible reasonable measures to resolve the complaint as deemed acceptable by the City. This measure provides an avenue for adjacent property owners to communicate with the City to express noise complaints.

Noise levels for the phases using conventional trenching and construction methods were calculated as part of the EIR, and conventional pipeline trenching construction methods were found to likely result in a noise level that would exceed the 5 PM to 10 PM noise level threshold of 75 dBA at a distance of 124 feet and the 60 dBA nighttime threshold at a distance of 472 feet. The EIR also found that while some residents would be subject to intermittent noise levels that may exceed 75 dBA during the 5 PM to 10 PM period, given the linear nature of conventional open cut trenching and construction methods, the NCP Improvement Project would not expose an individual noise-sensitive receptor to construction noise for extended periods of time. However, noise-sensitive receptors located less than 124 feet from the conventional trenching and construction methods could be exposed to noise levels exceeding the applicable construction noise thresholds. As such, the EIR concluded that the construction of the NCP Improvement Project would result in a potentially significant impact. Implementation of Mitigation Measure (MM) NOI-1 would reduce the temporary increase in ambient noise levels during construction in excess of applicable standards by

requiring the location of noise generating equipment as far as possible from noise-sensitive receptors, within an acoustically rated enclosure, shroud or temporary barrier when necessary; requiring the use of mufflers and noise suppressors on equipment; and limiting equipment idling. For the conventional trenching construction methods, these measures would result in the minimization of construction noise that would typically be considered unreasonably disturbing, such as noise having excessive intensity, duration, or pitch as defined in the County Code and reduce construction noise levels below the 5 PM to 10 PM noise level threshold of 75 dBA.

The EIR concluded that the HDD drilling operations proposed for the Brackney North section pipe installation would comply with the County of Santa Cruz 75 dBA Leq construction threshold during the period of 5 PM to 10 PM with implementation of MM NOI-1, but would exceed the 60 dBA Leq noise level threshold when operating outside of the 8 AM to 10 PM period. As such, construction was found to result in a potentially significant impact.

During the construction period requiring continuous HDD pipeline pullback operations at the Brackney North section, the implementation of MM NOI-1, limiting operations to less sensitive daytime hours, would not be possible. Implementation of MM NOI-1 would reduce the HDD construction noise levels between 5 and 13 dBA, resulting in noise levels calculated to range from 62 to 70 dBA at nearby noise-sensitive receptors. Therefore, temporary noise from these operations could still exceed the noise level thresholds noted above, after incorporation of MM NOI-1. As a result, the EIR concluded that construction of the Brackney North section was found to result in a significant and unavoidable impact related to construction noise due to construction between 10 PM and 8 AM.

Based on the distance of all of the NCP Improvement Project construction operations in combination with other cumulative noise-generating projects, the EIR concluded that cumulative projects would not result in a significant cumulative impact related to noise and vibration.

Review of Proposed Modifications to the Brackney North Section

The proposed modifications to the Brackney North section would extend weekday construction work period by two hours, changing from 8 AM to 5 PM to 7 AM to 6 PM at the Brackney North section construction site. The extended evening hour would fall within daytime construction hours evaluated in the EIR, and the earlier work hour at 7 AM would be restricted to onsite activities that produce aggregate noise emission levels that do not exceed 60 dBA, such as meetings and daily work setup, and thus would be consistent with the EIR's significance threshold and provisions of MM NOI-1. As indicated in Section 3, such onsite activities prior to 8 AM are suggested to be limited to meetings and set up with corresponding expectation of minimal or prohibited operation of heavy equipment under typical load-bearing conditions. However, MM NOI-1 does allow for specifically identified work outside the 8 AM to 5 PM daily work period if authorized by the City's Water Director as necessary and as specified in the measure. The addition of up to approximately 39 weekend workdays on a Saturday would include the same hours of operation as the weekday. Neither of these changes would result in substantial noise increases beyond what was evaluated in the EIR because construction noise levels would continue be within the range analyzed in the EIR and would not exceed daytime noise standards.

One additional 24-hour work period is included in the proposed modifications to the Brackney North section in addition to the one analyzed in the EIR., Due to the nature of the HDD drilling and nighttime work, the EIR

concluded that the impact would be significant and unavoidable because noise levels would exceed the nighttime standard. One additional 24-hour work period would not be considered a substantial increase over the approximately 9-month construction period for the Brackney North section. Furthermore, because the City would implement Standard Construction Practice #26 and inform nearby offsite residences in advance when HDD activity and corresponding nighttime construction work would be expected to occur, the addition of one more 24-hour work period would not be considered substantial given the 9-month duration of the construction.

Nighttime lighting may be utilized during the added work hours (early morning 7 AM to 8 AM or 5 PM to 6 PM and the additional 24-hour work period for HDD) when seasonal conditions reduce adequacy of natural sunlight to illuminate North Brackney section work areas during both HDD and non-HDD open-cut trenching and pipe installation activities. The temporary lights would either be powered by onsite generators associated with the HDD equipment, which have already been accounted for in the Final EIR; or they could be powered by portable, engine-driven (fossil fueled) generators that are less powerful than the type included on the list of common construction equipment in Table 4.10-8 of the Final EIR. The Final EIR analysis for HDD equipment and corresponding aggregate reference noise level include "engine-driven light plants" in the list of operating equipment, so generator-operating lighting would not be a new noise source and would not result in an increase in modeled noise levels or impact with respect to HDD activities.

For some early evening and possibly early morning hours in the winter during the non-HDD open-cut trenching and piping installation, usage of a generator-powered light could slightly increase the aggregate construction activity noise level, but the contribution would be negligible compared to operating excavators and tractors studied in the Final EIR. For example, a Magnum MTL3-LD or MTL3-8D generator-powered light exhibits 59 dBA at a distance of seven meters (Magnum 2022) or 52 dBA at 50 feet, and thus, is at least 30 dB less noisy than the excavator or tractor equipment type listed in Table 4.8-10 of the Final EIR and studied in the non-HDD construction activity analysis. With a magnitude below 60 dBA, such portable generator for lighting could be positioned onsite during the 7 AM to 8 AM hour and still comply with the nighttime threshold. During a 5 PM to 6 PM hour, the operating light onsite would easily comply with the evening threshold of 75 dBA.

All the provisions of MM NOI-1 would continue to be required of the North Brackney section with the proposed modifications to the previously evaluated Brackney North section. This includes noise-reducing measures, as needed, including locating noise-generating equipment as far as possible from sensitive receptors and/or enclosing equipment as specified in the measure to meet daytime and nighttime noise standards for sensitive receptors within specified distances. However, for HDD operations that are expected to occur during nighttime hours, noise would remain a significant and unavoidable impact as concluded in the EIR. While MM NOI-1 does call for restriction of use of equipment that generates significant noise levels to the hours of 8 AM to 5 PM, the measure also permits construction work outside these hours with authorization by the City and calls for locating noise generating equipment as far as possible from noise-sensitive receptors, and/or installing temporary barriers, if needed, to limit the propagation of sound into the surrounding areas in excess of the 60 dBA nighttime threshold for non-HDD activities.. As explained above, the temporary, short-term use of additional generators to power lighting, if needed, was reflected in the noise analysis for the HDD construction, and per the preceding paragraph potential use of small, low-noise portable generators for lighting in the areas of open trench construction would not substantially increase noise levels as explained above.

The NCP Improvement Project Final EIR identified two cumulative projects near the Brackney North section area, but no significant cumulative noise impacts were identified in the EIR. The EIR identified two cumulative projects near the Brackney North section, one of which has been completed. However, the construction schedule for the second project, San Lorenzo Way Bridge Replacement Project, has been delayed from what was reported in the EIR, and is now scheduled for construction starting in the summer of 2024, which would overlap with the Brackney North construction schedule. However, the bridge project is located approximately 1,500+ feet south of the closest Brackney North section work area. The NCP Improvement Project EIR reported that the geographic area of potential cumulative noise and vibration impacts is limited to the immediate vicinity of the pipeline alignment, areas immediately adjacent to the routes designated for access, hauling or linear construction and areas within approximately 650 feet of the construction activities. Thus, the San Lorenzo Way Bridge Replacement Project is located substantially beyond the geographic area in which construction noise from cumulative projects would combine to create a significant cumulative impact. Therefore, the proposed modifications to the Brackney North section would not result in new significant impacts or substantially more severe significant impacts than were analyzed in the certified NCP Improvement Project EIR.

4.7 Transportation

NCP Improvement Project Final EIR Conclusions

The NCP Improvement Project Final EIR concluded that potential impacts related to transportation would be less than significant regarding conflicts with policies and plans, and impacts related to vehicle miles traveled (VMT), emergency access, and cumulative impacts. The EIR concluded that the NCP Improvement Project would result in no impact related to creation of hazards from design features.

The EIR concluded that 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. The EIR did acknowledge that during construction, there would be potential temporary lane closures during weekdays along Glen Arbor Road, but that traffic controls would be implemented to minimize traffic delays. The EIR also indicated that there would be overlapping construction schedules of other NCP Improvement Project sections with the Brackney North section, resulting in temporary construction trips, but 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. The EIR concluded that construction would result in temporary traffic that would be eliminated from the roadway network upon completion of construction, and construction would not affect bicycle or pedestrian facilities as none exist in the areas of NCP Improvement Project construction. Construction-related trips and lane closures could result in temporary delays, but would not impede service.

The EIR concluded that the NCP Improvement 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), and NCP Improvement Project operations would have no direct impacts related to changes in VMT. The NCP Improvement Project would result in temporary increased trips during construction, but once completed, would not generate increased trips aside from existing maintenance of the NCP. Therefore,

construction of the NCP Improvement Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) and impacts would be less than significant. No mitigation measures were included in the EIR as significant impacts related to transportation were not identified in the EIR.

Review of Proposed Modifications to the Brackney North Section

The proposed modifications to the Brackney North section would slightly extend the construction workday by two hours during the week, include new weekend-Saturday workdays, and add one additional 24-hour work period, with a resulting reduction in the overall duration of construction at the Brackney North section. The proposed limited extension of work hours, addition of one 24-hour work period, and addition of 12 daily workers to the 12 daily works evaluated in the EIR would increase temporary traffic on local roadways, but would not conflict with plans, policies, or regulations as none exist pertaining to construction. The limited daily trips generated by construction workers would be spread out throughout the daily work period and would not impede circulation and travel modes in the area, affect VMT, result in inadequate emergency access or impair implementation of or interfere with an emergency evacuation plan. The additional work hours and construction workers would not change use of roads evaluated in the EIR. While daily trips would increase with additional construction workers by approximately 24 trips over what was evaluated in the NCP Improvement Project EIR, the additional trips would not impair emergency access with implementation of required traffic control plan with temporary road closures.

The NCP Improvement Project EIR did not identify significant cumulative transportation impacts. As indicated above, the NCP Improvement Project EIR identified two cumulative projects near the Brackney North section, one of which has been completed. The construction schedule for the second project, the San Lorenzo Way Bridge Replacement Project, has been delayed from the what was reported in the EIR, and is now scheduled for construction starting in the summer of 2024, which would overlap with the Brackney North construction schedule. The bridge project is located approximately 1,500+ feet south of the closest Brackney North section work area off of San Lorenzo Way. Any potential road lane closures associated with that project would be subject to implementation of a traffic control plan as required by the County of Santa Cruz. However, the Brackney North section construction areas would not include potential lane closures on roads that could be affected by the San Lorenzo Way Bridge Replacement Project, and thus, the trips from the two projects would not combine to result in a potentially significant cumulative impact related to potential interference with emergency access. Therefore, the proposed Brackney North section modifications would not result in new significant impacts or substantially more severe significant impacts than analyzed in the NCP Improvement Project EIR.

5 Conclusion

As demonstrated in the discussion above, the proposed NCP Improvement Project Brackney North section modifications would not result in new significant impacts or substantially more significant impacts than were previously identified and analyzed in the certified NCP Improvement Project EIR. The proposed modifications would not warrant a subsequent CEQA document, as explained in this Addendum because there are no changes in the project circumstances or any substantial new information that would warrant preparation of such a subsequent CEQA document. Additionally, the review did not identify new mitigation measures or alternatives substantially different from those analyzed in the EIR that would reduce significant impacts, or new feasible mitigation measures or alternatives previously found not to be feasible. The information contained within this Addendum is provided as a disclosure document, consistent with Section 15164 of the CEQA Guidelines and will provide a basis for the City to make an administrative determination that the prior EIR and environmental determinations fully address the proposed modifications to the approved NCP Improvement Project.

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6 References

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APPENDIX A

Adopted Mitigation Monitoring and Reporting Program

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8 Mitigation Monitoring and Reporting Program

Section 15097 of the California Environmental Quality Act (CEQA) Guidelines requires that, whenever a public agency approves a project based on a mitigated negative declaration or an environmental impact report (EIR), the public agency shall establish a mitigation monitoring or reporting program to ensure that all adopted mitigation measures are implemented.

This mitigation monitoring and reporting program (MMRP) for the Newell Creek Pipeline (NCP) Improvement Project (Proposed Project) has been prepared pursuant to CEQA (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations, Chapter 3, Sections 15074 and 15097). This is a new chapter that was not included in the Draft EIR. This MMRP is intended to be used by City of Santa Cruz Water Department (SCWD) staff, its contractors and mitigation monitoring personnel to facilitate compliance with mitigation measures during project construction and implementation. Mitigation measures identified in this MMRP were developed during the preparation of the EIR prepared for the Proposed Project. A master copy of this MMRP shall be kept in the office of the SCWD and shall be available for viewing upon request.

The EIR for the Proposed Project presents a detailed set of mitigation measures required for implementation. As noted above, the intent of the MMRP is to facilitate the effective implementation and enforcement of all adopted mitigation measures. The MMRP includes all mitigation measures identified in the EIR and, for each measure, the party responsible for implementation and implementation timing (see Table 8-1). The MMRP also includes the City's standard construction practices, which are described in Chapter 3, Project Description, and would be implemented by the City and its contractors during project operations and construction activities.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
MITIGATION MEASURES IDENTIFIED IN THE ENVIRONMENTAL IMPACT REPORT		
Biological Resources		
MM BIO-1: Project Siting (Applicable to all Proposed Project sections). The City shall protect the specific locations of any sensitive biological resources, including special-status plants, special-status wildlife, sensitive vegetation communities and habitat areas, and jurisdictional aquatic resources, that are outside of but adjacent to construction work areas to minimize disturbance to these resources. These locations shall be identified prior to construction and impacts to such resources will be avoided and minimized through placement of protective measures, such as fencing, staking and/or flagging to prevent equipment or workers from temporarily encroaching within these areas. Warning signs shall be posted on the temporary fencing to alert workers not to proceed beyond the fence, including the following language: "Notice: Sensitive Habitat Area. Do Not Enter." The specific locations of sensitive biological resources to be protected will be identified by a qualified biologist and protective measures will be installed prior to the commencement of construction. Minimize ground disturbing activities that will occur outside existing developed areas and maintained road rights-of-way (ROW) to the maximum extent feasible to avoid and minimize impacts to special-status plants, special-status wildlife, sensitive vegetation communities, sensitive habitats, and aquatic resources.	City responsible for hiring a qualified biologist to identify locations of sensitive biological resources that are outside of but adjacent to construction work areas. City responsible for inclusion of measure in construction specifications and contracts and periodic inspection. Contractor responsible for implementation in coordination with biologist.	Qualified biologist to identifysensitive locations: Prior to construction. Include measure in construction specifications and contracts: Prior to construction. Limit construction activities to designated areas: Prior to and during construction. Periodic inspections: During construction.
MM BIO-2: Special-Status Plant Surveys (Applicable to all Proposed Project sections). To identify special-status plants or plant patches to be avoided under MM BIO-1, a qualified botanist shall survey Proposed Project work areas not covered in 2021 surveys in accordance with standard protocols (CNPS 2001, CDFW 2018, USFWS 2000) prior to construction. The botanist shall also revisit the 2021 botanical survey area to confirm the absence of special-status plants from any direct impact areas (e.g., staging areas, excavation footprints) included in final construction drawings (areas outside direct impact areas that were surveyed in 2021 would not need to be rechecked). The botanist or another qualified biologist with native plant identification training shall be present on site during the placement of protective fencing, staking, and/or flagging so that plants and their root zones are adequately protected from construction activities.	City responsible for hiring qualified botanist/biologist to conduct surveys and be present on site during placement of protective measures.	Conduct focused plant survey: Prior to construction and during appropriate bloom period. Botanist/biologist monitoring: During placement of protective measures.
MM BIO-3: Special-Status Plant Compensation. If any special-status plant occurrences are found in future surveys and cannot be avoided, a plan focused on compensating for impacts to these species shall be developed by the City prior to construction and implemented. This plan shall be a component of the project's overall Habitat Mitigation and Monitoring Plan described in MM BIO-11 and include the following elements: a. Description and quantification of special-status plant occurrences that would be impacted by the project; b. Identification and evaluation of on- or off-site areas for preservation of existing special-status plant occurrences or propagation of new occurrences using seeds from impacted occurrences;	City responsible for hiring qualified botanist/biologist to prepare plan according to specifications in measure. City responsible for implementation of the plan.	Plan preparation if special-status species are found: Prior to construction. Plan implementation: During or after construction per requirements of the plan.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
c. Analysis of appropriate and viable planting or propagation techniques, seed-collection techniques, and seeding rates for impacted species; d. A description of specific performance standards, including a required replacement ratio and minimum success standard of 1:1 for impacted individuals or populations; e. A monitoring and reporting program to ensure mitigation success; and f. A description of adaptive management and associated remedial measures to be implemented in the event that performance standards are not achieved.		
MM BIO-4: Sandhills Species Wildlife Protection and Compensation (Applicable to Proposed Project Newell Creek Road, Glen Arbor, Graham Hill Road North and Graham Hill Road South sections). Direct temporary impacts to suitable Sandhills habitat for the Mount Hermon June beetle and/or Zayante band-winged grasshopper (and individuals) shall be addressed through either the Section 7 or Section 10(a)(1)(B) process under the federal Endangered Species Act (ESA) of 1973, as amended. Alternatively, the City may seek concurrence with USFWS that implementation of appropriate avoidance and minimization measures set forth in the existing O&M HCP and GHWTP HCP would ensure approved levels of incidental take are not exceeded due to project activities. These include six minimization measures (locate project activities on and adjacent to current development, delineate boundaries of the impact area, cover exposed soils, dust control, landscaping elements that do not degrade habitat, and time habitat management activities to avoid key times of the year) and three mitigation measures (protect Sandhills habitat at the City's property in Bonny Doon, purchase conservation credits at the Zayante Sandhills Conservation Bank, and revegetate the area of temporary habitat loss with native Sandhills species). Additionally, compensatory mitigation for the temporary loss of suitable habitat (and individuals) shall be provided at a minimum 1:1 ratio or at other ratios as determined through consultation with USFWS. The City has available acreage at its existing Bonny Doon mitigation site which provides high quality Mount Hermon June Beetle habitat, per the Low-Effect HCP issued for GHWTP activities; this site may be utilized to compensate for any temporary impacts to Mount Hermon June Beetle resulting from the Proposed Project. Once the take authorization has been provided for the Proposed Project, if necessary, relevant conservation measures shall be implemented.	City responsible for consultation with USFWS and implementing any compensatory mitigation. Contractor responsible for implementing avoidance and minimization measures during construction	Consultation with USFWS: Prior to construction. Implementation of avoidance and minimization measures : During construction. Compensatory Mitigation: To be determined based on consultation with USFWS.
MM BIO-5: Mount Hermon June Beetle Protection (Applicable to Proposed Project Newell Creek Road, Glen Arbor, Graham Hill Road North and Graham Hill Road South sections). To reduce potential impacts to Mount Hermon June Beetle, exposed soils disturbed in areas of Zayante soils shall be covered during the active breeding season (May 15 through August 15) between the hours of 7pm and 7am daily. All exposed soils shall be covered by tarps, plywood, erosion control fabric, or other suitable impervious material. This will prevent adult males from burrowing into the exposed soils and subsequently being injured or killed by soil disturbance.	City responsible for inclusion of measures in construction specifications and contracts and periodic inspection. Contractor responsible for covering soils.	Include measure in construction specifications and contracts: Prior to construction. Cover soils: During construction. Periodic inspections: During construction.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
MM BIO-6: Conduct Special-Status Amphibian and Reptile Species Survey and Monitoring (Applicable to Proposed Project Newell Creek Road, Glen Arbor Road, and Graham Hill Road North sections). A pre-construction survey for Santa Cruz black salamander, California giant salamander, and western pond turtle shall be conducted within 48 hours prior to the initiation of ground disturbance in suitable habitat for these species (i.e., damp upland areas near/adjacent to existing aquatic features associated with creeks, and the wetted portion of creeks). The survey area shall include all suitable habitat within work areas, plus a 50-foot buffer. Following the survey, the contractor, under the direction of a qualified biologist, shall install wildlife exclusion fencing (WEF) along the boundary of the work area containing suitable habitat to prevent special-status amphibians and reptiles from entering the work area. WEF must be trenched into the soil at least 4 inches in depth, with the soil compacted against both sides of the fence for its entire length, and must have intermittent exit points. Turn-arounds shall be installed at access points to direct amphibians and reptiles away from gaps in the fencing. A daily pre-construction sweep for wildlife within all staging and work areas shall be conducted and a qualified biologist shall inspect WEF at least weekly when work is conducted within suitable habitat. If any individuals of Santa Cruz black salamander, California giant salamander or western pond turtle are observed during the pre-construction survey or construction, their location(s) shall be recorded and they should be allowed to move out of the area on their own. Alternatively, they shall be moved to the nearest appropriate habitat outside of the work area by a qualified biologist with applicable regulatory approvals to capture, handle, and translocate these species. To avoid entrapment of special-status as well as common amphibian and reptiles during construction, any trenches or pits measuring 1 foot or greater in depth that must be left open at the end of a day's construction activities shall be either covered or encircled with WEF, or the end of any open walls shall be ramped at an approximate 2:1 slope to allow any wildlife that enters the excavation to escape. A qualified biologist may approve the use of an alternative method to prevent ingress or entrapment.	City responsible for hiring qualified biologist to conduct surveys, monitoring, and inspections, and implement relocation, if needed. Contractor responsible for installing and maintaining WEF and ensuring trenches and pits are left in specified condition at the end of the workday.	Pre-construction survey: 48 hours prior to initiation of ground-disturbing activities in suitable habitat. Installation of fencing: Prior to construction. Weekly fence inspection and maintenance: During construction. Daily monitoring: During construction. Trench and pit condition: at the end of each construction workday.
MM BIO-7: Conduct San Francisco Dusky-Footed Woodrat Survey and Relocation (Applicable to Proposed Project Newell Creek Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, and Graham Hill Road North sections). A pre-construction survey to locate woodrat middens shall be conducted by a qualified biologist no more than 14 days prior to the onset of construction activities. The survey area shall include all suitable habitat within the work areas, plus a 50-foot buffer. Woodrat middens found shall be photographed, mapped and flagged with high visibility flagging tape or fenced for avoidance. If middens are found and complete avoidance is not feasible, the following measures shall be implemented after obtaining approval from CDFW to avoid and reduce impacts on San Francisco dusky-footed woodrat: a. A qualified biologist shall dismantle the nest by hand to allow for adult San Francisco dusky-footed woodrat individuals to escape (this work shall be conducted outside of the breeding season for this species which is April through June);	City responsible for hiring qualified biologist to conduct survey and implement relocation, if needed.	Pre-construction survey: Within 14 days prior to commencing construction activities in suitable habitat. Relocation, if needed: Prior to construction.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
b. If young are observed during the dismantling process, the qualified biologist shall stop work for a minimum of 24 hours to allow the adult woodrats to relocate their young; c. Once the nest is determined to be vacant, the dismantling process shall be completed and the nest materials shall be collected and moved to another suitable location nearby and outside of the construction footprint to allow for nest reconstruction; and d. Where feasible, piles of cut vegetation and slash generated by project clearing and grubbing activities shall be left outside of, but near the work area, to provide refuge for woodrats that may become displaced by project activities.		
MM BIO-8: Conduct Preconstruction Nesting Bird Surveys (Applicable to Proposed Project Graham Hill Road North, Brackney North section, and any section where tree or vegetation removal is proposed). Vegetation removal activities shall be conducted outside the bird nesting season (February 1 through August 31) as much as possible to avoid direct impacts to nesting birds. For construction and vegetation removal activities occurring during the nesting season, an avian nesting survey of the work areas and contiguous habitat within 300 feet of all impact areas must be conducted for protected migratory birds and active nests. The avian nesting survey shall be performed by a qualified wildlife biologist within 14 days prior to the start of vegetation removal or construction activities. Once construction has started, if there is a break in activities that exceeds 14 days, then another avian nesting survey shall be conducted. If an active bird nest is found, the nest shall be flagged and mapped on the construction plans along with an appropriate no disturbance buffer, which will be determined by the biologist based on the species' sensitivity to disturbance. The nest area shall be avoided until the nest is vacated and the juveniles have fledged. The no disturbance buffer shall be demarcated in the field with flagging and stakes or construction fencing as determined appropriate by the biologist.	City responsible for hiring qualified biologist to conduct surveys and identify appropriate no disturbance buffers, as needed.	Pre-construction survey: Within 14 days prior to initiation of construction activities or vegetation removal during the nesting season; subsequent survey(s) required if construction is paused for more than 14 days during the nesting season. Installation of fencing/flagging: Following any observed nesting activity within or adjacent to project work areas.
MM BIO-9: Conduct Preconstruction Roosting Bat Survey (Applicable to Proposed Project Newell Creek Road, Brackney North, Brackney South, San Lorenzo Way, Felton Booster Pump Station, and Graham Hill Road North sections). To the extent practicable, tree removal should occur outside peak bat activity timeframes when young or overwintering bats may be present, which generally occurs from March through April and August through October, to ensure protection of potentially occurring bats and their roosts within work areas. Additionally, daily restrictions on the timing of any construction activities should be limited to daylight hours to reduce disturbance to roosting (and foraging) bat species. Additionally, a visual bat survey should be conducted within 30 days prior to the removal of any trees and commencement of construction activities. The survey should include a determination on whether any active bat roosts are present on or within 50 feet of the project work areas. If a non-breeding and non-wintering bat colony is found, the individuals shall be evicted under the direction of a qualified biologist to ensure their protection and avoid unnecessary harm. If a maternity colony or overwintering colony is found within the work areas, then the qualified biologist shall establish a suitable construction-free buffer around the location. The	City responsible for hiring qualified biologist to conduct survey and identify no disturbance buffers or implement relocation, as needed	Pre-construction survey: Within 30 days prior to tree removal or initiation of construction activities. Installation of fencing/flagging: Following any observed maternity or overwintering colony of bats within or adjacent to project work areas.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
construction-free buffer shall remain in place until the qualified biologist determines that the nursery is no longer active.		
MM BIO-10: Biological Construction Monitoring (Applicable to all sections with off-pavement ground disturbance). A qualified biologist shall monitor vegetation removal and initial ground disturbing construction activities for off-pavement work and conduct periodic monitoring inspections for all other construction activities. The monitor shall check any installed WEF (MM BIO-6) and buffers for any active nesting birds (MM BIO-7) encountered at least once a week, and if nesting birds are determined to be present, shall verify when the young have fledged before commencement of construction activities in proximity to the nest. The biologist shall have stop-work authority in the event that a protected species is found within the active construction footprint. During construction, the biological monitor shall keep a daily observation log and a photo log to describe monitoring activities, remedial actions, non-compliance, and other issues and actions taken. These logs shall be kept on-site or tracked in a digital database and made available for inspection by agency personnel.	City responsible for hiring qualified biologist to conduct construction monitoring.	Monitoring: During construction.
MM BIO-11: Sensitive Vegetation Communities Compensation (Applicable to Proposed Project Newell Creek Road, Glen Arbor Road, Graham Hill Road North, and Graham Hill Road South sections). Direct temporary impacts to sensitive vegetation communities shall be mitigated via a combination of on-site and off-site measures. On-site measures shall include rehabilitation for areas temporarily impacted at a 1:1 mitigation ratio. All areas temporarily impacted shall be returned to conditions similar to those that existed prior to grading and/or ground-disturbing activities. It is anticipated that a one-time restoration effort at the completion of the project followed by monitoring and invasive weed removal for a minimum of 3 years would adequately compensate for the direct temporary impacts to these vegetation communities. If mitigation cannot be fully accomplished on site due to spacing constraints, the remaining compensatory mitigation shall be accomplished off site via rehabilitation, enhancement, and/or preservation of in-kind vegetation in the same watershed. A Habitat Mitigation and Monitoring Plan shall be prepared and implemented to compensate for the loss of all sensitive vegetation communities (see below). Rehabilitation and enhancement activities with Zayante soils will be revegetated with plants native to the Sandhills habitat (on Zayante soils), such as sticky monkeyflower (*Mimulus aurantiacus*), deer weed (*Lotus scoparius*), and silver bush lupine. These native plants will provide suitable habitat conditions for special-status species that might eventually colonize the temporarily impacted portion of the impact area. These revegetated areas will not include any landscape elements that degrade habitat for the special-status species, including mulch, bark, weed matting, rock, aggregate, or turf grass. The Habitat Mitigation and Monitoring Plan shall detail the habitat restoration activities and shall specify the criteria and standards by which the revegetation and restoration actions will compensate for impacts	City responsible for hiring qualified biologist to prepare plan and implement rehabilitation and monitoring in accordance with specifications in the plan.	Plan preparation: Prior to construction. Rehabilitation and plan implementation: After completion of construction activities. Monitoring/weed removal: At least 3 years following rehabilitation.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
of the Proposed Project on sensitive vegetation communities and shall at a minimum include discussion of the following: a. The rehabilitation and enhancement objectives, type, and amount of revegetation to be implemented taking into account enhanced areas where non-native invasive vegetation is removed and replanting specifications that take into account natural regeneration of native species when applicable. b. The specific methods to be employed for revegetation. c. Success criteria and monitoring requirements to ensure vegetation community restoration success. d. Remedial measures to be implemented in the event that performance standards are not achieved.		
MM BIO-12: Aquatic Resource Avoidance. Future refinements to the Proposed Project shall avoid jurisdictional aquatic resources regulated by the U.S. Army Corps of Engineers, Regional Water Control Board, and California Department of Fish and Wildlife, to the maximum extent practicable. As described in MM BIO-1, where feasible and appropriate, all jurisdictional aquatic resources not directly affected by construction activities will be avoided and protected by establishing staking, flagging or fencing between the identified construction areas and aquatic resources to be avoided.	City responsible for hiring qualified biologist to identify aquatic resources to be avoided and coordinate with contractor to establish protective fencing or flagging.	Establish fencing and flagging: Prior to construction.
MM BIO-13: Aquatic Resource Compensation. For any unavoidable impacts to jurisdictional aquatic resources, the City shall ensure that there is no net loss of such resources. This shall be accomplished by providing compensatory mitigation at a minimum ratio of 1:1 for temporary impacts and 2:1 for permanent impacts, or at other ratios as determined through negotiations with the regulatory agencies. A project-specific mitigation plan shall be developed for submittal to the U.S. Army Corps of Engineers, Regional Water Control Board, and/or California Department of Fish and Wildlife, as appropriate, through their respective regulatory permitting processes, and implemented. The mitigation plan shall specify the criteria and standards by which the mitigation will compensate for impacts of the Proposed Project and include discussion of the following: a. The mitigation objectives and type and amount of mitigation to be implemented; b. The location of the proposed mitigation site(s) (within the San Lorenzo River watershed, if possible); c. The methods to be employed for mitigation implementation (jurisdictional aquatic resource establishment, re-establishment, enhancement, and/or preservation); d. Success criteria and a monitoring program to ensure mitigation success; and e. Adaptive management and remedial measures in the event that performance standards are not achieved.	City responsible for hiring qualified biologist to prepare plan. City responsible for implementing plan.	Plan preparation: Prior to construction. Plan implementation: After completion of construction activities, or as specified in the plan.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
Geology and Soils		
MM GEO-1: HDD Geologic Monitoring (Applicable to Brackney North section). A California Certified Engineering Geologist (CEG) or Registered Geotechnical Engineer (RGE) shall monitor horizontal directional drilling (HDD) operations for potential ground subsidence or soil collapse along the HDD alignment. In the event that ground subsidence or soil collapse is observed, HDD operations shall cease pending completion of remedial measures. Remedial measures shall include adjustments to drilling operations to preclude additional ground failure, as well as remedial measures to repair the area of ground failure.	Contractor responsible for monitoring drilling operations. City responsible for providing a full-time inspector under the direction of a qualified geologist or engineer to oversee monitoring.	Drilling operations monitoring: During construction.
MM GEO-2: HDD Inadvertent Fluid Return Plan (Applicable to Brackney North and Brackney South sections). An inadvertent fluid return contingency plan shall be prepared and implemented, including measures for training, monitoring, worst-case scenario evaluation, equipment and materials, agency notification and prevention, containment, clean up, and disposal of released drilling mud. Site-specific contingency measures shall be developed for the proposed HDD alignment, taking into consideration terrain, access, resource sensitivities, and proximity of suitable areas for staging inadvertent fluid return equipment. Preventative measures would include incorporation of recommendations by a professionalengineer, based on geotechnical investigations, to determine the most appropriate drilling mud mixture and drilling pressures. Drilling pressures shall be closely monitored by a CEG or RGE such that those pressures do not exceed pressures required to penetrate the rock formation. Monitoring by a minimum of two monitors, which could include a CEG or RGE, shall occur throughout drilling operations to ensure swift response in the event of inadvertent fluid return. In the event of inadvertent fluid return and if containment becomes necessary, containment shall be accomplished through construction of temporary berms/dikes and use of silt fences, straw bales, absorbent pads, straw wattles, and plastic sheeting. Any required clean up shall be accomplished with plastic pails, shovels, portable pumps, and other equipment and materials identified in the contingency plan. The inadvertent fluid return contingency plan shall be submitted to the City for review and approval.	Contractor responsible for preparing a fluid return contingency plan under review of the contractor's engineer and conducting monitoring during drilling operations. City to provide oversight of monitoring during inspections under the direction of a qualified geologist or engineer.	Plan preparation: Prior to construction. Drilling operations monitoring: During construction.
MM GEO-3: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring (Applicable to Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, and Graham Hill Road North sections). Prior to commencement of any trenching activity on site, the City shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the Proposed Project. The PRIMP shall be consistent with the SVP (2010 or most current version) guidelines and outline requirements for preconstruction meeting attendance and worker environmental awareness training; paleontological monitoring as required based on geological mapping, construction plans, and/or geotechnical reports; procedures for adequate paleontological monitoring and discoveries treatment; paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils); reporting; and collections management. The qualified paleontologist shall attend the preconstruction	City responsible for hiring qualified paleontologist to prepare the PRIMP and conduct worker training and monitoring. City responsible for inclusion of paleontological resource protection measures in construction specifications and contracts.	Include measure in construction specifications and contracts: Prior to construction. PRIMP preparation and worker training: Prior to site grading or excavation. Monitoring: During grading and ground disturbance as specified in the PRIMP.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
meeting and a qualified paleontological monitor shall be on site during all trenching and other significant ground-disturbing activities (including augering) in previously undisturbed, Lompico Sandstone, Monterey Formation, and Santa Margarita Sandstone deposits, as defined by the PRIMP. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.		
Hazards and Hazardous Materials		
MM HAZ-1: Hazardous Materials Management. Prior to initiation of Project construction, the City shall complete soil sampling within the proposed pipeline route, adjacent to the former Santa Cruz Lumber Yard site at 5843 Graham Hill Road, and in the Brackney Road and Rose Acres Lane neighborhoods, including the Brackney North and Brackney South pipeline sections. Soil samples shall be collected to a depth of 3 feet below ground surface and analyzed for California Administrative Manual (CAM) (i.e., California Title 22) metals. In the event that Title 22 metals are detected at concentrations in excess of regulatory action levels, as determined by the California Department of Toxic Substances Control (DTSC) and/or Santa Cruz County Environmental Health Division, a Soil Management Plan shall be developed that requires potential metals-impacted soils to be segregated and sampled to determine proper disposal options (i.e., hazardous versus nonhazardous landfill) or reuse (e.g., trench backfill). The City shall direct the contractor to consult with an industrial hygienist to determine the appropriate level of personal protective equipment (PPE), if any, that would be required for construction personnel during handling of potential metals-contaminated soil. The contractor shall implement the recommendations by the industrial hygienist to minimize potential exposure of construction personnel to metals concentrations in sediments during construction. All recommendations shall be completed in accordance with Occupational Safety and Health Administration (OSHA) Training Requirements (29 CFR 1910.132 and 1910.134, Subpart I – Personal Protective Equipment).	City responsible for hiring consultant to conduct soil sampling. City responsible for hiring qualified consultant to prepare a Soil Management Plan , if needed. City responsible for inclusion of requirement to consult with an industrial hygienist in construction specifications and contracts. Contractor responsible for implementation of industrial hygienist's recommendations for PPE.	Soil sampling: Prior to construction. Plan preparation: Prior to construction. Consultation with industrial hygienist, if needed: Prior to construction. Implementation of PPE requirements: During construction.
Noise		
MM NOI-1: Construction Noise (Applies to all segments). The Proposed Project shall implement the following measures related to construction noise: • Restrict construction activities and use of equipment that have the potential to generate significant noise levels (e.g., use of concrete saw, mounted impact hammer, jackhammer, rock drill, etc.) to between the hours of 8:00 AM and 5:00 PM, unless specifically identified work outside these hours is authorized by the City's Water Director as necessary to allow for safe access to a construction site, safe construction operations or efficient construction progress, such as required by the HDD pullback operations for the Brackney North segment.	City responsible for inclusion of construction noise requirements in construction specifications and contracts. Contractor responsible for implementation during construction.	Include measures in construction specifications and contracts: Prior to construction. Implementation of measure: During construction.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
• Construction activities requiring operations continuing outside of the standard work hours of 8:00 AM and 5:00 PM (e.g., HDD operations for the Brackney North and Brackney South sections) shall locate noise generating equipment as far as possible from noise-sensitive receptors, and/or within an acoustically rated enclosure (meeting or exceeding Sound Transmission Class [STC] 27), shroud or temporary barrier as needed to limit the propagation of sound into the surrounding areas in excess of the 60 dBA nighttime (10:00 PM to 8:00 AM) criteria at the nearest sensitive receptor. Noisy construction equipment, such as aboveground conveyor systems, and impact tools will likely require location within such an acoustically rated enclosure, shroud or barrier to meet the above criteria. Impact tools, in particular, shall have the working area/impact area shrouded or shielded whenever possible, with intake and exhaust ports on power equipment muffled or suppressed. • Use of temporary or portable, application-specific noise shrouds, barriers,enclosures or other noise-reducing equipment or methods shall be required, if needed, to shield nearby noise-sensitive receptors from equipment and operations that have the potential to generate noise levels in excess of the 75 dBA daytime (8:00 a.m. to 10:00 p.m.) criteria, as measured at nearby sensitive receptors. This generally corresponds with a distance of 125 feet from construction activities to the nearest sensitive receptor, however site-specific factors will need to be taken into consideration, such as the specific construction equipment mix, duration of exposure, and intervening structures or topography that may result in associated noise reductions below the acceptable daytime noise threshold. • Portable and stationary site support equipment (e.g., generators, compressors, and cement mixers) shall be located as far as possible from nearby noise-sensitive receptors. • Construction equipment and vehicles shall be fitted with efficient, well-maintained mufflers that reduce equipment noise emission levels at the project site. Internal-combustion-powered equipment shall be equipped with properly operating noise suppression devices (e.g., mufflers, silencers, wraps) that meet or exceed the manufacturer's specifications. Mufflers and noise suppressors shall be properly maintained and tuned to ensure proper fit, function, and minimization of noise. • Construction equipment shall not be idled for extended periods of time (i.e., 5 minutes or longer) in the immediate vicinity of noise-sensitive receptors.		
STANDARD CONSTRUCTION PRACTICES INCLUDED IN THE PROPOSED PROJECT		
Erosion and Air Quality Control		
1. Implement erosion control best management practices for all construction activities occurring in or adjacent to jurisdictional aquatic resources (resources subject to permitting under the Clean Water Act, Clean Water Act, Porter-Cologne Water Quality Act and/or California Fish and Game Code). These measures may include, but are not limited to, (1) installation of silt fences, fiber or straw rolls, and/or bales along limits of work/construction areas and from the edge of the water course; (2) covering of	City responsible for inclusion of measure in construction specifications and contracts and periodic inspection.	Prior to construction, include measure in construction specifications and contracts.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
stockpiled spoils; (3) revegetation and physical stabilization of disturbed graded and staging areas; and (4) sediment control including fencing, dams, barriers, berms, traps, and associated basins.	Contractor responsible for implementation.	Implement measure during construction. Periodic inspection during construction to ensure no violations.
2. Provide stockpile containment and exposed soil stabilization structures (e.g., Visqueen plastic sheeting, fiber or straw rolls, gravel bags, and/or hydroseed).	City responsible for inclusion of measure in construction specifications and contracts and periodic inspection. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
3. Provide runoff control devices (e.g., fiber or straw rolls, gravel bag barriers/chevrons) used during construction phases conducted during the rainy season. Following all rain events, runoff control devices shall be inspected for their performance and repaired immediately if they are found to be deficient.	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
4. Implement wind erosion (dust) controls, including the following: • Use a water truck; • Water active construction areas as necessary to control fugitive dust; • Hydro seed and/or apply non-toxic soil binders to exposed cut and fill areas after cut and fill operations; • Cover inactive storage piles; • Cover all trucks hauling dirt, sand, or loose materials off site; and • Install appropriately effective track-out capture methods at the construction site for all exiting trucks.	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
Water Quality Protection		

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
5. Locate and stabilize spoil disposal sites and other debris areas such as concrete wash sites. Sediment control measures shall be implemented so that sediment is not conveyed to waterways or jurisdictional aquatic resources (resources subject to permitting under the Porter-Cologne Water Quality Act Section 13000 et seq, Clean Water Act Section 404, Clean Water Act Section 401, and/or California Fish and Game Code).	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
6. Minimize potential for hazardous spills from heavy equipment by not storing equipment or fueling within a minimum of 65 feet of any jurisdictional aquatic resource unless approved by permitting agencies along with implementation of additional spill prevention methods such as secondary containment and inspection.	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
7. Ensure that appropriate measures are taken to prevent gas, oil, or any other substances that could be hazardous to aquatic life or pollute habitat from contaminating the soil or entering jurisdictional aquatic resources by storing these types of materials within an established containment area. Vehicles and equipment will have spill kits available, be checked daily for leaks, and will be properly maintained to prevent contamination of soil or water from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease. Any gas, oil, or other substance that could be considered hazardous shall be stored in water-tight containers with secondary containment. Emergency spill kits shall be on site at all times.	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
8. Prevent equipment fluid leaks through daily equipment inspections.	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
		Periodic inspection during construction to ensure no violations.
9. Implement proper waste/trash management.	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
In-Channel Work and Fish Species Protection		
The City's Standard Construction Practices for In-Channel Work and Fish Species Protection (Practices #10-12) are not applicable to the Project because no work would occur within flowing water.		
General Habitat Protection		
13. Minimize disturbance of riparian vegetation to the maximum extent feasible when working in or adjacent to an active stream channel.	City responsible for inclusion of measure in construction specifications and contracts, and periodic inspections. Contractor responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction. Periodic inspection during construction to ensure no violations.
14. Restore all temporarily disturbed sensitive natural communities areas by replanting native vegetation using a vegetation mix appropriate for the site.	City responsible for replanting.	Upon completion of construction.
The City's Standard Construction Practice for decontamination of tools and equipment prior to entering waterways (Practice #15) is not applicable to the Project because no work would occur within flowing water.		
16. A qualified biologist shall conduct a training-educational session for project construction personnel prior to any mobilization-construction activities within the project sites to inform personnel about species that may be present on site. The training shall consist of basic identification of special-status species that may occur on or near the project site, their habitat, their basic habits, how they may be	City responsible for hiring qualified biologist or trained designee to conduct training.	Training: Prior to construction and prior to new work crews coming onto the site.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
encountered in the work area, and procedures to follow when they are encountered. The training will include a description of the project boundaries; general provisions of the Migratory Bird Treaty Act, California Fish and Game Code, and federal and state Endangered Species Acts; the necessity for adhering to the provision of these regulations; and general measures for the protection of special-status species, including breeding birds and their nests. Any personnel joining the work crew later shall receive the same training before beginning work.		
Dewatering		
The City's Standard Construction Practices for Dewatering (Practices #17-23) are not applicable to the Project because no work would occur within flowing water.		
Inadvertent Discoveries of Archaeological Resources and Human Remains		
24. Any unrecorded archaeological resources (sites, features, and/or artifacts) exposed during construction are subject to protection and consideration under CEQA and the California Public Resources Code (PRC) as well as Section 106 of the National Historic Preservation Act (NHPA) as detailed in the Code of Federal Regulations (CFR). The CEQA Guidelines Section 15064.5(f) specifically addresses provisions the City of Santa Cruz will make regarding accidental discovery of historical or unique archaeological resources during construction. The responsibilities of the lead federal agency to avoid, minimize or mitigate adverse effects to a "historic property" (36 CFR Section 800.16) are detailed in 36 CFR Section 800.13[b] and would be applicable for a project with federal involvement by way of funding, permitting, approval authority, or other means. In general, the implementation procedures under CEQA and the NHPA in the case of an inadvertent archaeological discovery during construction are similar and are as follows: • If archaeological resources are exposed immediately stop any construction work occurring within 100 feet which may further disturb the find. NOTE – This is a general guideline for the initial response, the exclusion zone may be contracted or expanded depending on the nature of discovery and type of construction activity proposed in the vicinity of the find. The duration of the exclusion zone will be determined by the City and the federal lead agency and is contingent on the approved course of action in response to the discovery. • Immediately notify the City Project Manager who shall immediately notify the Water Department Deputy Director/Engineering Manager • A qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards will evaluate the state and federal significance of the find for eligibility to the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP) in coordination with City staff.	City responsible for inclusion of measure in construction specifications and contracts. Contractor and City responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
• The City will notify the lead federal agency within 24 hours of discovery. The notification shall describe the assessment of the NRHP eligibility of the resource, specify the NRHP criteria used to evaluate the property's eligibility, and propose actions to resolve any adverse effects. • The federal lead agency will contact the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), and any interested locally affiliated Native American tribes. The SHPO, ACHP, and Native American tribes will respond within 48 hours of the notification. The federal lead agency shall consider any recommendations regarding National Register eligibility and proposed actions and notify the City of the appropriate actions. The federal lead agency official shall provide the SHPO and the ACHP a report of the actions when they are completed. • Avoidance and/or minimization of impacts/effects is the preferred course of actions under both state and federal guidelines. If preservation in place is not feasible, additional study will likely be required. In coordination with the lead federal agency, the City will prepare a data recovery/treatment plan for retrieving important archaeological data relevant to the site's significance. The data recovery/treatment plan will be submitted to participating tribes and agencies for review and comment prior to implementation. • If the inadvertent discovery location cannot be avoided, and continuing work would have an adverse effect on the site, the federal agency, in coordination with the City, SHPO, and Native American tribes as appropriate, will need to draft and finalize a Memorandum of Agreement for the treatment of the historic property before work can proceed. • Implementation of the data recovery/treatment plan may include archaeological excavations, technical and laboratory analysis, and further consultation and coordination with Native American tribal representatives. • A full written report will be prepared to include the results of all technical analyses and special studies and will be provided to participating tribes and agencies for review and comment. The report will be filed with the Northwest Information Center and will also provide for the permanent curation of recovered materials.		
25. In California, the illegal possession of human remains is a felony, punishable by imprisonment (California Penal Code Section 1170[h]; Public Resources Code 5097.99[a] and [b]). Inadvertent discoveries of human remains exposed during construction on non-federal lands are subject to protection under CEQA and the NHPA. In accordance with Section 7050.5 of the California Health and Safety Code and the NHPA, if potential human remains are found, immediately notify the City, the lead federal agency, and the Santa Cruz County Coroner of the discovery. The Santa Cruz County Coroner will provide a determination within 48 hours of notification. No further excavation or	City responsible for inclusion of measure in construction specifications and contracts. Contractor and City responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
disturbance of the identified material, or any area reasonably suspected to overlie additional remains, can occur until a determination has been made. • If human remains are exposed **immediately stop any construction work occurring within 100 feet** which may further disturb the find. NOTE – This is a general guideline for the initial response, the exclusion zone may be contracted or expanded depending on the nature of discovery and type of construction activity proposed in the vicinity of the find. The duration of the exclusion zone is contingent on the course of action mandated by the City and lead federal agency. • If the Santa Cruz County Coroner determines that the remains are, or are believed to be, Native American, the coroner will notify the Native American Heritage Commission (NAHC) within 24 hours and all the actions described in these Standard Construction Practices regarding Inadvertent Archaeological Discoveries shall be followed. • In accordance with California Public Resources Code, Section 5097.98 and Section 106 of the NHPA, the NAHC must immediately notify those persons it believes to be the Most Likely Descendant (MLD) from the deceased Native American. • Within 48 hours of this notification, the MLD will recommend to the City and lead federal agency her/his preferred treatment of the remains and associated grave goods. • The ultimate disposition of the remains will be coordinated between the City, the federal agency, the MLD, the landowner, and the NAHC (if necessary). • The lead federal agency will have additional government-to-government consultation requirements per the requirements of Section 106 [36 CFR § 800.2(c)(2)(ii)] which cannot be delegated to non-federal entities.		
Other Practices		
26. Notify adjacent property owners of nighttime construction schedules. A Construction Noise Coordinator will be identified. The contact number for the Construction Noise Coordinator will be included on notices distributed to neighbors regarding planned nighttime construction activities. The Construction Noise Coordinator will be responsible for responding to any local complaints about construction noise. When a complaint is received, the Construction Noise Coordinator shall notify the City within 48 hours of the complaint, determine the cause of the noise complaint, and implement as possible reasonable measures to resolve the complaint, as deemed acceptable by the City.	City responsible for inclusion of measure in construction specifications and contracts. Contractor and City responsible for implementation.	Prior to construction, include measure in construction specifications and contracts. Implement measure during construction.
27. For construction in wildlands or in the wildland-urban interface, internal combustion engine equipment shall include spark arrestors, fire suppression equipment (e.g. fire extinguishers and shovels) shall be stored onsite during use of such mechanical equipment, and construction activities shall not be conducted during red flag warnings issued by the California Department of Forestry and Fire	City responsible for inclusion of measure in construction specifications and contracts.	Prior to construction, include measure in construction specifications and contracts.

Table 8-1. Mitigation Monitoring and Reporting Program

Mitigation Measures and Standard Practices	Party Responsible for Implementation	Implementation Timing
Protection (CAL FIRE) unless adequate fire protection measures are implemented in compliance with federal, state, and local fire prevention and protection regulations and guidance. Fire safety measures will be detailed in a Fire Safety Program on a project-by-project basis. Red flag warnings and fire weather watches are issued by CAL FIRE based on weather patterns (low humidity, strong winds, dry fuels, etc.) and listed on their website (https://www.fire.ca.gov/programs/communications/red-flag-warnings-fire-weather-watches/).	Contractor responsible for implementation.	Implement measure during construction.

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