4.3 Biological Resources

This section describes the existing biological resources of the Proposed Project sites and vicinity, identifies associated regulatory requirements, evaluates potential project and cumulative impacts, and identifies mitigation measures for any significant impacts related to implementation of the proposed Newell Creek Pipeline (NCP) Improvement Project (Proposed Project). The analysis is based on a Biological Resources Assessment (BRA, Dudek 2021) that is included in Appendix B. The BRA includes a Sandhills Habitat Assessment (McGraw 2021a) and focused botanical survey (McGraw 2021b) prepared for the Proposed Project. Data regarding biological resources present within the Proposed Project sites were obtained through a review of pertinent literature, field reconnaissance, an aquatic resources jurisdictional delineation, and habitat assessments. This section summarizes results of the BRA; see Appendix B for further details.

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

4.3.1 Existing Conditions

4.3.1.1 Study Area

A biological study area (BSA) was established to analyze potential impacts resulting from implementation of the Proposed Project. The BSA includes the construction disturbance areas identified for the pipeline sections, including identified staging areas, within the Northern Segment (Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, San Lorenzo Way, and Felton Pump Station) and Southern Segment (San Lorenzo Lumber Yard, Henry Cowell State Park, Pipeline Road, Graham Hill Road North, and Graham Hill Road South), plus a 300-foot buffer on both sides of the centerline. The BSA includes a total of 982.82 acres and includes the existing pipeline segments in addition to the proposed alignments. The construction disturbance areas for each proposed pipe section are identified in Section 3.5.2, Description of Pipeline Segments.

4.3.1.2 Vegetation Communities and Land Covers

The BSA supports a total of 17 natural vegetation communities and 5 land covers. Figures 3-1 to 3-18 in Appendix B illustrate the distribution of vegetation communities and land covers for the northern and southern segments, respectively. Table 4.3-1 on the next page summarizes the extent of vegetation communities and land covers within the BSA. Descriptions of these vegetation communities and land covers are provided in Appendix B. Approximately 620 acres within the BSA are native vegetation communities, and the prominent communities are redwood forest and woodland (30%), ponderosa pine forest and woodland (20%), and coast live oak woodland and forest (15%). The BRA recorded 115 species of native or naturalized plants, consisting of 88 native (77%) and 27 non-native (23%) species during vegetation community mapping and biological reconnaissance surveys. Full lists of plant species observed are provided in Appendix B.

A total of 37 wildlife species, consisting of 35 native species (95%) and 2 non-native species (5%), were recorded within the BSA during surveys. A full list of observed wildlife species by taxonomic group is provided in Appendix B.

Table 4.3-1. Vegetation Communities and Land Covers within the Biological Study Area

Vegetation Alliance (Common Name) or Land Cover	Project Sections Where Found	Area (acres)
Forest and Woodland Alliances and Stands		
Bigleaf maple forest and woodland (BMFW)	Newell Creek Road, Brackney North, Brackney South	2.7
Black cottonwood forest and woodland (BCFW)	Graham Hill Road North	1.8
Box-elder forest and woodland (BFW)	Graham Hill Road North	2.4
California bay forest and woodland (CBFW)	Newell Creek Road, Brackney North, Brackney South, San Lorenzo Way	20.9
California sycamore woodland (CSW)	San Lorenzo Way, Felton Pump Station	12.0
Coast live oak woodland and forest (CLO)	All, except Brackney North	90.1
Douglas fir - tanoak forest and woodland (DF-TFW)	Existing NCP-Pipeline Road	4.5
Douglas fir forest and woodland (DFFW)	Brackney North, Brackney South, Graham Hill Road South, Existing NCP-Pipeline Road	43.6
Mixed oak forest and woodland (MOFW)	Newell Creek road, Brackney North, San Lorenzo Way, Existing NCP-Pipeline Road	54.9
Ponderosa pine forest and woodland (PPFW)	Graham Hill Road North, Graham Hill Road South, Existing NCP-Pipeline Road	125.0
Redwood forest and woodland (RFW)	All, except Felton Pump Station	186.4
White alder groves (WAG)	Newell Creek road, Felton Pump Station, Graham Hill Road North	13.8
Subtotal Forest and Woodland Alliances and Stands		*558.1*
Shrubland Alliances and Stands		
Coastal brambles (COB)	Glen Arbor Road, Brackney North	0.4
Coyote brush scrub (CYS)	Newell Creek Road, San Lorenzo Way, Felton Pump Station	6.5
Poison oak scrub (POS)	Brackney South	1.9
Silverleaf manzanita chaparral (SMC)	Newell Creek Road, Glen Arbor Road, Graham Hill Road North	44.0
Subtotal Shrubland Alliances and Stands		*52.8*
Herbaceous Alliances and Stands		
Wild oats and annual brome grasslands (WOABG)	San Lorenzo Way, Graham Hill Road South	7.1
Subtotal Herbaceous Alliances and Stands		*7.1*
Non-natural Land Covers/Unvegetated Communities		
Dirt Road (DRD)	Brackney North, Brackney South, San Lorenzo Way, Graham Hill North	3.4
Disturbed Habitat (DH)	Newell Creek Road, Brackney South, San Lorenzo Way, Felton Pump Station, Graham Hill Road North & South	40.7
Parks (PARK)	Felton Pump Station, Graham Hill North	4.9
Rural residential (DEV-RR)	All, except Existing NCP-Pipeline Road	230.4
Urban/Developed (DEV)	All, except Brackney North	85.7
Subtotal Non-Natural Land Covers/Unvegetated Communities	-	*365.1*
Total	-	**983.1**

4.3.1.3 Special-Status Species

Special-status species include those plants and animals that have been formally listed or proposed for listing as endangered or threatened under either the state or federal Endangered Species Acts; candidates for either state or federal listing; species that meet the definition of rare or endangered under CEQA Guidelines Section 15380; animals designated by the CDFW to be Species of Special Concern (SSC); animals designated by the California Fish and Game Code as fully protected species; plants listed as rare under the California Native Plant Protection Act of 1977; and plants with California Rare Plant Ranks (CRPR) of 1A, 1B, 2A, or 2B.

Special-Status Plants

Based on the results of the literature review and database searches, 59 special-status plant species were identified as potentially occurring in the BSA. Of these, 31 species are not expected to occur due to the absence of suitable habitat or because the BSA is outside the known range of the species, and 12 species are considered to have low potential to occur based on the presence of low-quality habitat. There is no USFWS-designated critical habitat for listed plant species within the BSA.

A total of seven species were determined to have a moderate potential to occur in the BSA based on the soils, vegetation communities (habitat) present, elevation range, and previous known locations based on the California Natural Diversity Database (CNDDB), USFWS Information for Planning and Consultation (IPaC), and CNPS Inventory: Anderson's manzanita (*Arctostaphylos andersonii*), deceiving sedge (*Carex saliniformis*), Kellogg's horkelia (*Horkelia cuneata* var. *sericea*), Point Reyes horkelia (*Horkelia marinensis*), robust spineflower (*Chorizanthe robusta* var. *robusta*), Santa Cruz wallflower, and tear drop moss (*Dacryophyllum falcifolium*). The remaining nine species were either observed or determined to have a high potential to occur in the BSA. These species are summarized in Table 4.3-2 and discussed below.

The focused botanical surveys conducted in 2021 along three of the pipeline sections proposed for the first phase of project implementation (Brackney North, Graham Hill Road North, and Graham Hill Road South) documented the occurrence of three special-status plants: Ben Lomond buckwheat (*Eriogonum nudum var. decurrens*), Ben Lomond spineflower, and silverleaf (Bonny Doon) manzanita. No special status species were identified in the Brackney North section during the focused botanical surveys.

Observed Special-Status Plant Species

Silverleaf (Bonny Doon) manzanita (*Arctostaphylos silvicola*) is a shrub with a CRPR of 1B.2 that occurs in closed-cone coniferous forest, chaparral, lower montane coniferous forest, and inland marine sands/perennial evergreen shrub. The species was observed in the Graham Hill Road North section. Suitable forest and shrub habitat also are present within the BSA in the Newell Creek Road and Glen Arbor Road sections and in the Pipeline Road section of the existing NCP (McGraw, 2021b). As noted above, this species was observed along the ROW during the 2021 habitat assessment and focused botanical surveys.

Table 4.3-2. Special-Status Plant Species Observed or with a High Potential to Occur Within the Biological Study Area

Scientific Name	Common Name	Federal/State/CRPR	Potential to Occur*
Arctostaphylos silvicola	Silverleaf (Bonny Doon) manzanita	None/None/1B.2	Observed
Chorizanthe pungens var. hartwegiana	Ben Lomond spineflower	FE/None/1B.1	Observed
Eriogonum nudum var. decurrens	Ben Lomond buckwheat	None/None/1B.1	Observed
Fissidens pauperculus	minute pocket moss	None/None/1B.1	High
Holocarpha macradenia	Santa Cruz tarplant	FT/SE/1B.1	High
Monardella sinuate ssp. nigrescens	northern curly-leaved monardella	None/None/1B.2	High
Monolopia gracilens	woodland woolythreads	None/None/1B.2	High
Plagiobothrys chorisianus var. chorisianus	Choris' popcornflower	None/None/1B.2	High
Plagiobothrys diffuses	San Francisco popcornflower	None/SE/1B.1	High

Source: CDFW 2021a; CNPS 2021.

Status Legend

***** Although the BSA provides potential habitat, the proposed work areas do not generally support suitable habitat for these species due to the disturbed and developed nature of the ROW.

Federal

FE: Federally listed as endangered

FT: Federally listed as threatened

State

SE: State listed as endangered

CRPR (California Rare Plant Rank)

List 1B: Plants rare, threatened, or endangered in California and elsewhere

Threat Rank:

.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Fairly endangered in California (20% to 80% of occurrences threatened)

Ben Lomond spineflower is an annual herb that is federally endangered with a CRPR of 1B.1. It occurs in lower montane coniferous forest (maritime ponderosa pine Sandhills). Suitable forest habitat and sandhill soils are present within all portions of the BSA, except for the Graham Hill Road South section. As noted above, this species was observed during the 2021 focused botanical surveys and was found along an approximately 4,100-foot-long portion of the Graham Hill Road North section that traverses Sandhills habitat. Ben Lomond spineflower occupies 10 patches totaling 294 square feet (sf), which contain a total of 1,320 individuals. This species also has a high potential of occurrence in the Newell Creek Road section (McGraw 2021a).

Ben Lomond buckwheat (*Eriogonum nudum var. decurrens)* is a perennial herb with a CRPR of 1B.1 that occurs on sandy soils within chaparral, cismontane woodland, and lower montane woodland coniferous forest (maritime ponderosa pine Sandhills). This species was observed in the Graham Hill Road North section of the BSA, but outside of the project work area. This species also has a high potential of occurrence in the Newell Creek Road section (McGraw 2021a).

Other Special-Status Plant Species with High Potential to Occur

Minute pocket moss (*Fissidens pauperculus*) is a bryophyte (moss) with a CRPR of 1B.2. This species occurs in north coast coniferous forests. The BSA supports suitable habitat for this species in all of the pipe sections due to the prevalence of coniferous forest and riparian habitat. The CNDDB lists two occurrences within Santa Cruz County.

Santa Cruz tarplant (*Holocarpha macradenia*) is an annual herb that is listed as federally threatened and state endangered with the CRPR of 1B.1. It occurs in coastal prairie, coastal scrub, valley and foothill grassland habitats. The BSA supports grasslands within the San Lorenzo Way and Graham Hill Road South sections, as well as in Henry Cowell Redwoods State Park and the San Lorenzo Lumber Yard section of the existing NCP that may provide suitable habitat for this species. The CNDDB lists 14 occurrences documented in the vicinity of Santa Cruz and Aptos.

Northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrescens*) is an annual herb with the CRPR of 1B.2. It occurs in sandy soils in coastal dune, coastal scrub, and lower montane coniferous forest habitats. Marginally suitable to suitable scrub, woodland, grassland, and/or Ponderosa pine sandhill habitat is present throughout the BSA, including San Lorenzo Way, Graham Hill Road North, Graham Hill Road South, as well as in Henry Cowell Redwoods State Park and the San Lorenzo Lumber Yard section of the existing NCP. The closest CNDDB occurrence was documented immediately to the northeast of the BSA in 1993.

Woodland woolythreads (*Monolopia gracilens*) is an annual herb with the CRPR of 1B.1. It occurs on serpentine soils in openings within broadleafed upland forests, chapparal, cismontane woodland, north coast coniferous forests and foothill grassland. The BSA supports suitable forest and grassland habitat for this species within the Newell Creek Road, Glen Arbor Way, San Lorenzo Way, Graham Hill Road North, and Graham Hill Road South sections. The CNDDB lists 31 occurrences throughout Santa Cruz County.

Choris' popcornflower (*Plagiobothrys chorisianus* var. *chorisianus*) is an annual herb with the CRPR of 1B.1. It occurs in mesic conditions within chaparral, coastal prairie, and coastal scrub. The BSA supports suitable chaparral within Newell Creek Road, Glen Arbor Road, and Graham Hill Road North sections that may provide habitat for this species. The CNDDB lists 19 occurrences, modern and historic, within the vicinity of Santa Cruz.

San Francisco popcornflower (*Plagiobothrys diffusus*) is an annual herb that is state endangered with a CRPR of 1B.1. It occurs in coastal prairie and valley and foothill grasslands. The BSA supports grassland within the San Lorenzo Way and Graham Hill Road South sections, as well as in Henry Cowell Redwoods State Park and the San Lorenzo Lumber Yard section of the existing NCP that may provide suitable habitat for this species. The CNDDB lists 19 occurrences, modern and historic, within the vicinity of Santa Cruz.

Special-Status Wildlife Species

Special-status wildlife are fish or wildlife species listed, or candidates for listing, as threatened or endangered by the USFWS and CDFW, designated as SSC by CDFW, designated as fully protected under the California Fish and Game Code, or that meet the definition of rare, threatened, or endangered as described in the CEQA Guidelines. Per Appendix G of the CEQA Guidelines, special-status wildlife species are those that have been observed or have the potential to occur based on documented occurrences in the region, life history and general habitat requirements, and overall suitability of the habitat within the project area to support such

species. USFWS-designated critical habitat for three listed wildlife species overlaps with the BSA: marbled murrelet (*Brachyramphus marmoratus*), Central California Coast steelhead (steelhead) (*O. mykiss irideus*), and Zayante band-winged grasshopper (*Trimerotropis infantilis*).

Based on the results of the literature review and database searches, 41 special-status wildlife species were identified as potentially occurring in the region surrounding the BSA. Of these, 21 species are not expected to occur due to the absence of suitable habitat or because the BSA is outside the known range of the species, and 7 species are considered to have low potential to occur based on the lack or low number of nearby occurrences and presence of low-quality habitat. These species were excluded from further analysis and are not discussed further; additional rationale is provided in Appendix G to Appendix B.

A total of six species were determined to have a moderate potential to occur in the BSA based on known occurrences and/or the presence of suitable habitat: pallid bat (*Antrozous pallidus*), steelhead, Townsend's big-eared bat (*Corynorhinus townsendii*), western pond turtle (*Emys* [=*Actinemys*] *marmorata*), western red bat (*Lasiurus blossevillii*), and Zayante band-winged grasshopper. The remaining seven species were determined to have a high potential to occur in the BSA and are summarized in Table 4.3-3 and further described below.

Table 4.3-3. Special-Status Wildlife Species with a High Potential to Occur Within the Biological Study Area

Scientific Name	Common Name	Federal/State	Potential to Occur*
Invertebrates			
Polyphylla barbata	Mount Hermon June beetle	FE/None	High
Amphibians			
Aneides flavipunctatus niger	Santa Cruz black salamander	None/SSC	High
Dicamptodon ensatus	California giant salamander	None/SSC	High
Birds			
Contopus cooperi	olive-sided flycatcher	None/SSC	High
Elanus leucurus	white-tailed kite	None/FP	High
Mammals			
Dipodomys venustus	Santa Cruz kangaroo rat	None/SS (S1)	High
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	None/SSC	High

Source: CDFW 2021b.

Status Legend

* Although the BSA provides potential habitat, the proposed work areas do not generally support suitable habitat for these species due to the disturbed and developed nature of the ROW.

Federal

FE: federally endangered

State

SSC: California species of special concern

FP: fully protected species

SS: Listed Special Animals List

(S1): Critically Imperiled. At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

Invertebrates

Mount Hermon June beetle is a federally endangered species that occurs primarily on Zayante sand soil in central Santa Cruz County; the species has also been observed on sandy loam and loamy sand soils adjacent to Zayante soils. It occurs in all Sandhills habitat of varying successional stages, including ponderosa pine forest, silverleaf manzanita chaparral and other chaparral, and coast live oak woodlands, as well as other woodlands and forests, and sand parkland (McGraw and Jordan 2021 as cited in Dudek 2021). It has also been observed in areas where native Sandhills habitat plant species have been removed, including those that are disturbed through development and that feature primarily ornamental or other non-native plant species (Arnold 2004 as cited in Dudek 2021).

Mount Hermon June beetle has high potential to occur in the BSA. There are two CNDDB occurrences that overlap the BSA along the Graham Hill Road North and Graham Hill Road South alignments (CDFW 2021c). Additionally, highly suitable Sandhills habitat occurs within the Newell Creek Road and Glen Arbor Road sections, as well as the Pipeline Road section of the existing NCP, within the BSA as described further in Section 4.3.1,4, Sensitive Vegetation Communities and Habitat Areas. Overall, Mount Hermon June beetle is likely to occur in portions of the BSA that support Zayante sand soil, including areas of transitional soils, and adjacent sandy loam soils. Within these soil types, the species can occur in all plant communities and other land cover types, including developed and disturbed areas, as well as paved areas.

Amphibians

The **Santa Cruz black salamander** (*Aneides flavipunctatus niger*) is restricted to mesic deciduous or coniferous forests in the fog belt of the outer Coast Range of San Mateo, Santa Cruz, and Santa Clara counties. It occurs in moist streamside microhabitats and is typically found under rocks near streams, in talus, and under damp woody debris. Santa Cruz black salamander has high potential to occur in the BSA. Streams (e.g., Newell Creek and Zayante Creek), and adjacent drainages provide suitable habitat and there are documented historical occurrences of this species in the vicinity of Ben Lomond southwest of the BSA (from the 1930s and 1960s) and a more recent record (from 2012) from Henry Cowell Redwoods State Park farther south (CDFW 2021c as cited in Dudek 2021).

The **California giant salamander** occurs in wet coastal forests near streams and seeps. This species' range is limited to Mendocino County, south to Monterey County and east to Napa County. Aquatic larvae are found in cold, clear streams and occasionally occur in lakes and ponds. Adults occur in wet forests under rocks and woody debris in the vicinity of streams or lakes. California giant salamander has high potential to occur in the BSA. Streams, drainages, and seeps in nearby uplands provide suitable habitat. Larvae near the existing Newell Creek Dam outlet north of the Proposed Project were observed in September 2018 during surveys for the Newell Creek Dam Inlet/Outlet Improvement Project. There are also two historic CNDDB occurrences in the vicinity: a 1930 museum specimen collected 0.25 mile west of the Newell Creek Road section (Occ. No. 132) and a 1972 observation in a roadside culvert 0.4 mile west of the Pipeline Road section of the existing NCP.

Birds

Olive-sided flycatcher (*Contopus cooperi*) is a summer resident and migrant in California from mid-April to October; the breeding season extends from early May to late August. It occurs in coniferous forests with open

canopies from near sea level to 9,400 feet throughout the state, where it is mostly associated with edges, openings, and natural and human-created clearings in otherwise dense forest. Open-cup nests are placed on the upper surface of a tree branch, typically 30 to 50 feet aboveground (Shuford and Gardali 2008 as cited in Dudek 2021). This species has high potential to occur in the BSA from May to August. There are several eBird (2021) observations in the BSA vicinity during this period (including several along the Newell Creek Road and Graham Hill Road North sections) and suitable habitat is present in most forest vegetation communities throughout the BSA. There are no CNDDB occurrences within or near the BSA but this species is poorly represented in the CNDDB because of its non-listed status and relatively recent addition to CDFW's SSC list.

White-tailed kite (*Elanus leucurus*) is a fully protected raptor species that occurs throughout California, primarily west of the Sierra Nevada in lowlands and foothills. Although white-tailed kites typically occur in open habitats such as grassland, marsh, and savanna, they will also use marginal habitats such as freeway edges and medians when foraging for voles and mice. Nests are constructed in a variety of trees, with coast live oak perhaps the most common, and placed high in the crown on thin branches (Peeters and Peeters 2005 as cited in Dudek 2021). White-tailed kite has high potential to nest but low potential to forage in the BSA. The forest and woodland vegetation communities provide suitable nest trees but the extent of open grassland or meadows for foraging is limited. The nearest CNDDB occurrence is a 2004 nest on the University of California, Santa Cruz (UCSC) Reserve approximately 1.5 miles west of the Graham Hill Road South section and there are two nesting season eBird (2021) observations in the BSA near Graham Hill Road and Mt. Hermon Road (Felton Pump Station section).

Mammals

Santa Cruz kangaroo rat is a subspecies of narrow-faced woodrat endemic to the Santa Cruz Mountains. It is currently only known to inhabit two areas: Mount Hermon atop Graham Hill Road in central Santa Cruz County and chaparral within the Sierra Azul Open Space Preserve in the Summit Area of the Santa Cruz Mountains. Within the Sandhills habitat, Santa Cruz kangaroo rat is known primarily from silverleaf manzanita chaparral, though the species may also occur in adjacent areas of ponderosa pine forest that feature a significant shrub component.

Santa Cruz kangaroo rat has high potential to occur in the BSA. The Graham Hill Road North section overlaps the known Mount Hermon occurrence, where it has been trapped within Henry Cowell State Park on the south side of the road and in the County of Santa Cruz Juvenile Hall Parcel on the north side of the Road (Bean 2004 as cited in Dudek 2021, McGraw 2021a). The Newell Creek Road and Glen Arbor Road sections of the BSA also feature silverleaf manzanita chaparral habitat that is highly suitable for the species. Patches of Sandhills chaparral traversed by the Pipeline Road section have moderate suitability for the species. Individual Santa Cruz kangaroo rats could disperse through the Proposed Project, including the road and road ROW; habitat adjacent to the road may also support suitable burrows for this species.

The **San Francisco dusky-footed woodrat** (*Neotoma fuscipes annectens*) is a subspecies of dusky-footed woodrat that occurs in forest habitats with moderate canopy and dense to moderate understories, particularly on the upper banks of riparian forests or within poison oak-dominated shrublands. It builds middens made of sticks, typically at the base of trees and shrubs, but sometimes in the low to mid-level canopy of a tree. This species requires ample midden building materials to construct middens of shredded grass, leaves, or other materials. Woodrat middens were observed within the Brackney South, Felton Pump Station and San Lorenzo Way sections of BSA during January 2021 field surveys.

Listed Species with Low or Moderate Potential to Occur

The federally endangered Zayante band-winged grasshopper is known to occur in the Sandhills habitat but has moderate potential to occur in the BSA. Areas along the Newell Creek Road and Graham Hill Road North sections feature open areas of silverleaf manzanita chaparral that are moderately suitable, the Glen Arbor Road section supports low-quality habitat, and the species is not expected to occur along the Graham Hill Road South section. The small patch of Sandhills habitat along Pipeline Road has low suitability for the species. Zayante band-winged grasshopper has limited potential to occur in road turn outs on Zayante soil adjacent to suitable habitat in the proposed work area; these areas feature loose sand soil and open canopies as well as sparse, primarily herbaceous vegetation that are suitable for this species.

Two listed anadromous fish species, coho salmon (*Oncorhynchus kisutch*) (Central California Coast Evolutionarily Significant Unit [ESU]) and steelhead (Central California Coast Distinct Population Segment [DPS]) are known to occur in the San Lorenzo River watershed but have low or moderate potential to occur in the BSA. Coho salmon is federally and state-listed as endangered and steelhead is federally listed as threatened. Suitable coho salmon spawning and rearing habitat is present in the San Lorenzo River and its tributaries but very few coho have been observed in the watershed since the late 1980s. Coho salmon therefore has low potential to occur in the BSA. Steelhead are known to occur in the lower reaches of Newell Creek and Zayante Creek and are considered to have a moderate potential to occur in the BSA.

The federally threatened California red-legged frog (*Rana draytonii*) is known to occur in the region (Santa Cruz Mountains) but has low potential to occur in the BSA. Newell Creek and other streams in the BSA are suitable for foraging and movement but the lack of deep plunge pools or other areas of still or slow-moving water and the presence of non-native predatory fish preclude breeding (Dudek 2018). Most aquatic features in the BSA are narrow, steep ephemeral drainages that do not pond water or support emergent vegetation. There are several CNDDB occurrences within 1 to 4 miles of the BSA, with the closest approximately 1 mile west of the San Lorenzo Lumber Yard section in Bull Creek, where an adult was seen in 2004.

The federally and state-endangered marbled murrelet (*Brachyramphus marmoratus*) is known to occur in the region in old-growth redwood forest but has very low potential to occur in the BSA at Henry Cowell Redwoods State Park. Most forest in this area is second-growth, having been extensively logged since the late 19th century (although timber harvesting on City-owned lands ceased about 20 years ago), and is therefore unsuitable for nesting murrelets. The closest CNDDB occurrence is a 2001 observation of "[two] birds circling below the [forest] canopy" in the Fall Creek sub-watershed of Henry Cowell Redwoods State Park, approximately 2 miles west of the Glen Arbor Road section. This area also represents the southernmost marbled murrelet breeding location in the Santa Cruz Mountains and the "only occupied murrelet site in the San Lorenzo River watershed" (Singer 2017 as cited in Dudek 2021). Dudek biologists also observed a single murrelet flying approximately 0.2 miles northwest of the Newell Creek Road section of the BSA during surveys for the Newell Creek Dam project in 2018 (Dudek 2018), presumably toward higher-quality habitat to the northwest.

4.3.1.4 Sensitive Vegetation Communities and Habitat Areas

Sensitive habitats and natural vegetation communities include riparian corridors, wetlands, habitats for state and/or federally protected species and other special-status species, areas of high biological diversity, areas providing important wildlife habitat, and/or unusual or regionally-restricted habitat types.

Sensitive Habitat Designations

For the purposes of this EIR, *sensitive vegetation communities* include the following: (1) those designated as sensitive by CDFW (2019a) (CDFW sensitive natural communities), which includes riparian vegetation communities; and (2) those designated as sensitive habitats by the County of Santa Cruz within Chapter 5 of the General Plan and County Code Title 16, some of which overlap with the CDFW designations. Each of these are briefly discussed below.

CDFW Sensitive Natural Communities

CDFW sensitive natural communities are 'natural communities' (of vegetation) or 'vegetation types' that have been evaluated by CDFW, using NatureServe's Heritage Methodology (Faber-Langendon et al. 2012) and vegetation community classifications from *A Manual of California Vegetation* (MCV) (Sawyer et al. 2009), and are ranked by rarity and threat. Evaluation is done at both the global (i.e., full natural range within and outside of California), and State (i.e., within California) levels resulting in a single 'G' (global) and 'S' (state) rank ranging from 1 (i.e., very rare and threatened) to 5 (i.e., demonstrably secure). The five levels of S-ranks are defined as follows:

- **S1 = Critically Imperiled**. Critically imperiled in California because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation.
- **S2 = Imperiled**. Imperiled in California because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation.
- **S3 = Vulnerable.** Vulnerable in California due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- **S4 = Apparently Secure.** Uncommon but not rare in California; some cause for long-term concern due to declines or other factors.
- **S5 = Secure.** Common, widespread, and abundant in the state.

Additional threat ranks are defined as follows:

- 0.1 = Very threatened
- 0.2 = Threatened
- 0.3 = No current threat known

Natural communities with an S rank of S1, S2, or S3 are considered "sensitive" by CDFW and typically addressed in the CEQA environmental review process.

A total of 13 sensitive natural communities were identified as occurring within the BSA; Table 4.3-4 summarizes the sensitive natural communities (alliances) that were identified as occurring in the BSA based on the field mapping conducted for the Project. These sensitive communities generally align with sensitive riparian and sandhills habitats as further described below, except for Douglas fir-tanoak and redwood forest and woodland communities, which are not either. Figures 4.3-1A and 4.3-1B show locations of sensitive vegetation communities and habitats.

Riparian. Riparian vegetation communities occur along streams, ponds, rivers, and lakes and are considered sensitive because of their high habitat value for native wildlife. Riparian vegetation communities within the BSA included those mapped as bigleaf maple forest and woodland, black cottonwood forest and woodland, box-elder forest and woodland, California bay forest and woodland, California sycamore forest and woodland, and white alder groves (northern end of the Newell Creek Road section). However, smaller, unmapped stands may also occur wherever water is available. Sensitive riparian vegetation communities and habitats occur in the BSA within the Newell Creek Road, Glen Arbor Road, Brackney North, Brackney South, San Lorenzo Way, Felton Pump Station, and Graham Hill Road North sections.

Table 4.3-4. Sensitive Vegetation Communities within the Biological Study Area

Vegetation Alliance (Common Name)	CDFW CA Code	State Rarity	BSA (acres)
Forest and Woodland Alliances and Stands			
Bigleaf maple forest and woodland*	61.450.00	S3	2.7
Black cottonwood forest and woodland*	61.120.00	S3	1.8
Box-elder forest and woodland*	61.440.00	S2	2.4
California bay forest and woodland*	74.100.00	S3	20.9
California sycamore woodland*	61.310.00	S3	12.0
Douglas fir - tanoak forest and woodland	82.500.00	S3	4.5
Redwood forest and woodland	86.100.00	S3	186.4
Shrubland Alliances and Stands			
Coastal brambles	63.901.00	S3	0.4
Silverleaf manzanita chaparral	37.320.00	S1	44.0
Total			**275.1**

Note:
* indicates riparian vegetation community
State Rarity: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable (CDFW 2020)

County of Santa Cruz Sensitive Habitats

Two additional sensitive habitat types as mapped by Santa Cruz County and protected under County Code 16.32 occur within the BSA: Special Forests and Sandhills Habitat. Both habitat types were defined in the County General Plan adopted May 24, 1994. Special Forests and Sandhills Habitat within the BSA are depicted in Figures 4.3-1a and 4.3-1b for the northern and southern segments, respectively.

Special Forests

Special Forests are forests that are (1) unique natural communities, (2) limited in supply and distribution, (3) threatened by substantial disturbance from human activities, and (4) habitat for rare, endangered and/or locally unique species of plants and animals. Examples of Special Forests include San Andreas oak woodlands, woodland/maritime chaparral, indigenous Ponderosa pine, and indigenous Monterey pine forests. Within the BSA, the County has identified Special Forest within the Glen Arbor Road section and forest lands within Henry Cowell Redwoods State Park along Graham Hill Road. Approximately 2.7 acres of the Glen Arbor Road section and 82.5 acres of the Graham Hill Road North section have been mapped as Special Forest.

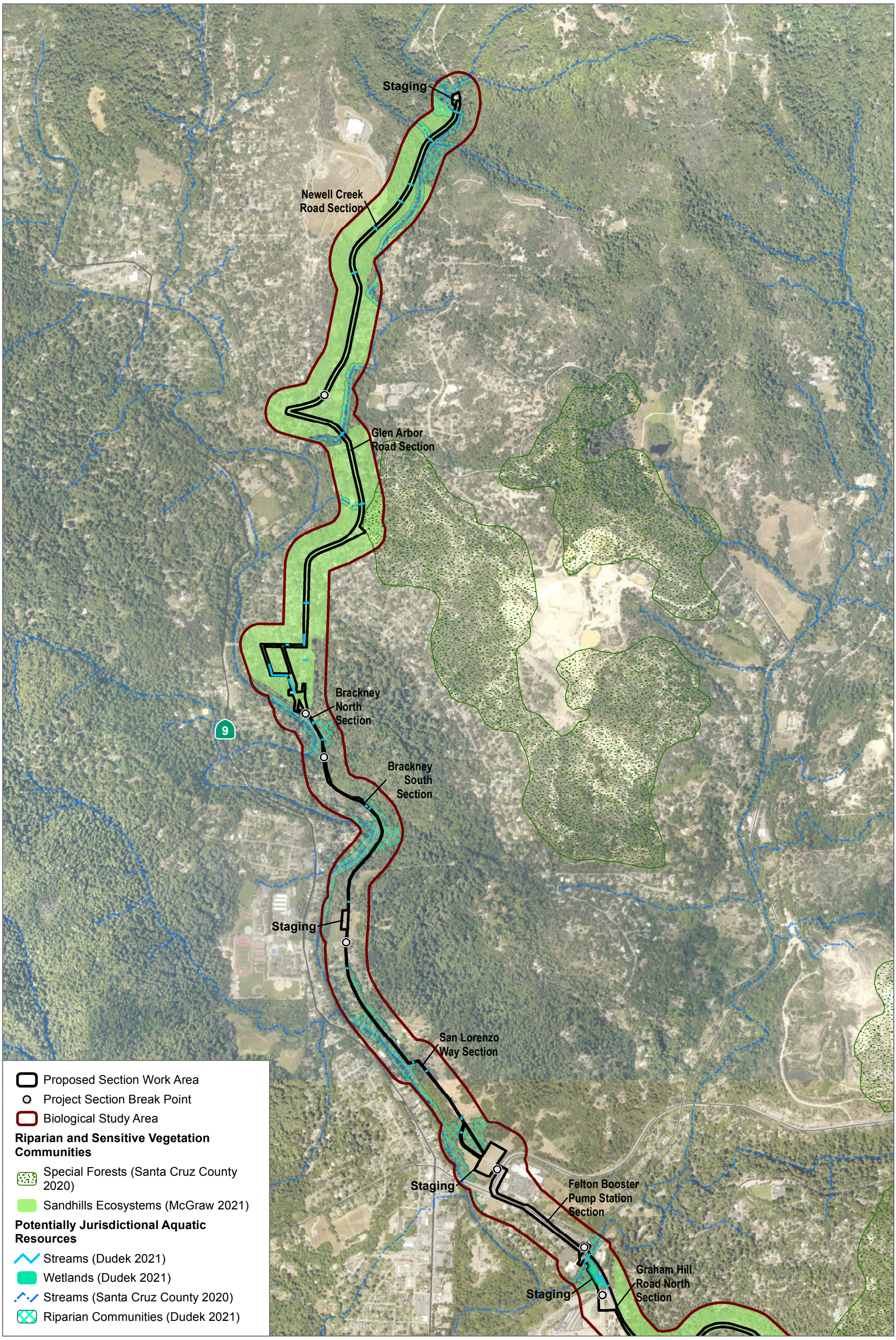
Sandhills Habitat

The Santa Cruz Sandhills is a unique, endemic habitat type that only occurs on outcrops of the Zayante sands soil type in central Santa Cruz County and is known to support several special-status plant and wildlife species, including state- and federally-listed species. Sandhills habitat occurs in the Scotts Valley, San Lorenzo Valley, and Bonny Doon areas. In these locations, Zayante sands soils provide habitat for several special-status species endemic to (i.e., found only in) this area, such as the Mount Hermon June beetle, the Zayante band-winged grasshopper, the Santa Cruz kangaroo rat (*D. venestus*), Scotts Valley spineflower, Santa Cruz wallflower, and silver-leaved manzanita. Like the Special Forest designation, the County maintains a map of Sandhills Habitat. This dataset was reviewed and refined as appropriate during the Sandhills habitat assessment. Results of the habitat assessment revealed that approximately 416 acres of Sandhills habitat occurs within the proposed Newell Creek Road, Glen Arbor Road, and Graham Hill Road North sections, as well as a small portion of the Graham Hill Road South section at the City's GHWTP, and the Pipeline Road section of the existing NCP in the BSA.

4.3.1.5 Jurisdictional Aquatic Resources

Potentially jurisdictional aquatic resources, including federal and state jurisdictional wetlands and non-wetland waters, occur throughout the BSA. Federal and state jurisdictional aquatic resources are regulated under the CWA, CFGC, Porter-Cologne Water Quality Act, and the California Coastal Act (see Section 4.3.2, Regulatory Setting, for additional information about the related laws and regulations). For the purposes of this assessment, the following riparian vegetation communities potentially support jurisdictional wetlands and waters under federal and state regulations:

- Black cottonwood forest and woodland
- Bigleaf maple forest and woodland
- Box-elder forest and woodland
- California bay forest and woodland
- California sycamore woodland
- White alder groves



SOURCE: Bing 2021: County of Santa Cruz 2021

DUDEK

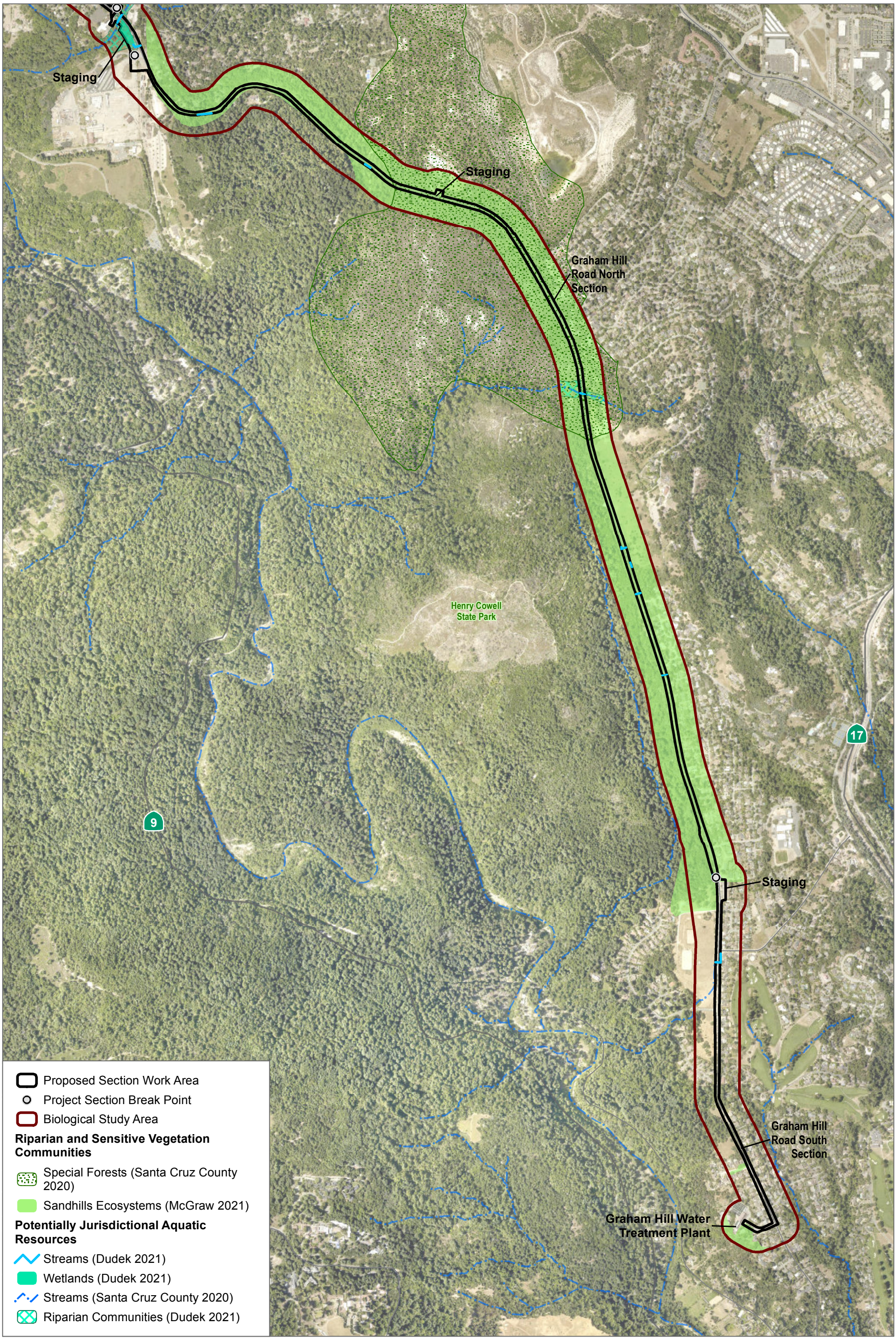
0 650 1,300 Feet

FIGURE 4.3-1A

Sensitive Habitat Areas - Northern Segment

Newell Creek Pipeline Improvement Project

INTENTIONALLY LEFT BLANK



SOURCE: Bing 2021; County of Santa Cruz 2021

DUDEK

0 650 1,300 Feet

FIGURE 4.3-1B

Sensitive Habitat Areas - Southern Segment

Newell Creek Pipeline Improvement Project

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Potentially jurisdictional aquatic resources identified in the field included perennial and intermittent streams, ephemeral drainages, and wetlands. There were approximately 86 non-wetland waters and one wetland identified within the BSA. The majority of the non-wetland waters are ephemeral drainages and include ditches, culverts, and swales. There are six major, named streams and creeks within the BSA: San Lorenzo River, Newell Creek, Zayante Creek, Bean Creek, Eagle Creek, and Powder Mill Creek. Other unnamed, intermittent drainages also occur within the BSA based on mapping compiled by the County within the Streams dataset (Santa Cruz County 2020 as cited in Dudek 2021). All of the named creeks within the BSA are tributaries to the San Lorenzo River. The San Lorenzo River is a perennial drainage that originates in the Santa Cruz mountains, flows through the City of Santa Cruz, and ultimately drains into the Pacific Ocean. Figure 4 in Appendix B illustrates the location and extent of potentially jurisdictional aquatic resources within the BSA.

4.3.1.6 Wildlife Corridors/Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal.

The BSA has value as a potential habitat linkage between areas of adjacent forest habitats. Regionally significant drainages such as Newell Creek, Zayante Creek, and San Lorenzo River flow through and along the BSA. These creek corridors are likely used by common and special-status wildlife species as cover and foraging habitat and to move between adjacent similar habitats. However, the BSA does not overlap with any large landscape blocks or critical linkages (mapped by Penrod et al. (2013) as cited in Dudek 2021).

4.3.2 Regulatory Framework

4.3.2.1 Federal

Clean Water Act

The Federal Water Pollution Control Act of 1972 (Clean Water Act) (33 USC 1251 et seq.), as amended by the Water Quality Act of 1987 (PL 100-4), is the major federal legislation governing water quality. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." The definition of what constitutes "waters of the United States" (provided in 33 CFR Section 328.3(a)) has changed multiple times over the past 36 years starting with the United States v. Riverside Bayview Homes, Inc. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (Solid Waste Agency of North Cook County v. United States Army Corps of Engineers), 2006 (Rapanos v. United States), 2015 (Waters of the United States [WOTUS] Rule), 2018 (suspension of the WOTUS Rule), and 2019 (formal repeal of the WOTUS Rule) have attempted to provide greater clarity to the term and its regulatory

implementation. The most recent Navigable Waters Protection Rule (NWPR), issued by the U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE) in January 2020, defined "waters of the United States" to include the following four categories: (1) the territorial seas and traditional navigable waters; (2) tributaries of such waters; (3) certain lakes, ponds, and impoundments of jurisdictional waters; and (4) wetlands adjacent to other jurisdictional waters (other than waters that are themselves wetlands). However, this rule was remanded and vacated with the August 2021 decision in Pasqua Tribe et al v United States Environmental Protection Agency. As a result, the current administration is evaluating a new rulemaking process. In the meantime, the EPA and USACE have halted implementation of the NWPR nationwide and will revert to and apply the CWA 1986 definition and the 2008 Rapanos guidance, informally referred to as "the pre-2015 regulatory regime", until further notice. The term "wetlands" (a subset of waters) is defined in 33 CFR Section 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Discharges into waters of the United States and wetlands are regulated under Section 404 by the USACE.

In California, the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs) are responsible for implementing the Clean Water Act and related elements of the California Water Code (see Section 2.2.4 Porter-Cologne Water Quality Act).

Important applicable sections of the Clean Water Act are as follows:

- Section 401 requires an applicant for any federal permit for an activity that may result in a discharge of pollutants into waters of the United States to obtain certification from the state that the activity complies with all applicable water quality standards, limitations, and restrictions. Section 401 water quality certification is provided by the RWQCB and typically include conditions to minimize impacts on water quality.
- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for municipal and industrial discharges of any pollutant (except for dredge or fill material) into waters of the United States. The National Pollutant Discharge Elimination System program establishes limits on allowable concentrations and mass emissions of pollutants contained in point source and non-point source discharges. This program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401.
- Section 404 provides for issuance of permits for the discharge of dredge or fill material into waters of the United States, including wetlands, by USACE. Two types of permits are issued by the USACE under Section 404: General Permits and Individual Permits. General Permits, which authorize groups activities with minimal impacts to an aquatic environment, can include Nationwide Permits, Regional General Permits, and Programmatic General Permits. Individual Permits are issued for projects that could cause significant impacts to an aquatic environment and require a lengthier public review process.

Federal Endangered Species Act

The FESA of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by the USFWS for most plant and animal species and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service

for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and to provide programs for the conservation of those species, thus preventing the extinction of plants and wildlife. Federal ESA defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under federal ESA, it is unlawful to take any listed species; "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." As part of this regulatory act, federal ESA provides for designation of critical habitat, defined in federal ESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species." Critical habitat designations identify, with the best available knowledge, those biological and physical features (primary constituent elements) which provide for the life history processes essential to the conservation of the species.

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans (HCPs) on public or private property without any other federal agency involvement. The Proposed Project would overlap with the permit areas for three HCPs approved by the USFWS, two of which were co-developed by the City; these HCPs are described below.

Interim-Programmatic Habitat Conservation Plan for Mount Hermon June Beetle and Ben Lomond Spineflower

In June 2011, the USFWS, County of Santa Cruz, and City of Scotts Valley developed the *Interim-Programmatic Habitat Conservation Plan for the Endangered Mount Hermon June beetle and Ben Lomond Spineflower* (IPHCP) to cover eligible small development projects in densely developed residential neighborhoods that support habitat for the federally endangered Mount Hermon June beetle (*Polyphylla barbata*) and Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*). This IPHCP is intended to support issuance of two incidental take permits (ITPs) under section 10(a)(1)(B) of FESA that would authorize the County and the City of Scotts Valley to take Mount Hermon June beetle resulting from such activities. The County and the City of Scotts Valley would then extend their take coverage through Certificates of Inclusion to eligible landowners within their jurisdiction needing incidental take authorization associated with their small development projects.

The 10 Project Units within the IPHCP boundary were identified within the communities of Ben Lomond, Felton, Mount Hermon, and Scotts Valley. These Project Units range in size from 3.2 to 373 acres. Project Units include parcels in the vicinity of the Rolling Woods neighborhood, the Whispering Pines neighborhood, east and west Scotts Valley, Green Valley, Mount Hermon, Zayante Road, and Ben Lomond. The existing NCP abuts the Mount Hermon IPHCP Project Unit at the northern end of the Graham Hill Road North section and the Rolling Woods Project Unit at the southern end of the Graham Hill Road North section and northern end of the Graham Hill Road South section.

City of Santa Cruz Operations and Maintenance Habitat Conservation Plan

The City developed the Operations and Maintenance Habitat Conservation Plan (O&M HCP) for improvements or projects with the potential to take federally listed species and other non-listed special-status species. The USFWS approved and has issued an Incidental Take Permit (No. TE89655D-0) for the O&M HCP, which covers six wildlife and four plant species: Ohlone tiger beetle (*Cicindela ohlone*; federally endangered), Mount Hermon June beetle, tidewater goby (*Eucyclogobius newberryi*; federally endangered), Pacific lamprey (*Entosphenus tridentatus*; California Species of Special Concern), California red-legged frog (*Rana draytonii*; federally threatened), western pond turtle (*Emys marmorata*; California Species of Special Concern), robust spineflower (*Chorizanthe robusta* var. *robusta*; federally endangered), Santa Cruz tarplant (*Holocarpha macradenia*; federally threatened and state endangered), San Francisco popcorn flower (*Plagiobothrys diffusus*; state endangered), and Ben Lomond spineflower. The biological goals and objectives and conservation measures include restoring habitat temporarily disturbed, contributing to protected and managed lands that support covered populations, implementing bypass flows consistent with the Anadromous Salmonid HCP (currently being developed), pursuing other conservation actions that will result in conservation benefits, and implementing general and species-specific impact minimization measures and best management practices. The O&M HCP addresses upgrades to the North Coast Pipeline and rehabilitation of diversion structures, operation of existing City facilities, and operations and maintenance of existing water diversions and transmission lines and their associated features. The O&M HCP was recently finalized and the incidental take permit was issued by the USFWS in January 2021; the permit is effective through January 2051 (City of Santa Cruz 2021).

Graham Hill Water Treatment Plant (GHWTP) Low-Effect Habitat Conservation Plan

The City developed a low-effect HCP for the operations, maintenance, and construction activities associated with the GHWTP (GHWTP LEHCP; City of Santa Cruz 2013). The USFWS approved and has issued an Incidental Take Permit (No. TE15139B-0) for this low-effect HCP, which covers incidental take of Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower as a result of all current and future operations, maintenance, and construction activities at the GHWTP. The HCP covers the entire 12.71 acres of the GHWTP property, and includes 5.7 acres of suitable habitat, and 0.88 acres of occupied habitat for these species. The conservation strategy emphasizes protection of habitat through impact avoidance and implementation of measures designed to minimize impacts to Mount Hermon June beetle. To mitigate for unavoidable impacts to Mount Hermon June beetle, the City has protected suitable and occupied sandhills habitat at its 17-acre Bonny Doon mitigation site and can purchase credits from the USFWS-approved Zayante Sandhills Conservation Bank. There are 11.3 acres remaining at the mitigation site to compensate for future impacts to Mount Hermon June Beetle and potentially other species which rely on sandhills habitat.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the “indiscriminate slaughter” of migratory birds by market hunters and others. The MBTA protects over 800 species of birds (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BAGEPA) is the primary law protecting both bald and golden eagles. Specifically, BAGEPA prohibits "take" of eagles without a permit and defines take to include "pursue, destroy, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" and prohibits take of individuals, active nests, or eggs. The term "disturb" is further defined by regulation as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, injury to an eagle, a decrease in productivity, or nest abandonment" (50 CFR 22.3).

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. Sections 1801–1884) of 1976, as amended in 1996 and reauthorized in 2007, is intended to protect fisheries resources and fishing activities within 200 miles of shore. The amended law, also known as the Sustainable Fisheries Act (Public Law 104-297), requires all federal agencies to consult with the Secretary of Commerce on proposed projects authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH). The main purpose of the EFH provisions is to avoid loss of fisheries due to disturbance and degradation of the fisheries habitat.

4.3.2.2 State

California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. The act also provides guidelines and thresholds for use by lead agencies for evaluating the significance of project impacts.

CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 California Code of Regulations [CCR] 15380(b)(1). A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened under CEQA if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c).

CDFW has developed a list of "Special Species" as "a general term that refers to all of the taxa the California Natural Diversity Database (CNDDB) is interested in tracking, regardless of their legal or protection status." This is a broader list than those species that are protected under FESA, the CESA, and other CFGC provisions, and includes lists developed by other organizations, such as the Audubon Watch List Species. Guidance documents prepared by other agencies, including the Bureau of Land Management Sensitive Species and USFWS Birds of Special Concern, are also included on this CDFW Special Species list. Additionally, CDFW has concluded that plant species included on the CNPS's California Rare Plant Rank (CRPR) List 1 and 2 are covered by CEQA Guidelines Section 15380.

CEQA Guidelines Section IV, Appendix G (Environmental Checklist Form), requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service" (14 CCR 15000 et seq.).

CEQA Guidelines Section 15065, subdivision (a) (as reflected in the portion of the CEQA Guidelines Appendix G Environmental Checklist form devoted to Mandatory Findings of Significance), requires lead agencies to find significant environmental effects where a proposed project would substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare or threatened species.

California Endangered Species Act

CESA (CFGC Section 2050 et seq.) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, state-listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Under CESA, take is prohibited for both listed and candidate species, but take is more narrowly defined than it is under FESA as it does not include "harm and harass", which includes significant habitat modification or degradation, as included in the FESA definition. CESA prohibits the take (hunt, pursue, catch, capture, kill, or attempt to hunt, pursue, catch, capture, or kill) of listed species except as otherwise provided in state law. Unlike its federal counterpart, the CESA applies the take prohibitions to species petitioned for listing (state candidates). Take authorization may be obtained by project applicants from the CDFW under CESA Sections 2080.1 or 2081. Under Section 2080.1, the CDFW can issue a consistency determination that concludes the findings of a FESA biological opinion is consistent with state law. Alternatively, the CDFW can issue a Section 2081 incidental take permit, which allows take of a state listed species for educational, scientific, or management purposes or where the take is incidental to an otherwise lawful activity. In this case, project applicants consult with CDFW to develop a set of measures and standards for managing the listed species, including the minimization and full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

California Fish and Game Code

Fully Protected Species

The classification of "fully protected" was the state's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles and birds. Fully protected species may not be taken or possessed at any time, except through natural community conservation plans (see CDFG Code Section 2801 et seq.), and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the species for the protection of livestock.

Lake and Stream Resources

Under CFGC Section 1602, CDFW has authority to regulate work that will substantially divert or obstruct the natural flow of or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake. CDFW also has authority to regulate work that will deposit or dispose of debris, water, or other material

containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to any person, state, or local governmental agency or public utility (CFGC Section 1601). CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries (as defined by Clean Water Act Section 404) sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under CFGC Section 1602 may encompass a greater area than those regulated under Clean Water Act Section 404; CDFW does not have jurisdiction over ocean or shoreline resources.

Fish and Game Code Sections 3503, 3503.5, 3511, 3513, and 4150

CFGC Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. CFGC Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3511 states fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA. All nongame mammals, including bats, are protected by CFGC Section 4150.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. CESA expanded on the original Native Plant Protection Act and enhanced legal protection for plants, but the Native Plant Protection Act remains part of the CFGC. To align with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the act as threatened species but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, appropriate compensatory mitigation measures for significant impacts to rare plants are typically negotiated with the CDFW.

Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning (NCCP) Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFW is the principal state agency implementing the NCCP program. Natural community conservation plans developed in accordance with the NCCP Act provide for comprehensive management and conservation of multiple wildlife species, and identify and provide for the regional or area-wide protection and perpetuation of natural wildlife diversity while allowing compatible and appropriate development and growth.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code Division 7, Section 13000 et seq.) established the SWRCB and RWQCBs as the principal state agencies responsible for the protection of water

quality in California. The Central Coast Regional Water Quality Control Board (CCRWQCB) has regulatory authority over portions of the biological study area. The Porter-Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "…any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter-Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The CCRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. On April 2, 2019, the SWRCB adopted by Resolution 2019-0015 the "State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State" ("Procedures") for inclusion in the Water Quality Control Plans for Inland Surface Waters, Enclosed Bays, and Estuaries of California. The Procedures became effective on May 28, 2020; however, the Procedures have been the subject of a legal judgement by the California Superior Court.[1]

In adopting the Procedures, the SWRCB noted that under the Porter-Cologne Water Quality Control Act discharges of dredged or fill material to waters of the state are subject to waste discharge requirements or waivers. The SWRCB further explained that "although the state has historically relied primarily on requirements in the Clean Water Act to protect wetlands, U.S. Supreme Court rulings reducing the jurisdiction of the Clean Water Act over wetland areas by limiting the definition of 'waters of the United States' have necessitated the use of California's independent authorities under the Porter-Cologne Act to protect these vital resources."

By adopting the Procedures, the SWRCB mandated and standardized the evaluation of impacts and protection of waters of the state from impacts due to dredge and fill activities. The Procedures include: (1) a wetland definition; (2) a jurisdictional framework for determining if a feature that meets the wetland definition is a water of the state; (3) wetland delineation procedures; and 4) procedures for application submittal, and the review and approval of dredge or fill activities.

The Procedures define an area as a wetland if it meets three criteria: wetland hydrology, wetland soils, and (if vegetated) wetland plants. An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. This modified three-parameter definition is similar to the federal definition in that it identifies three wetland characteristics that determine the presence of a wetland: wetland hydrology, hydric soils, and hydrophytic vegetation. However, unlike the federal definition, the Procedures' wetland definition allows for the presence of hydric substrates as a criterion for wetland identification (not just wetland soils) and wetland hydrology for an area devoid of vegetation (less than 5% cover) to be considered a wetland.

Waters of the State includes more aquatic features than Waters of the U.S. In addition, the federal definition of a wetland requires a prevalence of wetland vegetation under normal circumstances. To account for wetlands

[1] On January 26, 2021, the Superior Court in *San Joaquin Tributaries Authority v. California State Water Resources Control Board* issued a judgment and writ enjoining the SWRCB from applying, via the Water Quality Control Plan for Inland Surface Waters and Enclosed Bays [and Estuaries], the Procedures to waters other than those for which water quality standards are required by the Federal Clean Water Act. The SWRCB subsequently adopted another resolution on April 2, 2021 confirming that the Board's April 2, 2019 action relied, in part, on Water Code Section 13140, that allows the SWRCB to formulate and adopt state policy for water quality control and that the Procedures are therefore effective for all waters of the state as state policy for water quality control.

in arid portions of the state, the SWRCB's definition differs from the federal definition in that an area may be a wetland even if it does not support vegetation. If vegetation is present, however, the SWRCB's definition requires that the vegetation be wetland vegetation. The SWRCB's definition clarifies that vegetated and unvegetated wetlands will be regulated in the same manner.

The Procedures also include a jurisdictional framework that applies to aquatic features that meet the wetland definition. The jurisdictional framework will guide applicants and staff in determining whether an aquatic feature that meets the wetland definition will be regulated as a water of the state. The jurisdictional framework is intended to exclude from regulation any artificially-created, temporary features, such as tire ruts or other transient depressions caused by human activity, while still capturing small, naturally-occurring features, such as seasonal wetlands and small vernal pools that may be outside of federal jurisdiction. The Procedures do not expand the SWRCB's jurisdiction beyond areas already under SWRCB's jurisdiction.

California Government Code – Local Exemptions

California Government Code Section 53091 (d) and (e) provides that facilities for the production, generation, storage, treatment, and transmission of water supplies are exempt from local (i.e., county and city) building and zoning ordinances.

4.3.2.3 Local

The Proposed Project relates to operation, utilization, storage, and transmission of water supplies, and therefore, as indicated above, these facilities are legally exempt under California Government Code Section 53091 (d) and (e) from the County of Santa Cruz building and zoning ordinances. Where applicable and when feasible to meet project objectives, the Proposed Project would be constructed consistent with local policies and ordinances. This section describes local programs, policies, and regulations related to biological resources that may apply to the Proposed Project.

County of Santa Cruz General Plan, Local Coastal Program, and Ordinances

General Plan

The Santa Cruz County General Plan and Local Coastal Program (LCP) is a comprehensive, long-term planning document for the unincorporated areas of the County and includes the County's LCP, which was certified by the California Coastal Commission in 1994 (County of Santa Cruz, 1994). The County General Plan and LCP provides policies and programs to establish guidelines for future growth and all types of physical developments. The County is in the process of updating some of the General Plan/LCP elements as part of its Sustainability and Regulatory Update, which is expected to be considered by County decision-makers in 2022.

The County's General Plan and LCP, Chapter 5 (Conservation and Open Space), Objective 5.2 (Riparian Corridors and Wetlands), establishes definitions for riparian corridors and wetlands to ensure their protection. Policies 5.2.1 through 5.2.5 identify and define riparian corridors and wetlands, determine the uses which are allowed in and adjacent to these habitats, and specify required buffer setbacks and performance standards for land in and adjacent to these areas. Riparian corridors are defined as (a) 50 feet from the top of a distinct channel or physical evidence of high water mark of perennial stream; (b) 30 feet from the top of a distinct channel or physical evidence of high water mark of an intermittent stream as

designated on the General Plan maps and through field inspection of undesignated intermittent and ephemeral streams; (c) 100 feet of the high water mark of a lake, wetland, estuary, lagoon, or natural body of standing water; (d) the landward limit of a riparian woodland plant community; and (e) wooded arroyos within urban areas. The County definitions are consistent with those used for CEQA purposes.

The County's General Plan and LCP, Chapter 5 (Conservation and Open Space), Objective 5.1 (Biological Diversity), establishes definitions for sensitive habitats to ensure their protection. Policies 5.1.1 through 5.1.11 identify and define sensitive habitats, determine the uses which are allowed in and adjacent to these habitats, and specify performance standards for land in and adjacent to these areas.

Because the Proposed Project does not occur within the Coastal Zone, it would not require compliance with the LCP or the standards contained in the LCP implementing ordinances, nor would the Proposed Project require a Coastal Development Permit.

Santa Cruz County Code

While some of the below ordinances require separate approvals or permits (e.g., Riparian Exception), such approvals are not required for the Proposed Project, as it falls under California Government Code Section 53091 (d) and (e) and is legally exempt from Santa Cruz County building and zoning ordinances, as described above. The following implementing ordinances are described primarily for informational purposes, in addition to providing added context to the definition of sensitive resources for CEQA analysis.

Santa Cruz County Code Chapter 16.20, Grading Regulations, sets forth rules and regulations to control all grading, including excavations, earthwork, road construction, dredging, diking, fills, and embankments. Santa Cruz County Code Chapter 16.22 requires control of all existing and potential conditions of accelerated (human-induced) erosion, and sets forth required provisions for project planning, preparation of erosion control plans, runoff control, land clearing, and winter operations.

Santa Cruz County Code Chapter 16.30, Riparian Corridor and Wetlands Protection, includes regulations to limit development activities in riparian corridors. The regulations provide that "no project shall undergo developmental activities in riparian corridors or areas with urban or rural service lines which are within a buffer zone as measured from the top of the arroyo." Buffer areas are specified in the regulations and are determined from characteristics found in the riparian area, including average slope within 30 feet of water's edge, vegetation, and stream characteristics. The buffer always extends 50 feet from the edge of riparian woodland and 20 feet beyond the edge of other woody vegetation, as determined by the dripline. After the buffer is determined, a 10-foot setback from the edge of the buffer is required for all structures, which allows construction equipment and use of a yard area. Exceptions and conditioned exceptions to the provisions of this code may be authorized. Findings meeting the following criteria define the circumstances necessary in granting an exception to the above requirements:

1. That there are special circumstances or condition affecting the property.
2. That the exception is necessary for the proper design and function of some permitted or existing activity on the property.
3. That the granting of the exception will not be detrimental to the public welfare or injurious to other property downstream or in the area in which the project is located.

4. That the granting of the exception, in the Coastal Zone, will not reduce or adversely impact the riparian corridor, and there is no feasible less environmentally damaging alternative.
5. That the granting of the exception is in accordance with the purpose of this chapter, and with the objectives of the General Plan and elements thereof, and the Local Coastal Program Land Use Plan.

Santa Cruz County Code Chapter 16.32 regulates development in or adjacent to specified environmentally sensitive habitat areas. An area defined as "sensitive habitat" under this ordinance includes various criteria, and includes all lakes, wetlands, estuaries, lagoons, streams, rivers, and riparian corridors. No development activity may occur within an area of biotic concern unless approval is issued or unless the activity is reviewed concurrently with the review of an associated development or land division application. All development within environmentally sensitive habitat must be mitigated or restored. The following findings are necessary in granting an exception to the provisions and requirements of this ordinance:

1. that adequate measures will be taken to ensure consistency with the purpose of this chapter to minimize the disturbance of sensitive habitats; and
2. one of the following situations exists:
    a. the exception is necessary for restoration of a sensitive habitat; or
    b. it can be demonstrated by biotic assessment, biotic report, or other technical information that the exception is necessary to protect public health, safety, or welfare.

Any development activity that has received a riparian exception according to the provisions of Santa Cruz County Code Chapter 16.30 would not be subject to this chapter.

City of Santa Cruz General Plan, Local Coastal Program, and Ordinances

General Plan 2030

Four habitat types found within the City of Santa Cruz are recognized as sensitive habitat types: freshwater wetland, salt marsh, riparian forest and scrub, and coastal prairie portions of grassland habitats. Except for freshwater wetland, these habitat types correspond to habitat types that the CNDDB has designated as "high priority." In addition, coastal bird habitat is considered sensitive habitat because of high biological diversity. Additionally, any area supporting a special status species would also be considered a sensitive habitat. The General Plan sets forth protocols for evaluation of sensitive habitat and sensitive species. For riparian areas, this includes compliance with the *City-Wide Creeks and Wetlands Management Plan.*

City-wide Creeks and Wetlands Management Plan

Activities within the City limits that occur along or adjacent to riparian areas are regulated by the *City-wide Creeks and Wetlands Management Plan* (Creeks Plan; City of Santa Cruz 2008). The Creeks Plan was adopted by the City Council to provide a comprehensive approach to managing all creeks and wetlands within the City. The Plan recommends specific setback requirements based on biological, hydrological, and land use characteristics for various watercourse types within the City. The recommended setbacks within a designated management area include a riparian corridor setback and a development setback area; an additional area extends from the outward edge of the development area to the outer edge of the management area. The Management Plan outlines a process for permitting development adjacent to watercourses. Projects that

require a Watercourse Development Permit would be subject to the provisions in Chapter 24.08, Part 21 of the City's Municipal Code (Zoning Regulations) that pertain to issuance of these permits. The Plan and zoning regulations include specified development standards and management guidelines. It should be noted that repair, maintenance, or minor alteration of existing public utilities or projects that are reviewed and approved under another authorizing permitting agency (USACE, RWQCB, and/or CDFW) are exempt from City permit requirements.

The only portion of the Proposed Project that occurs within the City limits is the GHWTP parcel located immediately adjacent and to the west of the terminus of the Graham Hill Road South section. The nearest drainage to this portion of the Proposed Project is the San Lorenzo River, which occurs approximately 1,000 feet to the west of the Proposed Project work area. The Creeks Plan does not identify any riparian corridors or setbacks associated with the San Lorenzo River within the BSA.

Municipal Code Regulations

Section 24.14.080 of the City's Municipal Code includes provisions to protect wildlife habitat and protected species for areas specified in the City's existing General Plan (Maps EQ-8 and EQ-9). Section 24.08.21 also regulates development adjacent to city watercourses, consistent with provisions of the adopted *City-Wide Creeks and Wetlands Management Plan*, including requirements for issuance of a "watercourse development permit."

Chapter 9.56 of the City Municipal Code defines heritage trees, establishes permit requirements for the removal of a heritage tree, and sets forth mitigation requirements as adopted by resolution by the City Council. Heritage trees are defined by size, historical significance, and/or horticultural significance, including but not limited to those which are: (1) unusually beautiful or distinctive; (2) old (determined by comparing the age of the tree or shrub in question with other trees or shrubs of its species within the city); (3) distinctive specimen in size or structure for its species (determined by comparing the tree or shrub to average trees and shrubs of its species within the city); (4) a rare or unusual species for the Santa Cruz area (to be determined by the number of similar trees of the same species within the city); or (5) providing a valuable habitat. Resolution NS-23,710, which was rescinded by Resolution No. NS-28-706 and then reinstated by Resolution No NS-29,092, establishes criteria and standards for the circumstances under which a heritage tree may be removed. City regulations require tree replacement for approved to include replanting three 15-gallon or one 24-inch size specimen or the current retail value which shall be determined by the Director of Parks and Recreation. Removal would be permitted if found to be in accordance with the criteria and requirements previously outlined.

4.3.3 Impacts and Mitigation Measures

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

4.3.3.1 Thresholds of Significance

The thresholds of significance used to evaluate the impacts of the Proposed Project related to biological resources are based on Appendix G of the CEQA Guidelines and the City of Santa Cruz CEQA Guidelines. A significant impact would occur if the Proposed Project would:

A. Result in a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

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

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

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

E. Result in conflicts with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.

F. Result in conflicts with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Additionally, CEQA Guidelines Section 15065(a)(1) sets forth three mandatory findings of significance related to degradation of biological resources. Therefore, a significant impact to biological resources related to these mandatory findings would occur if the Proposed Project would:

G. Substantially reduce the habitat of a fish or wildlife species.

H. Cause a fish or wildlife population to drop below self-sustaining levels.

I. Threaten to eliminate a plant or animal community.

J. Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

4.3.3.2 Analytical Methods

Potential impacts to biological resources in the study area were evaluated based on the results of the literature review and field surveys summarized in Section 4.3.1 (as explained in Appendix B) and the location of identified resources relative to the Proposed Project. Additional information on how impacts were analyzed for the construction and operational phases of the Proposed Project is provided below.

Construction

The impact analysis presented below focuses on temporary construction-related impacts of the Proposed Project. The pipeline generally would be installed within existing road pavement, road ROW, and/or existing City easements. When utilizing the existing alignment, the new pipeline would be installed parallel to the existing pipeline. The majority of the Proposed Project would be installed using conventional (open cut)

trenching methods. However, special trenchless (horizontal directional drilling and bore and jack) construction techniques would be utilized in the Brackney North section and at the railway crossing in the Graham Hill Road North section.

The northern segment of the Proposed Project has two creek crossings over Newell Creek and over one unnamed tributary. The southern segment of the Proposed Project has one creek crossing at Zayante Creek and two culverted creek crossings (Eagle Creek and Powder Mill Creek). Construction methods for the creek crossings include replacement of existing above-ground pipeline crossings on Newell Creek, installation of above-ground pipeline at the existing Zayante Creek crossing, and installation under or above culverted crossings at Eagle Creek and Powder Mill Creek, which would minimize potential impacts to special-status biological resources. For the two crossings over Newell Creek, the proposed pipeline would be installed on and/or adjacent to an existing bridge near the same location as the existing pipeline. The Proposed Project would be installed over Zayante Creek on existing concrete abutments that also support another City raw water pipe (Felton Diversion pipeline). Additional improvements consisting of two 30-inch drilled concrete piers would also be established at the south side of the existing abutment to provide additional structural support to the Zayante Creek crossing. While existing infrastructure and pipeline alignments will be utilized to the extent feasible, temporary impacts during construction may occur immediately adjacent to creek crossings. Construction activities are not planned in the creeks, and construction would avoid direct impacts to the active channel and surface water within drainages and creeks. Direct, permanent impacts resulting from construction of pipeline supports or foundations would be limited to previously disturbed areas within the existing ROW.

Upon completion of construction, work areas would be revegetated and/or restored, and disturbed roadways would be repaved in accordance with County requirements. Once the new NCP pipeline sections are completed and operational, the existing pipeline sections would be decommissioned. This would involve capping off the existing pipeline and injecting the pipeline with grout or removing sections of pipeline. With the decommissioning of existing NCP sections, existing fire hydrants along Pipeline Road in Henry Cowell Redwoods State Park also would be abandoned. All above-grade appurtenances along the abandoned pipeline would be completely removed.

Operations

The operations and maintenance activities following project construction would remain similar to existing operations and maintenance activities; operations would include continued implementation of pump start-up and valve operations at the FBPS, when needed to pump water to or from Loch Lomond Reservoir. Once installed, maintenance of the pipeline would include intermittent, periodic inspections and maintenance of air valves with access provided to the pipeline sections by existing roads and easements. The Brackney North pipeline section would have isolation and air valves on either end of the new pipeline and would not need to be accessed in the future unless removed for replacement (HDR 2020). Other periodic maintenance activities include inspection and maintenance of culverts and other drainage features. No new paved or unpaved areas would be created that would require maintenance.

Future operations and maintenance activities associated with the Proposed Project would be similar to those that currently exist with the existing NCP. However, it is expected that the portion of the pipeline relocated from Henry Cowell Redwoods State Park to Graham Hill Road would result in a potential reduction in pipe damages and need for repairs. The replacement of the aged pipeline infrastructure would require fewer inspections and less maintenance than under current conditions. Rerouting sections of the proposed pipeline to improve ease

of access for maintenance and repair would reduce the risk of equipment or infrastructure failure that could potentially impact biological resources in the vicinity of the pipeline (e.g., via leaks and subsequent erosion of slopes, washout of vegetation and access road construction to repair damaged pipelines).

Application of Relevant Standard Practices

The City has adopted standard construction practices (see Section 3.6.6, Standard Construction Practices) that would be implemented during construction to avoid or minimize impacts to biological resources. These practices and their effectiveness in avoiding and minimizing effects are described below.

Standard Construction Practices #1-5 requires implementation of erosion control best management practices. Standard Construction Practice #1 specifies measures to be implemented during construction, such as silt fences, fiber or straw rolls, and/or bales; covering of stockpiled spoils; revegetation and physical stabilization of disturbed areas; and sediment-control fencing, dams, barriers, berms, traps, and basins, for activities occurring in or adjacent to jurisdictional aquatic resources. Standard Construction Practice #2 requires stockpile containment and use of exposed soil stabilization structures. Standard Construction Practice #3 requires use of runoff control devices to be used during construction during the rainy season, and inspection of such devices following rain events. Standard Construction Practice #4 requires implementation of wind erosion (dust) controls. These practices would be effective at limiting the potential for fugitive dust generation and erosion. Standard Construction Practices #5-9 include measures to locate materials and equipment away from water bodies to prevent water quality degradation. Standard Construction Practices include general habitat protection measures to avoid disturbance to retained riparian vegetation (#13), restore disturbed natural communities (#14), and provide construction worker training about sensitive biological resources that may be present (#16).

Impact Evaluation Approach

Impacts have been evaluated with respect to the thresholds of significance described above. Both direct and indirect impacts are considered.

- **Direct impacts** refer to removal of a biological resource and may be permanent or temporary. *Direct permanent impacts* refer to the complete and permanent loss of a resource while *direct temporary impacts* refer to the short-term removal of a resource where the resource is expected to fully recover its function upon project completion. For purposes of this report, direct impacts, whether permanent or temporary, refer to the area where vegetation clearing, grubbing, or excavation removes biological resources. Direct impacts were estimated by overlaying the proposed project impact limits (i.e., work area) on the mapped biological resources within the BSA. Impact limits were determined based on available designs for project segments (Brackney North and Graham Hill Road North/South) and an assumed construction disturbance corridor for the remaining segments.
- **Indirect impacts** are reasonably foreseeable effects caused by Proposed Project implementation on adjacent biological resources outside the direct disturbance zone. Indirect impacts may affect areas outside the disturbance zone, including open space and areas within the BSA. Indirect impacts may be short-term and construction-related (i.e., occur in a different place than project construction), or long-term in nature and associated with development in proximity to biological resources (i.e., occur at a different time).

In the event that adverse environmental impacts would occur even with consideration of applicable policies and regulations and the Standard Construction Practices described in Chapter 3, Project Description, impacts would be potentially significant, and mitigation measures are provided to reduce impacts to less-than-significant levels.

4.3.3.3 Project Impact Analysis

Areas of No Impact

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

- **Conflict with Adopted Policies or Regulations (Significance Threshold E).** The Proposed Project is critical to the operation, utilization, storage, and transmission of water supplies, and therefore, is legally exempt under California Government Code Section 53091 (d) and (e) from the County of Santa Cruz and City of Santa Cruz building and zoning ordinances. The Proposed Project would be constructed consistent with the City policies, plans and ordinances. All project pipe sections are located outside of the coastal zone and would not be subject to local policies and regulations set forth in the County or City LCP.

  The BSA contains riparian trees that may be removed for construction near Zayante Creek (Graham Hill Road North pipe section). However, these trees are not protected by County tree removal regulations, which apply to significant trees in the coastal zone, because the Proposed Project is not located in the coastal zone. Additionally, tree removal would not be subject to the City's creek management or heritage tree regulations as this area is not located within the City. Impacts to riparian habitat and vegetation are further addressed in Impact BIO-2. No trees are planned for removal in other locations.

  Therefore, the Proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as tree preservation ordinances. As a result, there would be no impacts related to conflict with local policies or ordinances.

- **Conflict with an Adopted Habitat Conservation Plan or Natural Community Conservation Plan (Significance Threshold F).** The Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There are no Natural Community Conservation Plans in the region. As previously indicated, three Habitat Conservation Plans have been adopted and approved by the USFWS within the BSA: the County and City of Scotts Valley Interim Programmatic Habitat Conservation Plan (IPHCP), the City's Operations and Maintenance Habitat Conservation Plan (O&M HCP), and the City's GHWTP LE HCP.

  IPHCP. The Graham Hill Road North and South sections of the Proposed Project would occur next to the IPHCP Project Units along Graham Hill Road. However, this plan is intended to authorize incidental take of covered species for small residential development projects only, and does not include take coverage for the Zayante band-winged grasshopper or other listed Sandhills habitat plants that may result from implementing region-wide projects such as the Proposed Project. Regardless, the impacts and compensatory mitigation associated with the Proposed Project would be consistent with the

provisions, and minimization and mitigation measures contained in the IPHCP. Therefore, the Proposed Project would not conflict with provisions of the IPHCP.

O&M HCP. The Proposed Project has been designed by the City to be consistent with the conservation strategies and objectives of the O&M HCP. Therefore, the Proposed Project would not conflict with provisions of the O&M HCP.

GHWTP LEHCP. The Proposed Project is not considered a covered activity under the LE HCP. Regardless, the impacts and compensatory mitigation associated with the Proposed Project would be consistent with the provisions, and minimization and mitigation measures contained in the LE HCP. Therefore, the Proposed Project would not conflict with the LE HCP.

Additionally, the USFWS has approved 15 other individual low-effect HCPs for the Mount Hermon June beetle, Zayante band-winged grasshopper, California red-legged frog, Santa Cruz wallflower, and/or Ben Lomond spineflower. One other HCP for a local project (Santa Cruz Gardens) that provided take coverage for the Ohlone tiger beetle, Santa Cruz tarplant, and Gairdner's yampah was previously approved by the USFWS within the BSA. However, these HCPs were executed in the early 2000s, have exceeded their term limits, and are no longer in effect. The City is also developing the Anadromous Salmonid HCP with NOAA Fisheries and CDFW for City water-system operation and maintenance activities that may affect special-status anadromous salmonids. The Proposed Project would not result in any changes to operations or maintenance activities that would conflict with implementation of the ASHCP once it's finalized. There are no other approved local, regional, or state habitat conservation plans in the vicinity. Therefore, the Proposed Project would have no impact on any such plans.

- **Substantially Reduce Fish or Wildlife Species Habitat (Significance Threshold G).** The Proposed Project does not have the potential to substantially reduce the habitat of fish or wildlife species. The Project would not result in permanent changes to fish habitat in the San Lorenzo River or its tributaries and would not appreciably reduce existing habitat or degrade aquatic conditions for fish species that may be present in these locations. The Project does have the potential to impact other aquatic or terrestrial wildlife species, including special-status species, as a result of ground disturbance associated with Project staging and construction activities. Project-related ground disturbance would result in temporary impacts, but would not result in permanent loss of habitat. Therefore, the Project would not substantially reduce the habitat of a fish or wildlife species.

- **Cause a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate a plant or animal community (Significance Thresholds H and I).** The proposed Project would not threaten to eliminate a plant or animal community. The Project would involve the removal of vegetation that could impact individual plant and animal species, which can be mitigated to a less-than-significant level. None of the Proposed Project components, either individually or collectively, would cause the elimination of entire plant or animal communities. Although some sensitive vegetation communities occur very close to the Proposed Project alignment and may be temporarily impacted during construction, mitigation measures will be implemented to avoid or minimize impacts to these communities. In addition, development of a site-specific revegetation and restoration plan, as described in the mitigation measures below (MM BIO-10), will detail the site-specific measures to offset impacts to sensitive habitats.

Project Impacts

Impact BIO-1A: Special-Status Plant Species (Significance Threshold A and J). The Proposed Project could have a substantial adverse effect on special-status plant species during construction. ***(Less than Significant with Mitigation)***

Three special-status plant species were detected during the focused botanical surveys within the BSA: silverleaf (Bonny Doon) manzanita, Ben Lomond spineflower, and Ben Lomond buckwheat. Suitable habitats for these species within the BSA include coyote brush scrub, Douglas fir forest and woodland, Douglas fir-tanoak forest and woodland, ponderosa pine forest and woodland, and silverleaf manzanita chaparral. Proposed Project pipe sections that are located in areas with observed or potential special-status plants include:

- Northern segment: Newell Creek Road, Glen Arbor Road, Brackney South, and San Lorenzo Way
- Southern segment: Graham Hill Road North, Graham Hill Road South and Pipeline Road and San Lorenzo Lumber Yard sections of existing NCP

Direct Impacts

Direct impacts to silverleaf (Bonny Doon) manzanita and Ben Lomond spineflower could result from project construction activities in the Graham Hill Road North pipe section. Direct permanent impacts associated with installation of the new pipeline could result in crushing of individuals (if present) and permanent habitat loss for these species within project work areas. A third special-status plant, Ben Lomond buckwheat, was also identified in the BSA, but is located outside of project work areas. Potential direct impacts could occur to other special-status plant species with a high potential to occur (minute pocket moss, Santa Cruz tarplant, northern curly-leaved monardella, woodland woolythreads, Choris' popcornflower, San Francisco popcornflower) in the Newell Creek Road, Glen Arbor Road, Brackney South, San Lorenzo Way, Pipeline Road, and San Lorenzo Lumber Yard sections that were not included in the 2021 focused botanical survey.

Construction activities would primarily be located within the existing road pavement where the pipeline would be installed. While construction activities associated with the installation of the new pipeline would occur within a narrow, disturbed/developed ROW, some temporary disturbance could occur to special-status plants, if present, adjacent to the paved road. Inadvertent damage to such plants could occur from movement of construction workers or equipment on the side of the road adjacent to the work area, which could crush or damage special status plants. The loss of individuals or occupied habitat of these species could further reduce their regional population viability, and therefore, direct impacts would be considered potentially significant before mitigation. However, with mitigation, impacts would be less than significant and the Proposed Project would not substantially reduce the number or restrict the range of a rare or endangered plant.

Indirect Impacts

Construction-related dust, soil erosion, and water runoff could indirectly impact individual special-status plants or their habitat outside but adjacent to Proposed Project work areas (i.e., within the BSA but outside work areas). Indirect impacts to special-status plants that could occur during construction include generation of a limited amount of dust in the immediate vicinity of areas potentially occupied by special-status plants. These impacts would be less than significant based on the type, limited duration, and extent of construction activities

in the vicinity of special-status plant populations. Potential indirect impacts would be further reduced with the implementation of the Standard Construction Practices that would serve to avoid or minimize erosion and water quality impacts.

Impacts to special-status plant species would not result from operation and maintenance activities because these activities would not entail vegetation removal, given the proposed location of the pipe in developed and/or disturbed ROWs. Therefore, operations of the Proposed Project would result in no impacts to special-status plants.

Mitigation Measures

Implementation of the Mitigation Measures BIO-1, BIO-2, and BIO-3 would reduce potentially significant impacts to special status plant species during construction to a less-than-significant level.

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.

No ground disturbing activities will occur outside existing developed areas and maintained road rights-of-way (ROW) to avoid and minimize impacts to special-status plants, special-status wildlife, sensitive vegetation communities, sensitive habitats, and aquatic resources.

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.

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-10 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;
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.

Impact BIO1B: Special-Status Wildlife Species (Significance Thresholds A and J). The Proposed Project could have a substantial adverse effect on special-status wildlife species during construction. ***(Less than Significant with Mitigation)***

The BSA for the Proposed Project has a moderate to high potential to support 13 special-status wildlife species: two invertebrates associated with Sandhills habitat (Mount Hermon June beetle and Zayante band-winged grasshopper), one fish (steelhead), two amphibians (Santa Cruz black salamander and California giant salamander), one reptile (western pond turtle), two birds (olive-sided flycatcher and white-tailed kite), and five mammals (pallid bat, Townsend's big-eared bat, western red bat, Santa Cruz kangaroo rat, and San Francisco dusky-footed woodrat). Three federally listed species evaluated, but not expected to occur within the BSA, include the California red-legged frog, coho salmon, and marbled murrelet. Additionally, the native trees and shrubs within the BSA provide suitable nesting habitat for bird species protected under the MBTA and CFGC Section 3500 and roosting bats protected under CFGC Section 4150.

Direct Impacts

Construction activities would primarily occur within the existing road pavement, road ROW, and/or existing City easements where the pipeline would be installed. However, there is potential for direct impacts to special-status wildlife species to occur if individuals are present at the time of construction. Any direct impacts to special-status wildlife would be largely limited to areas within the disturbance footprint of the new pipeline. As discussed above, construction activities may impact special-status wildlife species located in or adjacent to the work area. However, with mitigation, impacts would be less than significant and the Proposed Project would not substantially reduce the number or restrict the range of a rare or endangered wildlife species.

Mount Hermon June beetle, Zayante Band-winged Grasshopper, and Santa Cruz Kangaroo Rat. These special-status wildlife species have a moderate to high potential to occur within the BSA where Sandhills habitat has been identified. Construction-related activities could have a substantial adverse effect on these species, if present, because of their rarity and the limited extent of the Sandhills ecosystem on which they depend. Any mortality of individuals or permanent habitat loss could further contribute to population declines of these

already rare species. Ground disturbance and installation of new piping could result in direct impacts to habitat for these species (including designated critical habitat for Zayante band-winged grasshopper) within staging and work areas. The extent of direct impacts to these species would depend on the exact location of the work areas relative to Sandhills habitat and whether such habitat is occupied by these species. The impact would be potentially significant if avoidance is not possible.

Impacts to Mount Hermon June beetle may occur in areas of the ROW with Zayante sand soils, including developed and disturbed areas. Impacts to Santa Cruz kangaroo rat may occur near the historic occurrences at Mount Hermon/Graham Hill Road (Graham Hill Road North section) and in the vicinity of suitable silverleaf manzanita chaparral habitat in the Newell Creek Road, Glen Arbor, and southern portion of the Graham Hill Road South sections. The Zayante band-winged grasshopper has a moderate potential to occur in road turnouts on Zayante soils adjacent to silverleaf manzanita chaparral in the Newell Creek Road and Graham Hill Road North sections, but low or no potential of occurrence in other Proposed Project sections (McGraw 2021a). Impacts to the Zayante band-winged grasshopper may occur during construction in the Newell Creek Road and Graham Hill Road North sections of the Proposed Project, if present.

Santa Cruz Black Salamander, California Giant Salamander, Western Pond Turtle, and San Francisco Dusky-footed Woodrat. These special-status wildlife species have a moderate to high potential to occur within the BSA. Construction-related activities resulting in ground-disturbance during pipeline installation could have a substantial adverse effect on these species, if present, because any mortality of individuals or permanent habitat loss would further contribute to population declines of these species. The extent of impacts to these species would vary depending on the exact location of the work areas and habitat present. The impact would be potentially significant if avoidance is not possible.

Construction activities would occur adjacent to several creeks during staging and construction of pipeline creek crossings in the northern section of the Graham Hill Road North section at Zayante Creek and in the Newell Creek Road and Glen Arbor Road sections at Newell Creek. In addition, Newell Creek is located east of the Proposed Project construction disturbance corridor in the Newell Creek Road and Glen Arbor Road sections. Further, the San Lorenzo River is located west of the Brackney North, Brackney South, and San Lorenzo Way sections. There is potential for direct impacts to individual Santa Cruz black salamanders, California giant salamanders, and/or western pond turtles potentially occurring in creeks and drainages if they wander into construction areas from adjacent aquatic habitat. Impacts to San Francisco dusky-footed woodrat may occur if occupied middens are located within or near construction work areas. It is anticipated that the Newell Creek crossings would be installed by attaching the pipeline to existing bridge structures, similar to current conditions, and the crossing at Zayante Creek would be over the creek on existing abutments. Utilizing existing infrastructure and alignments would avoid impacts to habitat for the above special-status wildlife because no habitat would be permanently removed or otherwise degraded by project activities.

Olive-sided Flycatcher, White-tailed Kite, Pallid Bat, Townsend's Big-eared Bat, Western Red Bat and Other Species protected under the MBTA. Vegetation and tree removal during project grading activities could result in direct impacts to olive-sided flycatcher, white-tailed kite, pallid bat, Townsend's big-eared bat, western red bat, and other nesting birds and roosting bats. The BSA contains suitable nesting habitat for ground and tree-nesting bird species and roosting bats, particularly within the riparian areas and the undeveloped lands surrounding the work areas. Indirect impacts to nesting birds and roosting bats could result from an increase in human activity and/or construction noise in the immediate vicinity of an active nest that could result in

significant harassment and nest abandonment, causing loss of the nest. Therefore, the impact of the Proposed Project on nesting birds and roosting bats would be potentially significant.

Generally, no tree removal is proposed in the Graham Hill Road North (except at the Zayante Creek crossing) or Graham Hill Road South sections, although some tree trimming could occur adjacent to roads in all Project sections. At the Zayante Creek crossing at the northern end of the Graham Hill Road North section, it is estimated that approximately 4–8 riparian trees may be removed to install the pipe on existing abutments. Tree removal may also be required in the Brackney Road work area within the Brackney North section.

Therefore, there is potential for direct impacts to nesting birds and roosting bats, particularly during the general nesting season of February 1 through August 31 or bat maternity season of March 1 through August 31. Special-status birds with high potential to occur (olive-sided flycatcher and white-tailed kite) would be impacted if project activities removed vegetation supporting active nests or caused noise or visual disturbance resulting in the abandonment of eggs or recently hatched nestlings. Similarly, special-status bats with moderate potential to roost in or near Project construction areas (pallid bat, Townsend's big-eared bat, and western red bat) would be impacted if project activities removed trees supporting an active maternity roost or caused noise or visual disturbance resulting in the abandonment of dependent young.

Steelhead. This listed fish species may occur within the BSA but is not expected to occur within the proposed work areas at Newell Creek or Zayante Creek. Dewatering would not be required for any project activities. As a result, the Proposed Project is not expected to have any direct impact on steelhead. Indirect impacts associated with decreased water quality during construction downstream of the work areas are not expected with implementation of the Standard Construction Practices. Downstream reaches of major creeks within the BSA would continue to receive base flows during construction to support these species. The Proposed Project would not adversely affect the quality or availability of suitable spawning and rearing habitat for steelhead located downstream of the Proposed Project, and no construction is proposed within Zayante Creek or Newell Creek. For these reasons, the Proposed Project would have no impact on steelhead.

Indirect Impacts

Short-term indirect impacts to special-status wildlife species that could occur during construction include increased disturbance from human activity and noise in the immediate vicinity of potentially occupied areas. Operation of construction equipment during vegetation removal, excavation, and pipeline installation at creek crossings could temporarily interrupt the feeding and breeding cycles of Santa Cruz black salamander, California giant salamander, western pond turtle and San Francisco dusky-footed woodrat, if present. Dust generated during construction can clog the spiracles (openings of the tracheal system) of adult Mount Hermon June Beetles and accumulated dust on plants can indirectly affect this species by reducing the health of plants that larvae feed on. Standard Construction Practices for dust control (#4) would reduce potential indirect impacts to this species from airborne dust.

Additionally, construction noise during the bird nesting season (February 1 through August 31) or bat maternity season (generally spring to late summer), could result in indirect impacts to nesting birds and roosting bats, if present. Specifically, indirect impacts to nesting birds and roosting bats from short-term construction-related noise could result in decreased reproductive success, disrupted feeding, or abandonment of a nest or roost site.

Indirect impacts associated with decreased water quality during construction downstream of the work areas are not expected with implementation of the Standard Construction Practices that would minimize/prevent erosion of sediments into water bodies (#1-4) and prevent other contaminants from resulting in water quality degradation (#5-9).

Operation and maintenance activities under the Proposed Project would not result in significant impacts to special-status wildlife, as such activities would not involve construction or substantial ground disturbance. No new lighting would be added to the project area and operations and maintenance activities would be similar to existing conditions. Therefore, operation of the Proposed Project would result in less-than-significant impacts to special-status wildlife species.

Mitigation Measures

Implementation of the Mitigation Measures BIO-1 (see Impact BIO-1A), MM BIO-4 (Sandhills Species Compensation), MM BIO-5 (Mount Hermon June Beetle Protection) MM BIO-6 (Conduct Special-Status Amphibian and Reptile Species Survey and Monitoring), MM BIO-7 (Conduct San Francisco Dusky-Footed Woodrat Survey and Relocation), MM BIO-8 (Conduct Preconstruction Nesting Bird Survey), MM BIO-9 (Conduct Preconstruction Roosting Bat Survey) and MM BIO-10 (Biological Construction Monitoring), as well as Standard Construction Practices #1-4 (erosion control), #5-9 (water quality protection), and #16 (worker training), would reduce potentially significant direct and indirect impacts to special-status wildlife species to a less-than-significant level.

Rehabilitation and enhancement activities within Zayante soils will include revegetation of disturbed areas with plants native to the Sandhills habitat (on Zayante soils) and overlap with habitat restoration activities provided in MM BIO-10 (Sensitive Vegetation Communities Compensation). 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.

MM BIO-4 **Sandhills Special-Status 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 would ensure approved levels of incidental take are not exceeded due to project activities. 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.

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.

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.

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);

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 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.

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 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.

Impact BIO-2: **Sensitive Vegetation Communities (Significance Threshold B).** The Proposed Project could have a substantial adverse effect on sensitive vegetation communities and habitats during construction. ***(Less than Significant with Mitigation)***

As previously discussed in Section 4.3.1.4, a total of 13 sensitive natural communities were identified as occurring within the BSA as summarized on Table 4.3-4. These include riparian, Sandhills and Special Forest habitats.

Direct Impacts

The Proposed Project would result in ground disturbance and removal of vegetation as necessary to install the replacement pipeline. As discussed previously, a large majority of the Proposed Project footprint will be sited within the existing disturbed ROW or within existing roads, and most of the creek crossings would utilize existing pipeline creek crossing infrastructure. However, portions of riparian vegetation communities, Special Forest, and Sandhills habitat occur very close to the Proposed Project alignment and may be temporarily impacted during construction due to movement of construction workers and equipment. Specifically, the following sensitive vegetation communities could be directly impacted: black cottonwood forest and woodland, box-elder forest and woodland, California bay forest and woodland, California sycamore woodland, Douglas fir- tanoak forest and woodland, redwood forest and woodland, and silverleaf manzanita chaparral. All of the Proposed Project pipe sections are located within or partially within sensitive vegetation communities and habitats as follows:

- Northern segment: Newell Creek Road (riparian, sandhills), Glen Arbor Road (riparian, sandhills, special forest), Brackney North (riparian, but no disturbance), Brackney South (riparian), San Lorenzo Way (riparian), Felton Pump Station (riparian) sections
- Southern segment: Graham Hill Road North (riparian, sandhills, special forest), Graham Hill Road South (sandhills) section

The areal extent of impacts would depend on the exact location of work areas. While construction activities associated with the installation of the new pipeline are likely to be located within a narrow, disturbed/developed ROW, some temporary disturbance could occur to natural vegetation communities. In particular, temporary disturbance could occur in the work area adjacent to Zayante Creek in the northern end of the Graham Hill Road North section where improvements to an existing dirt trail would be completed to provide access to the work area for installation of the pipe over the creek. The Proposed Project also includes installation of an additional abutment to support the pipe, which would not be within the creek channel, but would be within riparian habitat. It is estimated that approximately 4–8 riparian trees may be removed to install the pipe on existing abutments, and trees may be removed at the southern staging area for the Brackney North section.

Direct temporary impacts associated with project construction could occur to sensitive vegetation communities depending upon the final pipeline alignment. The extent of impacts would vary depending on the exact location and the natural resources present. Although impacts would not threaten to eliminate a riparian or sensitive natural vegetation community as a result of the proposed project, the impact would be potentially significant if avoidance is not possible, even with the implementation of the Standard Construction Practices listed above in Section 1.2.3.

Indirect Impacts

Construction-related dust, soil erosion, and water runoff could indirectly impact sensitive vegetation communities outside but adjacent to Proposed Project work areas. These potential effects would be short-term and are unlikely to result in significant indirect impacts to such communities with implementation of Standard Construction Practices to minimize erosion (#1-4) and protect water quality (#5-9) and habitat (#13-14).

Mitigation Measures

Implementation of the Mitigation Measures BIO-1 (see Impact BIO-1A) and MM-BIO-11 (Sensitive Vegetation Communities Compensation) as well as Standard Construction Practices #1-4 (erosion control), #5-9 (water quality protection), and #13 minimize disturbance of riparian habitat) would reduce potentially significant direct and indirect impacts to sensitive vegetation communities to a less-than-significant level.

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. 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 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.

Impact BIO-3: Jurisdictional Wetlands and Waters (Significance Threshold C). The Proposed Project would not have a substantial adverse effect on jurisdictional wetlands, but could have a substantial adverse effect on jurisdictional non-wetland waters during construction that would result in both temporary and permanent impacts. ***(Less than Significant with Mitigation)***

As discussed in Section 4.3.1.5, potentially jurisdictional aquatic resources identified in the field included perennial and intermittent streams, ephemeral drainages, and wetlands. Approximately 86 non-wetland waters and 1 wetland were identified within the BSA. The majority of the non-wetland waters are ephemeral drainages and include ditches, swales, and culverts. There are six major, named streams and creeks within the BSA: San Lorenzo River, Newell Creek, Zayante Creek, Bean Creek, Eagle Creek, and Powder Mill Creek, along with other unnamed drainages as illustrated on Figure 4 in Appendix B.

Direct Impacts

Direct permanent impacts within flowing creeks and streambeds would be avoided. No other direct permanent impacts to potentially jurisdictional aquatic resources are anticipated since the Proposed Project will use existing creek crossings and has been designed to avoid drainages, where feasible.

Implementation of the Proposed Project could have direct temporary effects on aquatic resources subject to regulation by the USACE, RWQCB, and CDFW. Construction impacts would avoid the active stream channel but could include temporary disturbance to associated riparian vegetation potentially subject to RWQCB and/or CDFW jurisdiction under the Porter-Cologne Water Quality Control Act and Section 1602 of the California Fish and Game Code, respectively. Potentially jurisdictional aquatic resources identified along the Graham Hill Road North, Newell Creek Road, Pipeline Road, and San Lorenzo Way pipeline sections occur near the proposed work areas. Direct temporary impacts to jurisdictional aquatic resources could occur as a result of project

implementation and would be potentially significant. The extent of direct impacts to aquatic resources would depend on the exact location of the work areas and activities relative to delineated aquatic resources.

Indirect Impacts

Construction-related soil erosion and water runoff could indirectly impact jurisdictional aquatic resources outside but adjacent to or downstream of Proposed Project work areas. However, these effects are unlikely to result in significant indirect impacts to aquatic resources because of Standard Construction Practices to minimize erosion and protect water quality.

No short-term or long-term indirect impacts to aquatic resources following construction activities (edge effects) would occur with implementation of the Standard Construction Practices. Therefore, the indirect impact of the Proposed Project on aquatic resources would be less than significant.

Mitigation Measures

Implementation of the Mitigation Measures BIO-1 (see Impact BIO-1A), MM-BIO-12 (Aquatic Resource Avoidance) and MM-BIO-13 (Aquatic Resource Compensation) would reduce potentially significant direct and indirect impacts to aquatic resources to a less-than-significant level. Where practicable, aquatic resources mitigation shall overlap with measures taken to address impacts to sensitive vegetation communities (as identified above in MM-BIO-11).

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.

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.

Impact BIO-4: Wildlife Corridors (Significance Threshold D). The Proposed Project would not substantially degrade the quality or interfere with the use of a wildlife corridor or migratory route, or otherwise impede wildlife movement or use of native wildlife nursery sites. ***(Less than Significant)***

Direct Impacts

Implementation of the Proposed Project could have minor direct impacts to habitat which could support wildlife movement. As discussed above, the BSA is not within an important regional wildlife corridor. However, several streams and drainages that cross the proposed alignment may serve as local movement corridors that marginally connect habitat for certain amphibians, reptiles, and localized fish species. Overall, the proposed project would not substantially alter the vegetation communities or physical setting of the BSA because most work would be conducted along the existing developed pipeline ROW.

As noted previously, the Proposed Project is largely located within and along existing roadways and open easements. During construction, project activities could block or otherwise hinder wildlife movement along the Project alignment or temporarily affect the ability of wildlife to access other habitat areas upstream or downstream of where jurisdictional features intersect the BSA and Project alignment. However, this impact would be temporary and would not substantially degrade the quality or use of a wildlife corridor or migratory route. Existing habitat linkages and wildlife corridor functions would remain intact during and after construction. Construction activities would not likely result in impacts to wildlife movement because the majority of the pipeline would be installed below grade and no new structures that would impede wildlife movement are proposed.

Construction activities associated with installation of new piping could result in short-term, temporary effects on smaller terrestrial wildlife movement. However, this impact would be temporary over a phased construction schedule, limited due to the narrow construction footprint within the existing ROW, and would not substantially degrade the quality or use of a wildlife corridor or migratory route. Existing habitat linkages and wildlife corridor functions would remain largely intact while construction activities are conducted and following completion. The Proposed Project would not construct any new structures that would impede wildlife movement and has been designed to avoid conducting work within any streams or drainages.

Following temporary construction disturbances, the function and values of the San Lorenzo River watershed and the surrounding Santa Cruz Mountains region would remain the same as existing conditions. Most of the pipeline alignment will be built within existing roads, disturbed ROW and easements. This small displacement of habitat would not impact wildlife movement or use of native wildlife nursery sites within the BSA and surrounding areas. The existing wildlife corridor functions within the Project area would remain intact during and post construction as the Proposed Project is functionally an in-kind replacement of an existing pipeline. The Proposed Project would generally follow the existing alignment, aside from the minor relocations in the Northern Segment and the relocation out of State Park lands and into Graham Hill Road in the Southern Segment, and would be almost

entirely buried underground. For these reasons, the Proposed Project would not directly impact wildlife movement, either during construction or upon project completion.

Indirect Impacts

There would be no long-term indirect impacts to wildlife movement as a result of the Proposed Project. Some short-term, indirect impacts to localized wildlife movement could occur due to construction-related noise and creek crossing construction. However, these impacts would be temporary and would not disrupt wildlife movement due to the limited construction activities around the creek, ambient noise conditions, and the ability for wildlife to continue to move through the creek, upland, and riparian portions of the BSA during and following construction activities. For these reasons, the Proposed Project would not indirectly impact wildlife movement.

Some short-term indirect impacts to localized wildlife movement could occur during construction due to construction-related noise. However, these impacts would be temporary and would not be expected to significantly disrupt wildlife movement during and following construction activities.

In summary, direct impacts to wildlife movement would be considered less than significant. No indirect impacts to wildlife movement are anticipated.

Mitigation Measures

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

4.3.3.4 Cumulative Impacts Analysis

This section provides an evaluation of cumulative biological resources impacts associated with the Proposed Project and past, present, and reasonably foreseeable future projects, as identified in Table 4.0-1 in Section 4.0, Introduction to Analysis, and as relevant to this topic. The geographic area considered in the cumulative analysis for this topic is the San Lorenzo River watershed. The cumulative projects considered include other City Water Department planned capital improvement projects, construction/development projects proposed within the County, or improvement projects on nearby state facilities. Cumulative projects in the project vicinity would be those that would contribute to construction- or operations-related biological resources resulting from the Proposed Project.

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

The Proposed Project would not contribute to cumulative impacts related to conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (Significance Threshold F) because it would have no impact related to this threshold, as described above. Therefore, this significance threshold is not further evaluated.

Impact BIO-5: Cumulative Biological Resources Impacts (Significance Thresholds A, B, C, D, and E). The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to biological resources. ***(Less than Significant)***

The GHWTP Facility Improvement Project proposes to upgrade several components of the City's existing treatment plant. Several improvements and modification have been made over the years focusing on in-kind repairs and replacements, seismic upgrades, and minor improvements in response to changing regulations and permit requirements.. The Proposed Project, when considered cumulatively with the GHWTP Facility Improvement Project, would not result in significant cumulative impacts, as the construction periods for the two projects would not overlap and any adverse effects on listed Sandhills species from either project would be mitigated through implementation of the GHWTP LEHCP.

Other future projects within the City and County as noted above could result in impacts to biological resources. However, these projects would be subject to review and approval by the relevant jurisdiction on a case-by-case basis. Independent CEQA review would be required for all future projects with the potential to impact biological resources and mitigations would be incorporated into such projects to the extent feasible. Thus, it can be reasonably assumed that these projects would be designed or otherwise conditioned to avoid and minimize impacts to biological resources and would be required to comply with federal, state, and local regulations, policies and ordinances.

As described above, implementation of the Proposed Project would result in minor impacts to areas immediately surrounding the existing ROW. Post-construction, the Proposed Project would be operated and maintained similar to existing conditions. Mitigation measures have been identified to reduce potential impacts to special-status wildlife species, sensitive vegetation communities, and jurisdictional wetlands resulting from project implementation to less-than-significant levels, as described below in Section 6. Therefore, the Proposed Project, in combination with the reasonably foreseeable future projects in the watershed would result in less-than-significant impacts to biological resources, and no further mitigation measures are required.

4.3.4 References

Dudek. 2018. Biological Resources Assessment for the Newell Creek Dam Inlet/Outlet Replacement Project. October 2018.

Dudek. 2021. Biological Resources Assessment for the Newell Creek Pipeline Improvement Project. November 2021.

McGraw, J.M. 2021a. Sandhills Habitat Assessment for the Newell Creek Pipeline Replacement Project. April 2021.

McGraw, J.M. 2021b. Rare Plant Survey for the Newell Creek Pipeline Improvement Project: Brackney North, Graham Hill Road North, and Graham Hill Road South Pipeline Sections. August 2021.

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