Santa Cruz County Regional Transportation Commission

Monterey Bay Sanctuary Scenic Trail Network Master Plan

Final

Environmental Impact Report

Certified
November 7, 2013

rincon

Environmental Scientists Planners Engineers

Monterey Bay Sanctuary Scenic Trail Network Master Plan

Final

Environmental Impact Report

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Monterey Bay Sanctuary Scenic Trail Network Master Plan Environmental Impact Report

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EXECUTIVE SUMMARY

This section summarizes the characteristics of the proposed project as well as the environmental impacts, mitigation measures, and residual impacts associated with implementation of the proposed project.

PROJECT SYNOPSIS

Project Proponent

Santa Cruz County Regional Transportation Commission (RTC)
1523 Pacific Avenue
Santa Cruz, California 95060

Project Description

The Santa Cruz County Regional Transportation Commission is proposing the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan, which would establish the continuous alignment, connecting spurs, and set of design standards for a bicycle/pedestrian (multi-use) trail for the length of Santa Cruz County.

Trail Classifications. The trail network travels through a varied landscape for its nearly 50-mile length. The sections within Santa Cruz, Capitola, Aptos, and Watsonville are urban in nature, characterized by the adjacency of residences and businesses, and a greater number of public street crossings. In contrast, the sections north of Santa Cruz and south of Aptos are surrounded by rural lands and for the most part, working agricultural operations, state parks, or open space.

The MBSST Network Master Plan identifies the type of trail to be constructed within each segment. These types of trails include Class I multi-use paved paths[1], Class II designated bike lanes, Class III on-street bike routes, unpaved trail surfaces, sidewalks, boardwalks, and shoreline routes.

Proposed Corridor Description. The proposed trail alignment typically follows the Santa Cruz Branch Rail Line right-of-way through the length of Santa Cruz County and into Monterey County. The rail right-of-way would serve both rail service and bike/pedestrian trail functions. The northern reach generally follows coastal areas adjacent to Highway 1. The central reach primarily traverses existing urban neighborhoods of Santa Cruz, Capitola, and Aptos. The Watsonville reach is defined by rural agricultural and open space lands. Each reach and the segments within it are described in the sections that follow.

Northern Reach. The northern reach of the MBSST Network begins at the San Mateo/Santa Cruz county line on Highway 1, just north of the Waddell Bluffs, and continues south to the

[1] *Unless otherwise noted, the terms "trails" and "paths" in this document are synonymously used to refer to paved bike/pedestrian multi-use facilities, defined by Caltrans as "Class I Bikeways (Bike Paths)" – Caltrans Highway Design Manual, Chapter 1000 Bicycle Transportation Design, Topic 1003 – Bikeway Design Criteria.*

northern Santa Cruz city limits near Schaffer Road (refer to Figure 2-5). Currently, the northern reach consists primarily of narrow steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coast~~al~~ Dairies, transitioning to rural agricultural land and natural coastal mesas south to Schaffer Road. There are numerous small coves and beach strands with informal footpaths down to the beach shore. Large sections of the coastal edge are owned by California State Parks with several scenic rest stops along Highway 1 providing passive recreation access to beaches, coastal bluffs, and inland parkland trails. Much of the land between Highway 1 and the coastal bluffs is managed under agricultural leases with intermittent public coastal access adjacent to the agricultural land. These intermittent access points vary from paved parking lots with restrooms, potable water, and scenic overlooks to unpaved informal roadway pullouts with difficult access to steep coastal bluff tops and beaches. Much of the land south of Coast Dairies is flat with intermittent rolling hills giving way to steep coastal cliffs further north. Sensitive biological areas exist along perennial creeks and drainages and near coastal bluffs and sand dunes.

Central Reach. Beginning at the City of Santa Cruz northern city boundary near Shaffer Road and extending southeast to Seascape Park just south of Aptos, this reach of the MBSST Network corridor traverses densely populated coastal urban areas (refer to Figure 2-7). In the Santa Cruz city limits, the corridor parallels many existing segments of the originally defined Monterey Bay Sanctuary Scenic Trail alignment. The central reach would include several existing large rail bridge and trestle structure crossings. These structures are old, narrow in width, and span steep drainages, roadways, and in one scenario, spans across a historic district in Capitola. The southern portion of the central reach parallels the coast, meanders atop steep coastal bluffs and multiple residential and resort areas.

Watsonville Reach. The Watsonville reach of the MBSST Network begins at railroad mile marker 10 near Seascape Village Park and ends at Railroad Avenue in Monterey County (refer to Figure 2-9). A spur also connects via San Andreas Road to the Santa Cruz/Monterey County line a~~t~~s the Pajaro River to connect to Monterey County's MBSST system. This reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The landscape is primarily open space with some residential areas near Manresa, tapering off to rural farm and agricultural lands further to the south. The rail alignment eventually drifts away from San Andreas Road just south of railroad mile marker 7 and follows the inland side of a steep sloping mesa. The Watsonville reach travels through native woodlands flanked to the west by agricultural land on the mesa top and to the east by rural land sloping away to the Galighan Slough below. The Harkin Slough is a formidable wetland crossing with wide open fields intermittently flooded throughout the year. The rail crossing at the Harkin Slough is on a stretch of raised earthen dike. The rail line eventually crosses the Watsonville Slough and passes through the center of the agricultural fields just west of the City of Watsonville, eventually connecting to city parkland and the downtown street network at Walker Street. The rail line crosses the Pajaro River to the south and ends at Porter Street in the town of Pajaro, Monterey County.

Design Standards. Trail classifications included in the MBSST Network Master Plan are described in Section 2.4.1 (Trail Classifications). These include Class I multi-use paved paths, Class II designated bike lanes, Class III on-street bike routes, unpaved trail surfaces, sidewalks, and boardwalks. The proposed MBSST Network contains design standards for each facility type, some of which are mandatory and some of which are advisory. Mandatory standards include those

related to: trail width; separation of pathway to roadway; design speed; Class I bike path standards; Class II bike lane standard; Class III bike route standard; bridge standards; signing, markings, and traffic controls; and sidewalks. Advisory (non-mandatory) standards are also provided, and include: striping; intersections and crossings; horizontal alignment; stopping sight distance; lateral clearance on horizontal curves; gradients; structural section; drainage; barrier posts; bikeway and railroad intersections; trail setbacks from railroad tracks; and multi-use path standards. Specific design standards are described in greater detail below.

Continuous Theme. Since the 49.6-mile MBSST Network crosses through several jurisdictions, certain design features are proposed to maintain a uniform and cohesive appearance. These key unifying design features include:

- *Trail Logo*
- *Directional Signs*
- *Kiosks and Information Resources*
- *Landscaping Features*
- *Pavement Markings*
- *Mile Markers*
- *Interpretative Exhibit Design*
- *Trail Entrance Features*

Trail Crossings and Intersections. The proposed MBSST Network would require the construction of ~~17~~ 23 new, pre-engineered bridges; retrofitting of ~~one~~ 1 existing bridge; ~~and would require 93~~ 76 roadway crossings (including 1 undercrossing); ~~or~~ and 20 railway crossings (including 1 undercrossing).[2]

Trail Amenities and Features. A variety of trail amenities in the form of benches, shade structures, informational signs, trash containers, staging areas, and a restroom would be located along the trail in strategic locations. The proposed Master Plan calls for design of these elements to reflect an ocean theme through the use of wood, stone, wire fences, self-weathering (rusted) steel, and other rustic materials.

Project Prioritization. The proposed MBSST Master Plan prioritizes projects based on the following criteria:

- *Proximity to activity centers*
- *Population density*
- *Coastal access connectivity*
- *Trail segment cost*
- *Trail s~~S~~egment length*

[2] ~~*The precise number of bridges and roadway/railway crossings may differ from the MBSST Network Draft Master Plan (October 2012) and the figures presented in Section 2.0, Project Description. However, the information included herein is considered the most up to date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

- *Minimal or no ~~Number of~~ bridge crossings*
- *Limited right-of-way*
- *Gap closures (and connections to existing and planned non-motorized facilities)*
- *Public input*

ALTERNATIVES

Three alternatives to the proposed project were chosen for analysis as follows:

- Alternative 1: No Project
- Alternative 2: On-Road Alignment
- Alternative 3: Reduced Project

The No Project alternative assumes that the proposed MBSST Network is not constructed. However, since regional plans endorse trail construction, this alternative assumes that bicycle/pedestrian trail planning and construction in areas other than the MBSST Network corridor would continue as envisioned under existing plans. Under this alternative, bicyclists would either follow existing bike paths, lanes, routes or other city and county roadways where formal facilities do not exist. Pedestrians would utilize existing sidewalks.

The On-Road Alignment alternative would eliminate the multi-use trail along the rail right-of-way and would instead utilize existing on road facilities, constructing new on-road bicycle improvements where needed. Pedestrians would utilize existing sidewalks or road shoulders. No equestrian facilities would be provided.

The Reduced Project alternative would reduce the length of the project by eliminating ten segments from the proposed MBSST Network. Segments located in the more rural areas of the county would be eliminated (segments 1 through 6, segments 15 through 17, and segment 20). The Reduced Project alternative would include construction of segments 7 through 14 and segments 18 and 19. Along these ten segments, the alignment and design features would be identical to the proposed project.

Refer to Section 6.0, *Alternatives,* for the complete alternatives analysis.

SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1 includes a brief description of the environmental issues relative to the proposed project, the identified environmental impacts, proposed mitigation measures, and residual impacts. Impacts are categorized by significance. *Significant and unavoidable* adverse impacts (Class I) require a statement of overriding considerations to be issued per Section 15093 of the *State CEQA Guidelines* if the project is approved. *Significant but mitigable* impacts (Class II) are adverse impacts that can be feasibly mitigated to less than significant levels and which require findings to be made under Section 15091 of the *State CEQA Guidelines*. *Less than significant* impacts (Class III) would not exceed significance thresholds and therefore would not require mitigation. All acronyms used in the following table are listed in Appendix D.

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
AESTHETICS		
Impact AES-1 There are no officially designated state scenic highways in Santa Cruz County. Therefore, the proposed MBSST Network project would not substantially damage scenic resources within a state scenic highway. Impacts would be Class III, *less than significant.*	None required	Less than significant
Impact AES-2 Portions of the proposed MBSST Network would be visible from locally-designated scenic roadways as well as from public viewing areas with access to scenic vistas. However, the project would not result in a substantial adverse effect on scenic vistas. Impacts are therefore Class III, *less than significant.*	None required	Less than significant
Impact AES-3 The proposed MBSST Network would introduce physical improvements in the form of a multi-purpose trail, fencing, landscaping, signage, and other facilities in highly scenic areas throughout Santa Cruz County. These features would not substantially degrade the existing character or quality of the MBSST Network corridor. Impacts would be Class III, *less than significant*.	None required	Less than significant
Impact AES-4 The proposed MBSST Network project would introduce new sources of lighting along some segments of the trail. Lighting guidelines in the proposed Master Plan would ensure that impacts related to night lighting would be Class III, *less than significant.*	None required	Less than significant
AGRICULTURAL RESOURCES		
Impact AG-1 Development of the proposed MBSST Network ~~may~~ would impact land designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Impacts would be Class II, *significant but mitigable*.	**AG-1(a) Placement of Fencing**. Placement of fencing shall be located in a manner which minimizes impacts related to accessibility to farmland and use of farming equipment (e.g., allowing turning radius area for farm equipment).	Less than significant
Impact AG-2 Some segments of the proposed MBSST Network would be adjacent to areas zoned for	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
agriculture and/or adjacent to areas with existing Williamson Act contracts. However, as trail segments would generally be confined to existing right-of-ways, impacts related to conflicts with existing zoning or Williamson Act contracts would be Class III, *less than significant*.		
Impact AG-3 Operation of the proposed MBSST Network may result in direct and indirect impacts on agricultural productivity from land use conflicts between trail users and agriculture. This is a Class II, *significant but mitigable* impact.	**AG-3(a) Notice of Agricultural Activities**. The following information shall be added to the proposed notices on on-going agricultural activities: • Trail users are advised to stay on the trail and be alert to operating machinery and equipment near the trail. • Trail users are required to use restroom facilities in consideration of food hygiene issues on adjacent agricultural lands. • Where dogs are not prohibited, trail users are required to clean up after their dogs and prevent trespass by dogs on adjacent agricultural properties in consideration of food hygiene issues on adjacent agricultural lands. • The legal ramifications for trespassing on adjacent properties. • The legal ramifications for trespassing or being on the trail after it is closed. **AG-3(b) Landscaping Coordination**. For segments adjacent to agricultural operations in the northern and Watsonville reaches, any ornamental plant material used along the trail shall be comprised of native and indigenous species. The selected plant palate shall be reviewed by the Agricultural Commissioner's office prior to approval of landscape plans. Any plant material which may host pests destructive to agriculture shall be prohibited. **AG-3(c) Chemical Spraying Impact Reduction Options**. On a	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	case-by-case basis, the RTC and/or implementing entity for segments adjacent to agricultural operations shall work with the Agricultural Commissioner's office and adjacent farmers to reduce impacts to trail users from agricultural spraying, including pesticides. Non-buffer options shall be considered, including the use of alternative methods of pest and weed control and/or an agreement that farmers notify the Agricultural Commissioner's office or Trail Manager in advance of proposed agricultural spraying within 100 feet of the trail. This would allow the Agricultural Commissioner's office, in accordance with existing requirements, to inform the RTC and/or implementing or managing entity of all spraying within 100 feet of the trail so that appropriate action can be taken (e.g., posting notices or closure of that segment of the trail).	
AIR QUALITY		
Impact AQ-1 The proposed MBSST Network project would not contribute to population growth, and would therefore be consistent with the growth assumptions in the Air Quality Management Plan (AQMP). Furthermore, the project directly implements a transportation control measure in the AQMP. Thus, the MBSST Network would be consistent with and would also help to implement the AQMP. Impacts would be Class IV, *beneficial.*	None required	Beneficial
Impact AQ-2 Construction of the proposed MBSST Network would result in the temporary generation of air pollutants, which would affect local air quality. However, construction emissions would not exceed MBUAPCD thresholds. Impacts would therefore be Class III, *less than significant*.	None required	Less than significant
Impact AQ-3 The proposed MBSST Network would incrementally increase the number of vehicles traveling to staging areas, which would contribute to operational air quality emissions. However, local	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
trips would be balanced by a reduction in trips on cross County arterial corridors and elsewhere due to changes in travel modes by providing an active (non-vehicle) transportation option. Regionally, the proposed MBSST Network project would not generate a substantial amount of new vehicle trips, and resulting operational air quality impacts would be Class III, *less than significant*.		
Impact AQ-4 The MBSST Network project would not contribute to an exceedance of any level of service (LOS) standard. Impacts related to CO hotspots would therefore be Class III, *less than significant.*	None required	Less than significant
BIOLOGICAL RESOURCES		
Impact B-1 Implementation of the proposed MBSST Network project could result in impacts to special status plant and animal species. This impact is Class II, *significant but mitigable*.	**B-1(a) Special Status Plant Species Surveys.** Prior to any vegetation removal, grubbing, or other construction activity of each segment (including staging and mobilization), seasonally-timed special status plant surveys shall be conducted by a qualified biologist approved by the implementing entity no more than two years before initial ground disturbance. The purpose of these surveys is to document the location(s) and number(s) of sensitive plant species within construction and mitigation/restoration areas so that mitigation can be accomplished. The surveys shall coincide with the bloom periods for each species listed in Tables 4.4-6, 4.4-7 and 4.4-8 and all special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and topographic map at a scale of no less than 1"=200'. Surveys shall be conducted in accordance with the County, CDFW, and USFWS protocols (California Department of Fish and Game 2009, United States Fish and Wildlife Service 2000). A report of the survey results shall be submitted to the RTC and/or implementing entity, and the CDFW for review and approval.	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	B-1(b) Special Status Plant Species Avoidance, Minimization, and Mitigation. If state listed, CRPR List 1B species, or naturally occurring stands of Monterey Pine are found during special status plant surveys [pursuant to mitigation measure B-1(a)], the implementing entity shall redesign the segment to avoid impacting these plant species. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent to protect them from harm. If avoidance is not feasible, seed shall be collected from on-site rare plants prior to removal, and/or from other local populations of plant species to be impacted. Seed shall be distributed in areas not proposed for development that have the appropriate habitat characteristics necessary to support the restoration. Seed collection shall be conducted by a qualified biologist holding a rare plant collection voucher/permit. Topsoil may also be salvaged and distributed over temporarily disturbed areas following completion of construction activities provided it is free of non-native invasive species. <u>For take of any plant species protected under CESA, an incidental take permit shall be obtained authorizing activities resulting in take.</u> The total number and/or total acreage for each special status plant species that will be impacted shall be determined once the final design of the project is completed and prior to initiation of ground disturbance activities. Impacted species shall be restored on-site at a minimum of a 2:1 ratio (number of acres/individuals restored to number of acres/individuals impacted) for each species as a component of habitat restoration. <u>Prior to start of construction activities, a</u> ~~A~~ restoration plan shall be prepared and submitted to the RTC and/or	

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	implementing entity and the CDFW for approval. The restoration plan shall include, at a minimum, the following components: • Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type); • Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved]; • Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values); • Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan); • Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule); • Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports); • Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type; • An adaptive management program and remedial measures to address any shortcomings in meeting success criteria; • Notification of completion of compensatory mitigation and	

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	agency confirmation; and • Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism). The restoration plan shall be implemented for a period of at least five years or until restoration has been deemed complete based on the established success criteria. <u>All restoration/compensatory mitigation areas shall be permanently protected through a conservation easement or deed restriction.</u> **B-1(c) Santa Cruz Long-Toed Salamander Habitat Assessment and Protocol Surveys**. Prior to start of construction of each segment, a CDFW- and USFWS-approved biologist shall conduct a habitat assessment to determine if suitable habitat is present within or adjacent to the project site. If suitable habitat is identified, protocol surveys shall be conducted in accordance with *Sampling Procedures for Determining Presence or Absence of the Santa Cruz Long-toed Salamander (Ambystoma macrodactylum croceum)* (1993) developed jointly by the CDFW and the USFWS. The protocol surveys shall be conducted for two consecutive rainy seasons prior to the start of construction. A report of the survey results shall be submitted to the implementing entity, RTC, CDFW, and the USFWS for review and approval. **B-1(d) California Red-Legged Frog, Santa Cruz Long-toed Salamander and Foothill Yellow-Legged Frog, California Tiger Salamander Avoidance and Minimization**. The following avoidance and minimization measures are adapted from the *Programmatic Formal Endangered Species Act Consultation on Issuance of Permits under Section 404 of the Clean Water Act or Authorizations under the Nationwide Permit Program for Projects that May Affect the California Red-legged Frog*	

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Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	issued on January 1999 by the USFWS. Consultation shall occur with the USFWS to determine that 1) the project is covered under the above programmatic formal consultation through issuance of USACE permits under Section 404 of the Clean Water Act, or 2) that take of federally-protected species is not anticipated through implementation of the measures below as determined through informal consultation with the USFWS if no federal permits are pursued. Consultation shall also occur with the CDFW for state protected species to either obtain a state Incidental Take Permit or establish concurrence that take would not occur. • Within two weeks of the initiation of construction activities of each segment (including mobilization and staging), a CDFW/USFWS-approved biologist shall conduct a survey of the construction area for all life stages of CRLF, CTS, foothill yellow-legged frog, and Santa Cruz long-toed Salamander. All areas where these species occur shall be avoided until the approved biologist has determined that these species are no longer present. No life stages of these species shall be relocated without a take authorization from the USFWS and/or CDFW. If relocation is authorized, a suitable relocation site shall be identified prior to initiation of construction activities and shall be located within the same watershed/streamcourse greater than 500 feet from the project site. • Work activities in or adjacent to suitable habitat shall be completed between April 1 and November 1 to the greatest extent feasible. • A CDFW/USFWS-approved biologist shall be present on-site during all ground disturbing activities, including vegetation removal, grading, and exclusion fence installation and removal.	

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Impact	Mitigation Measure	Residual Impact
	Once these activities have been completed, the approved biologist shall conduct periodic inspections of the work site of not less than once per week when construction activities are occurring in/adjacent to suitable habitat. Additional site visits should occur during rain events when special status amphibians are likely to be mobile to ensure that they are not entering work areas. • The implementing entity shall designate a representative who will oversee implementation of all avoidance and minimization measures when the CDFW/USFWS-approved biologist is not present. This representative shall be trained by the CDFW/USFWS-approved biologist in the identification of special status amphibians and in the implementation of all avoidance and minimization measures. This representative shall not have the authority to handle special status species. • Both the implementing entity's representative and the CDFW/USFWS-approved biologist shall have the authority to halt any action which may result in the take of special status species. • Prior to start of construction, exclusion fencing shall be placed along the project boundaries in areas where suitable habitat is present. This fence shall consist of solid silt fencing placed at a minimum of 3 feet above grade and 2 feet below grade and shall be attached to wooden stakes placed at intervals of not more than 5 feet. The fence shall be inspected weekly and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete. • All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water	

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Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies. • At the end of each work day, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment. • All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling. • The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly. • If any federally and/or state protected species are harmed, the CDFW/USFWS-approved biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid additional harm to these species. Dead or injured special status species shall be disposed of at the discretion of the CDFW and USFWS. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours. **B-1(e) Tidewater Goby, Steelhead and Coho Salmon Impact Avoidance and Minimization**. If suitable habitat for tidewater goby, steelhead, and/or coho salmon cannot be avoided, any in-stream portions of each segment (where drainage crossings require in-stream work) shall be dewatered/diverted. A dewatering/diversion plan shall be prepared and submitted to the NMFS, the USFWS and the CDFW for review and approval. All dewatering/diversion activities shall be monitored by a qualified fisheries biologist. The fisheries biologist shall be responsible for capture and	

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Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	relocation of fish species out of the work area during dewatering/diversion installation. A *Programmatic Consultation and Conference for Listed Coastal Species, Ventura, Santa Barbara, San Luis Obispo, Monterey, and Santa Cruz Counties, California (1-8-96-F-11)* was established on August 29, 1991 between the USFWS and the USACE. The following measures are generally adapted from that document. Consultation shall occur with the USFWS to determine that 1) the project is covered under the above programmatic consultation through issuance of USACE permits under Section 404 of the Clean Water Act, or 2) that take of CRLF is not anticipated through implementation of the measures below as determined through informal consultation with the USFWS if no federal permits are pursued. • The implementing entity shall designate a representative to monitor on-site compliance of all avoidance and minimization measures. This representative shall be trained by a qualified fisheries biologist in the identification of the target species and the assessment of the potential for take based on the proposed activities. The representative shall consult with the biologist as necessary to ensure compliance. The representative and the biologist shall have the authority to halt any action which may result in the take of listed species. • Only USFWS/NMFS/CDFW-approved biologists shall participate in the capture and handling of listed species. • No equipment shall be permitted to enter wetted portions of any affected drainage channel. • All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within	

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Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	stream areas and extra spill containment and clean up materials shall be located in close proximity for easy access. • Work within and adjacent to streams shall not occur between November 1 and May 1. Unless otherwise approved by NMFS and the CDFW. • If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline. • If water is to be pumped around work sites, intakes shall be completely screen with wire mesh not larger than five millimeters to prevent animals from entering the pump system. • If any tidewater goby, steelhead, or coho salmon are harmed during implementation of the project, the project biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid further harm to CRLF. • Water turbidity shall be monitored by a qualified biologist or water quality specialist during all instream work. Water turbidity shall be tested daily at both an upstream location for baseline measurement and downstream to determine if project activities are altering water turbidity. Turbidity measures shall be taken within 50 feet of construction activities to rule out other outside influences. Additional turbidity testing shall occur if visual monitoring indicates an increased in turbidity downstream of the work area. If turbidity levels immediately downstream of the project rise to more than 20 NTUs (Nephelometric Turbidity Units) above the upstream (baseline) turbidity levels, all construction shall be halted and all erosion and sediment control devices shall be thoroughly inspected for proper function, or shall be replaced with new devices to prevent additional	

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Impact	Mitigation Measure	Residual Impact
	sediment discharge into streams. **B-1(f) ~~San Francisco Garter Snake~~ and Black Legless Lizard Surveys.** Not less than three months prior to the start of construction activities (including staging and mobilization) for each segment, an CDFW- ~~and USFWS-~~approved biologist shall place coverboards in areas with suitable habitat for ~~San Francisco garter snake and~~ black legless lizard. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground. The coverboards shall be checked by the biologist once per week for each week after placement up until the start of vegetation removal. All black legless lizards found under the coverboards shall be captured and placed in five-gallon buckets for transportation to relocation sites. All relocation sites shall be approved by the RTC and/or implementing entity and shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by construction of the project. Relocation shall occur on the same day as capture. CNDDB Field Survey Forms shall be submitted to the CDFW for all special status animal species observed. ~~If a San Francisco garter snake is located during the surveys, the garter snake shall not be captured and relocated. All further survey efforts at the location of the observation shall cease and the CDFW and USFWS shall be consulted.~~ During all initial ground vegetation removal activities for each segment, a qualified biologist shall be on-site to recover any ~~San Francisco garter snakes and~~ black legless lizards that may be excavated/ unearthed. If the animals are in good health, they shall be immediately relocated to the designated release area. If they are injured, the animals shall be released to a CDFW ~~and/or USFWS~~-approved specialist until they are in a condition	

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Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	to be released into the designated release area. A report of all preconstruction survey efforts and monitoring during initial ground vegetation removal of each segment shall be submitted to the implementing entity within 30 days of completion of the survey effort to document compliance. The report shall include the dates, times, weather conditions, and personnel involved in the surveys and monitoring. The report shall also include for each captured special status animal, the UTM coordinates and habitat descriptions of the capture and release site (in UTM coordinates), the length of time between capture and release, and the general health of the individual(s). **B-1(g) FESA and CESA Consultation.** To ensure compliance with FESA and CESA, the RTC and/or implementing entity shall obtain either Incidental Take Permits or written concurrence that implementation of the project will not result in take for CRLF, CLTS, CTS, ~~San Francisco garter snake,~~ steelhead, coho salmon, and tidewater goby. **B-1(h) Western Pond Turtle Survey, Capture, and Relocation.** Not less than 14 days prior to the start of all construction activities for each segment (including staging and mobilization), an RTC and/or implementing entity approved biologist shall conduct surveys for western pond turtles within suitable habitat. The biologist shall also oversee installation of exclusion fencing where suitable habitat is present to prevent western pond turtles from entering active work areas. If western pond turtles are identified within the work area they shall be captured and relocated to suitable habitat within the same or nearest drainage. The relocation site shall include a pool surrounded by vegetation for escape cover. CNDDB Field Survey Forms shall be	

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Impact	Mitigation Measure	Residual Impact
	submitted to the CDFW for all special status animal species observed. During the rainy season (approximately November 1 to April 15), western pond turtles may actively move through upland habitats outside of drainages. If a turtle is observed by construction personnel within or adjacent to the project area, the turtle's location shall be communicated to the RTC and/or implementing entity-approved biologist. Only the RTC-approved biologist shall capture and relocate the turtle. Construction personnel are not permitted to handle animals. A report of all preconstruction survey efforts for each segment shall be submitted to the implementing entity within 30 days of completion of the survey effort to document compliance. The report shall include the dates, times, weather conditions, and personnel involved in the surveys and monitoring. The report shall also include for each captured special status animal, the UTM coordinates and habitat descriptions of the capture and release site (in UTM coordinates), the length of time between capture and release, and the general health of the individual(s). **B-1(i) Special Status Bat Surveys and Impact Avoidance.** An RTC and/or implementing entity-approved biologist shall conduct presence/absence surveys for special status bats where suitable roosting habitat is present. Bat surveys shall be conducted in consultation with the CDFW. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. Surveys shall be conducted not less than 30 days prior to initiation of construction activities for each segment. Areas where special status bats are located shall be avoided where feasible. If impacts to bats cannot be avoided, exclusionary devices, such	

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Impact	Mitigation Measure	Residual Impact
	as netting, shall be installed by an RTC and/or implementing-entity approved biologist around the roost(s) after the bats have left the roost in the evening and shall be monitored for a minimum of three days to ensure that no bats return to the roost. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately. Exclusion of bats must commence prior to establishment of maternity colonies, which varies by species. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed. Bat roosts shall be removed after the breeding season has ended but before the onset of winter when temperatures are too cold for bat movement. If a roost is determined by a qualified biologist to be used by a large number of bats (large hibernaculum), bat boxes near the impacted roost shall be installed to reduce the impact to the bat species present. Bat boxes shall be species-specific in dimensions and should mimic a tree hollow or crevice. Bat boxes shall be installed at a height that is appropriate for the bat species and anti-predator measures, such as small metal spikes on the top, shall be included to protect bats. A report of survey efforts shall be submitted to the implementing entity within 30 days of completion of the surveys for each segment to document compliance. The report shall include the dates, times, weather conditions, and personnel involved in the surveys. If exclusion devices and/or bat boxes are utilized, the report shall describe how these methods were employed. **B-1(j) Monterey Dusky-Footed Woodrat Avoidance and Minimization**. Within 14 days prior to start of construction activities, all suitable habitat within and adjacent	

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Impact	Mitigation Measure	Residual Impact
	to the construction disturbance limits shall be surveyed for woodrat middens by a qualified biologist approved by the RTC and/or the implementing entity. If middens are located within the disturbance area, the construction contractor shall under the guidance of the biologist remove the midden using an excavator. The midden shall first be "tapped" or shaken by the excavator bucket to encourage the woodrats to evacuate. The excavator shall then grasp portions of the midden with the bucket and relocate them to the same location outside of the disturbance area. All portions of the same midden shall be relocated to the same area; they shall not be distributed across the adjacent habitat. Once the biologist is satisfied that the midden has been removed, construction may commence. If a midden is located within 50 feet of the construction disturbance area, bright-orange construction fencing shall be installed along the perimeter of the disturbance area to protect the midden from harm impacts during construction. **B-1(k) Preconstruction Surveys for Nesting Birds.** For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the CFGC and the MBTA (including, but not limited to, great blue heron, northern harrier, tricolored blackbird, and California black rail) shall be conducted by a qualified biologist no more than 14 days prior to initiation of construction activities for each segment, including construction staging and vegetation removal. The surveys shall include the entire segment disturbance area plus a 200 foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for	

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Impact	Mitigation Measure	Residual Impact
	raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The biologist shall have full discretion for establishing a suitable buffer. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. **B-1(l) Monarch Butterfly Avoidance and Minimization.** Prior to completion of the final design, a biologist approved by the RTC and/or implementing entity shall review the project for potential to impact monarch butterflies. If known or potential winter roost sites will be impacted, the biologist shall make recommendations to avoid impacts including, but not limited to, relocation/redesign of project features to avoid roost sites, guidance regarding tree removal and trimming at roost sites, and recommendations regarding planting additional roost trees. Construction shall not occur within 100 feet of known or potential roost sites between November 1 and May 1 as feasible. If construction must occur during this period, the qualified biologist shall survey known and potential roost sites to confirm occupancy by monarch butterflies prior to start of construction within 100 feet. Multiple surveys may be necessary and the closest known roost sites shall be used as voucher sites to confirm the timing of butterfly arrival. If monarch butterflies are determined to be absent from a roost site, construction may commence. If monarch butterflies are found at a roost site, construction shall not occur within 100 feet of the roost site until the biologist has determined that the butterflies have left the area. The biologist shall visit the voucher sites to confirm that butterflies have left the region.	

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Impact	Mitigation Measure	Residual Impact
	B-1(m) Worker Environmental Awareness Program (WEAP). Prior to initiation of construction activities for each segment (including staging and mobilization), all personnel associated with the segment construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and careful review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them. The form shall be submitted to the RTC and/or implementing entity to document compliance. **B-1(n)** San Francisco Garter Snake Avoidance and Minimization. The following measures shall be implemented in the Northern Reach in consultation with the CDFW and USFWS: • All portions of the proposed project within the range of the San Francisco garter snake shall be designed to avoid impacts to aquatic habitat and to avoid or minimize impacts to adjacent upland habitat. • Construction activities in the Northern Reach shall be avoided within 200 feet of suitable aquatic habitat to the greatest extent feasible. • Construction equipment, personnel, and materials shall be confined to roadways and existing disturbed areas so as to	

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Impact	Mitigation Measure	Residual Impact
	minimize habitat disturbance. If work must occur within 200 feet of suitable aquatic habitat, exclusion fencing shall be installed at the discretion of a qualified biologist to prevent San Francisco garter snakes from entering the work site. • Construction shall occur between May 1 and October 1 when San Francisco garter snake is most active and would be expected to move and avoid danger. If construction must occur between October 2 and April 30, the USFWS and CDFW shall be consulted to determine if additional minimization measures are necessary. • Impacts to suitable upland habitat shall be the minimum necessary to complete construction of the project. The limits of construction shall be delineated clearly with highly visible flagging or construction fencing. • Not more than 24 hours prior to initiation of construction activities at the project site, including mobilization and staging, a qualified biologist shall conduct a survey of suitable habitat for San Francisco garter snake. If a San Francisco garter snake is observed within the disturbance footprint, construction activities shall be postponed until the CDFW and USFWS has been consulted for guidance. • Trash shall be fully contained at all times and shall be removed from the site daily. • A qualified biologist shall be present during all construction activities occurring within and adjacent to suitable habitat to ensure avoidance and minimization measures are implemented and effective.	
Impact B-2 Implementation of the proposed MBSST Network project could result in impacts to riparian and other habitats considered sensitive by local, state, and/or federal agencies, including federally protected wetlands. This impact would be Class II, *significant but mitigable*.	**B-2(a) Jurisdictional Delineation**. Once the final design has been developed for each segment, but prior to the start of construction, a qualified biologist shall conduct a jurisdictional delineation of the entire segment disturbance area at those	Less than significant

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Impact	Mitigation Measure	Residual Impact
	locations where construction activity could affect jurisdictional waters. The jurisdictional delineation shall determine if features are under the jurisdiction of the USACE, RWQCB, CDFW, and/or CCC. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the RTC and/or implementing entity, USACE, RWQCG, CDFW, and CCC, as appropriate, for review and approval. Permits shall be obtained from each agency where applicable. **B-2(b) Wetland and Riparian Habitat Restoration.** Impacts to jurisdictional wetland and riparian habitat shall be mitigated at a ratio of 2:1 for each segment, and shall occur as close to the impacted habitat as possible. A Habitat Restoration Plan shall be developed by a biologist approved by the RTC and/or implementing entity in accordance with mitigation measure B-1(b) above and shall be implemented for no less than five years after construction of the segment, or until the RTC/implementing entity and/or the permitting authority (e.g., CDFW or USACE) has determined that restoration has been successful. <u>All restoration/compensatory mitigation areas shall be permanently protected through a conservation easement or deed restriction.</u> **B-2(c) Landscaping Plan.** If landscaping is proposed for a specific segment, a qualified biologist/landscape architect shall prepare a landscape plan for that segment. This plan shall indicate the locations and species of plants to be installed throughout the segment. Drought tolerant, locally native plant species shall be used. Noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Lists 1, 2, and 4 shall not be permitted. Species selected for planting shall be similar to those	

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Impact	Mitigation Measure	Residual Impact
	species found in adjacent native habitats. **B-2(d) Invasive Weed Prevention and Management Program.** Prior to start of construction of each segment, an Invasive Weed Prevention and Management Program shall be developed by a qualified biologist approved by the RTC and/or implementing entity to prevent invasion areas adjacent native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication before any species can gain a foothold and out-compete native plant species for resources. All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan. Herbicides may be used on a limited basis to control the growth and spread of invasive weeds. Aqua-Master herbicides containing a dye to show overspray or a similar herbicide approved by the CDFW shall be used, and shall be applied by a certified pesticide application specialist under the direction of a qualified biologist. Herbicide application shall be plant species-dependent and can include foliar treatment or cut surface treatments. Herbicide shall not be broadcast over a large area; instead specific plant species shall be targeted. The target plant species shall be removed and disposed of properly at a landfill once they are dead.	
Impact B-3 Implementation of the proposed MBSST Network project could result in impacts to wildlife	**B-3(a) Fence Design.** All project fencing shall be designed to facilitate wildlife movement through the	Less than significant

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Impact	Mitigation Measure	Residual Impact
movement or nursery sites. This impact would be Class II, *significant but mitigable*.	proposed MBSST Network and shall include: • A minimum 16 inches between the ground and the bottom of the fence to provide clearance for small animals; • A minimum 12 inches between the top two wires, or top the fence with a wooden rail or mesh instead of wire to prevent animals from becoming entangled; and • If privacy fencing is required near open space areas, openings at the bottom of the fence measure at least 16 inches in diameter shall be installed at reasonable intervals to allow wildlife movement. The final fence design shall be submitted by each implementing entity to the RTC and shall be reviewed by a RTC-approved biologist for approval. **B-3(b) Construction Best Management Practices.** The following construction Best Management Practices (BMPs) shall be incorporated into all grading and construction plans for each segment of the MBSST Network: • Designation of a 15 mile per hour speed limit in all construction areas. • All vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas, and clearing of vegetation for vehicle access shall be avoided to the greatest extent feasible. • The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goal of the project. • Designation of equipment washout and fueling areas to be located within the limits of grading at a minimum of 100 feet from waters, wetlands, or other sensitive resources as identified	

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Impact	Mitigation Measure	Residual Impact
	by a qualified biologist. Washout areas shall be designed to fully contain polluted water and materials for subsequent removal from the site. • Daily construction work schedules shall be limited to daylight hours only [consistent with mitigation measure N-1(a) (Construction Hours) in Section 4.10, Noise]. • Mufflers shall be used on all construction equipment and vehicles shall be in good operating condition. • Drip pans shall be placed under all stationary vehicles and mechanical equipment. • All trash shall be placed in sealed containers and shall be removed from the project site a minimum of once per week. • No pets are permitted on project site during construction.	
CULTURAL RESOURCES		
Impact CR-1 The proposed MBSST Network project would potentially damage existing prehistoric and archaeological cultural resources and historical structures along the proposed trail alignment. Impacts would be Class II, *significant but mitigable*.	**CR-1(a) Cultural Resources Records Search**. Prior ~~to the issuance of grading permits~~ completion of final design for each trail segment, the RTC and/or implementing entity shall contract with a qualified archaeologist to perform a cultural resources records search. The cultural resources records search shall include both the Area of Direct Impact as well as a suitable buffer area encompassing an Area of Indirect Impact as determined by a qualified archaeologist. If a cultural resources survey has previously been adequately performed for the subject trail segment/impact area, and existing prehistoric or archaeological cultural resources were not identified, no further pre-construction mitigation would be required. If no previous survey has been performed for the subject trail segment/impact area, or if a previous survey has identified prehistoric or archaeological cultural resources, mitigation measure CR-1(b) shall be implemented.	Less than significant

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Impact	Mitigation Measure	Residual Impact
	CR-1(b) Pre-Construction Prehistoric and Archaeological Resources Survey. Prior to ~~the issuance of grading permits~~ completion of final design for each segment that has not been previously graded and/or surveyed for prehistoric and archaeological cultural resources [as determined by mitigation measure CR-1(a)], the RTC and/or implementing entity shall contract with a qualified archaeologist to perform a Phase I cultural resources assessment. In the event that prehistoric or archaeological cultural resources are identified within the Area of Direct Impact during the Phase I assessment and avoidance of impacts to the resource by redesign are not feasible, the implementing agency shall implement a Phase II subsurface testing program to determine the resource boundaries within the trail corridor/impact area, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts. If the site is determined significant, the RTC and/or implementing entity may choose to cap the resource area using culturally sterile and chemically neutral fill material and shall include open space accommodations and interpretive displays for the site to ensure its protection from development. A qualified archaeologist shall be retained to monitor the placement of fill upon the site and to make open space and interpretive recommendations. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant prehistoric or archaeological cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping or further archaeological investigation shall be required, though archaeological monitoring may still be required. The results and recommendations of the Phase II	

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Impact	Mitigation Measure	Residual Impact
	and/or Phase III studies shall determine the need for construction monitoring. In the event that prehistoric or archaeological cultural resources are identified within the Area of Indirect Impact during the Phase 1 assessment, the implementing entity shall contract with a qualified archaeologist to determine whether avoidance or minimization measures are required to prevent looting and aggravation of existing resources. If required, these measures could include, but shall not be limited to: installation of signage prohibiting the public from accessing the site(s), installation of fencing around the identified sites, installation of protection landscape screening, and/or placement of cultural sterile and chemically neutral fill upon the site(s). Selection of feasible avoidance or minimization measures shall be in consultation with the appropriate resource agency, implementing entity, and/or RTC. Following implementation of feasible avoidance or minimization measures the RTC and/or implementing entity shall prepare a four year monitoring plan that includes annual review of sites within the Area of Indirect Impact to assess whether impacts are occurring, supplemental measures to address identified impacts and an annual report of findings which would be available for review by the relevant resources agencies. The plan shall be implemented for a minimum of four years, or until it is clear that resources are not being impacted by the project. **CR-1(c) Alteration of Potential Historical Bridges/Structures**. Prior to issuing permits for development of trail segments that would result in alteration of existing rail bridges, trestle structures, or other structures greater than 50 years old (at the time development is anticipated to occur), a qualified architectural historian shall inventory and evaluate the significance of potentially historical	

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Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	bridges and other structures located along the proposed trail alignment. Preliminary investigations have not identified any historic bridges; however, the trestle over Soquel Creek in Capitola is located in a historic district. If a bridge or other structure located along the proposed trail alignment is determined to be historic, the following shall be conducted prior to any rehabilitation, changes, alterations, or additions: A report shall be prepared by a professional architectural historian and shall be accompanied by requisite sets of large format camera Historic American Engineering Record (HAER) Level II black-and-white 8-by-10 inch archival quality prints taken by a professional photographer. A minimum of twelve views shall be documented (two profiles, two centerline shots, four abutment shots, and four engineering details) and two sets of prints shall be sent to the California State Library in Sacramento. Measured drawings shall be prepared of the structure under the supervision of a qualified architectural historian. After this effort, any proposed rehabilitation, changes, alterations, and additions to historical structures shall comply with the Secretary of the Interior Standards for Rehabilitation. Alterations shall be similar to the surrounding historical landscape and consistent with the character-defining features of the bridge/structure, as determined by procedures implementing the National Historic Preservation Act. Adjacent property owners and local government shall be consulted about the design details of any alterations to existing historical resources. Alterations shall be consistent with applicable local historic preservation policies and guidelines.	
Impact CR-2 Construction of the proposed MBSST Network would involve surface excavation. Although	**CR-2(a) Archaeological Resource Construction Monitoring.** Prior to the commencement of construction	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
unlikely, construction activities have the potential to unearth or impact previously unidentified prehistoric or archaeological cultural resources. Impacts would be Class II, *significant but mitigable*.	activities for each trail segment, an orientation meeting shall be conducted by an archaeologist, general contractor, subcontractor, and construction workers associated with earth disturbing activities. The orientation meeting shall describe the potential of exposing archaeological resources, the types of cultural materials may be encountered, and directions on the steps that shall be taken if such a find is encountered. A qualified archaeologist shall be present during all initial earth moving activities for each trail segment. In the event that unearthed prehistoric or archaeological cultural resources or human remains are encountered during project construction, mitigation measure CR-2(b) shall take effect. **CR-2(b) Unearthed Prehistoric or Archaeological Cultural Remains.** If prehistoric or archaeological cultural resource remains are encountered during construction or land modification activities, work shall stop and the RTC and appropriate City or County planning, building department (depending on the jurisdiction in which the discovery occurs) or implementing entity shall be notified at once to assess the nature, extent, and potential significance of any prehistoric or archaeological cultural remains. The implementing entity shall implement a Phase II subsurface testing program to determine the resource boundaries within the trail corridor/impact area, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts. If the site is determined significant, the RTC and/or implementing entity may choose to cap the resource area using culturally sterile and chemically neutral fill material and shall include open space accommodations and interpretive displays for the site to ensure its protection from	

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	development. A qualified archaeologist shall be retained to monitor the placement of fill upon the site and to make open space and interpretive recommendations. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant prehistoric or archaeological cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping and or further archaeological investigation shall be required. The results and recommendations of the Phase II study shall determine the need for construction monitoring.	
GEOLOGY/SOILS		
Impact GEO-1 Future seismic activity could result in fault rupture along the San Gregorio Fault, which lies under segments 1 and 2 of the MBSST Network. However, improvements along these segments would be limited to on-road improvements and would not include the construction of any structures. Impacts would be Class III, *less than significant.*	None required	Less than significant
Impact GEO-2 Seismically induced ground shaking could destroy or damage MBSST Network structures, including bridges and a restroom facility, resulting in loss of property or risk to human health. All structures would be required to comply with California Building Code standards to address risk from seismic ground shaking. This would be a Class III, *less than significant* impact.	None required	Less than significant
Impact GEO-3 There are several areas within the MBSST Network that are at risk for seismic-related ground failure. Seismic activity could produce ground shaking sufficient to cause liquefaction, subsidence, or settlement in these areas. This is a Class II*, significant but mitigable* impact.	**GEO-3 Geotechnical Study.** Prior to site development of each segment of the MBSST Network, a geotechnical study shall be prepared by a registered civil or geotechnical engineer and reviewed by the RTC and/or implementing entity. This report shall include an analysis of the liquefaction, subsidence, and settlement potential of the underlying materials. If the segment under study	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	is confirmed to be in an area prone to seismically-induced liquefaction, subsidence, or settlement, appropriate techniques to minimize hazards shall be prescribed and implemented. Suitable measures to reduce ground-failure impacts could include, but are not limited to, the following: • Specialized design of foundations by a structural engineer • Removal or treatment of liquefiable soils to reduce the potential for liquefaction • In-situ densification of soils • Replacement or recompaction of soils, or • Other alterations to the ground characteristics.	
Impact GEO-4 Several isolated areas along the MBSST Network project are identified as potential landslide hazard areas. Impacts resulting from landslide hazards would be Class II, *significant but mitigable*.	**GEO-4 Hillside Stability Evaluation.** If any permanent structures (including structures, bridges, paved multi-use paths, and trail furnishings) within a segment are to be located within possible landslide hazard zones, then an evaluation of the adjacent hillside shall be performed by a registered engineering geologist or a registered professional civil or geotechnical engineer prior to approval of that segment. If a landslide potential is found to exist, then setbacks or retaining walls, where approved by a registered engineering geologist or registered professional civil or geotechnical engineer, shall be imposed. The setback distance or design of the retaining walls shall be determined by the results of the landslide evaluation study.	Less than significant
Impact GEO-5 Several areas of the MBSST Network project could be subject to erosion hazards. Coastal erosion hazards are present in the areas of the MBSST Network that are directly adjacent to the coast. In addition, soils are present throughout the MBSST Network that have moderate to severe erosion hazard potential. However, design guidelines in the proposed MBSST Network Master Plan would ensure	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
that impacts would be Class III, *less than significant*.		
Impact GEO-6 The proposed MBSST Network project could be subject to structural damage resulting from unstable soils, including soils with high liquefaction, subsidence, and settlement potential. Impacts would be Class II, *significant but mitigable*.	Mitigation measure GEO-3 requires preparation of a geotechnical study prior to development of each segment. If the segment under study is confirmed to be in an area prone to seismically-induced liquefaction, subsidence, or settlement, then appropriate techniques to minimize hazards shall be prescribed and implemented. Refer to Impact GEO-3 for the complete mitigation measure.	Less than significant
Impact GEO-7 The MBSST Network project is located in areas defined as having potential for the expansion or contraction of soils. This is a Class II, *significant but mitigable* impact.	**GEO-7 Study of Soil Expansion.** The geotechnical study required in mitigation measure GEO-3 shall include an evaluation of the potential for soil expansion of the underlying materials. If the segment under study is identified as being subject to expansive soil hazards, appropriate techniques to minimize hazards shall be prescribed and implemented. Suitable measures to reduce expansive soil hazards could include, but not be limited to: design of foundations by a structural engineer and/or or the replacement of soils beneath the segment.	Less than significant
GREENHOUSE GAS EMISSIONS		
Impact GHG-1 The proposed MBSST Network project would generate greenhouse gas emissions during construction and operation. Construction emissions would primarily be generated by construction equipment and paving. Operational emissions would be generated by vehicle trips by trail users and for trail maintenance, but may be balanced regionally by the potential reduction in vehicle trips on cross county arterial corridors due to a change in travel modes. Overall, greenhouse gas emissions from the proposed MBSST Network Impacts would be Class III, *less than significant*.	None required	Less than significant
Impact GHG-2 The proposed MBSST Network project would be generally consistent with the Climate Action Team GHG reduction strategies, the 2008 Attorney General Greenhouse Gas Reduction	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
Measures, the City of Santa Cruz Climate Action Plan. As a result, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be Class III, *less than significant.*		
Impact GHG-3 Several segments of the proposed MBSST Network would parallel the coastal bluffs/edges of the Santa Cruz County coastline. Given the proximity to the coastline, these segments could be affected by flooding and/or shoreline retreat associated with sea level rise. However, ongoing trail maintenance and inspection activities would ensure that sea level rise does not expose people or structures to the risk of loss, injury, or death. Impacts would be Class III, *less than significant*.	None required	Less than significant
HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1 Grading associated with MBSST Network construction could expose construction workers to health hazards by releasing contaminants that could be present in the soil. This construction-related hazard is a Class II, *significant but mitigable* impact.	**HAZ-1(a) Soil Sampling and Remediation**. Prior to construction of each trail segment, a soil assessment shall be completed for that segment under the supervision of a professional geologist or professional civil engineer to determine the presence or absence of contaminated soil along the proposed trail. If soil sampling indicates the presence of any contaminant in quantities not in compliance with applicable laws or regulations, the RTC and/or implementing entity shall coordinate with Santa Cruz County Environmental Health Services to develop and implement a program to remediate or manage the contaminated soil during construction. Disposal shall occur at an appropriate facility licensed to handle such contaminants and remedial excavation shall proceed under the supervision of an environmental consultant licensed to oversee such remediation. The remediation/disposal program shall be approved by Santa Cruz County Environmental Health Services. The RTC and/or implementing entity shall submit all correspondence to Santa	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	Cruz County Environmental Health Services prior to issuance of grading permits. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation/disposal, a qualified environmental consultant shall prepare a report summarizing the project, the remediation/disposal approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests. **HAZ-1(b) Arsenic Management Plan**. A management plan to address arsenic-containing soil during construction of individual segments along the MBSST Network corridor shall be prepared and implemented. This plan shall include soil excavation, stockpiling, disposal procedures (considering profiling of arsenic and other constituents), and construction monitoring guidelines. **HAZ-1(c) Granite Construction Company Petroleum Remediation and Mitigation**.[1] An analysis shall be conducted to determine whether petroleum present in the soil near the Granite Construction facility is impacting groundwater. If groundwater is determined to have been affected by on-site contamination, or if soil contamination is detected at depths of 30 feet below grade or greater, then a groundwater sampling assessment shall be performed. If contaminants are detected in groundwater at levels that exceed maximum contaminant levels for those constituents in drinking water, then the results of the groundwater sampling shall be forwarded to the appropriate regulatory agency (Santa Cruz County Environmental Health Services, Central Coast Water Quality Control Board, or the State of California Environmental Protection Agency Department of Toxic Substances Control). The agency shall review the data and sign off on the property or determine if any additional investigation or remedial activities are deemed necessary.	

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	Contaminated soils near the Granite Construction Facility in Watsonville shall also be profiled for disposal at the appropriate facility licensed to handle such contaminants and remedial excavation shall proceed under the supervision of an environmental consultant licensed to oversee such remediation. The remediation/disposal program shall be approved by Santa Cruz County Environmental Health Services prior to issuance of grading permits for segment 18. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation/disposal, a qualified environmental consultant shall prepare a report summarizing the project, the remediation/disposal approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests. [1] Granite construction has indicated the process of remediating petroleum contamination at the Granite Construction site (866 West Beach Street, Watsonville). A Human Health Risk Assessment (HRRA) has been prepared for the site and is currently under review by the Regional Water Quality Control Board and the Regional Transportation Comission. For access to documents related to the site, please visit: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000002086. At such time as segment 18 is being considered for implementation, the RTC and/or implementing entity shall contact Santa Cruz County Environmental Health Services to determine the status of clean-up. If the site has been remediated and the case closed, mitigation may not be required.	
Impact HAZ-2 Based on the age of existing railroad bridge/trestle structures, it is possible that existing facilities contain asbestos or lead-based paint. Retrofitting or replacement of these existing structures would create the potential for exposure to these hazardous materials. However, compliance with applicable regulations regarding the	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
removal, handling and disposal of asbestos and lead-based paint would reduce impacts to a Class III, *less than significant* level.		
Impact HAZ-3 Adjacent agricultural, commercial, and industrial activities may include the use of pesticides, herbicides, petroleum-based fuels, chlorinated solvents, or other chemicals considered to be a human health threat. Trail users and maintenance personnel could be exposed to these chemicals during and after their application to the adjacent orchards and row crops, or in the event of soil contamination or emission of hazardous materials into the air. This is a Class II, *significant but mitigable* impact.	**HAZ-3(a) Trail Closure**. A communication system shall be established between the Santa Cruz County Agricultural Commissioner's office, the RTC and/or implementing and managing entities, to convey any notices of intent to spray chemicals in a timely manner. The Trail ~~Manager~~ Ranger or its designee shall be responsible for closing trail segments during and following application of agricultural chemicals, and posting additional warning signs, as appropriate.	Less than significant
Impact HAZ-4 Railway and roadway accidents that involve hazardous materials could potentially create a public safety hazard by exposing people to contaminants. Due to the infrequency of train operations, the transient nature of trail use, and regulations already in place, impacts would be Class III, *less than significant*.	None required	Less than significant
Impact HAZ-5 Underground utility lines may be located beneath the proposed MBSST Network. Construction and design of the proposed trail would be affected by the presence of these lines. This is a Class II, *significant but mitigable* impact.	**HAZ-5(a) Utility Line Location and Consultation.** Prior to construction of each segment, the implementing entity shall determine the presence and exact location of any underground utility lines that correspond to the trail alignment. In addition, the presence of any above-ground utility lines in close proximity to the proposed alignment shall be determined. If any utility lines are found to be in proximity to the trail alignment, the implementing entity shall contact the utility line operator regarding any regulations for grading and construction activities near the lines. The trail alignment shall be constructed and designed in compliance with all regulations and policies set forth by the operating entity.	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
Impact HAZ-6 The proposed MBSST Network project would introduce a recreational use into areas designated as moderate and high wildland fire hazard areas. However, compliance with existing policies and state and local regulations would ensure Class III, *less than significant* impacts.	None required	Less than significant
HYDROLOGY AND WATER QUALITY		
Impact H-1 Construction of the MBSST Network project would increase stormwater runoff due to the increase in impervious surface in the project area, which could also degrade water quality. The proposed Master Plan includes design standards to maintain historic run-off volumes. In addition, compliance with federal, state, and local regulations would ensure historic runoff volumes are maintained and water quality standards are met. Impacts related to surface runoff volumes and water quality would be Class III, *less than significant*.	None required	Less than significant
Impact H-2 Construction and operation of the MBSST Network would be required to comply with existing federal, state, and local standards regarding water quality associated with the use of septic systems. Impacts associated with the degradation of water quality due to a septic system would be Class III, *less than significant*.	None required	Less than significant
Impact H-3 There are several streams within the MBSST Network vicinity that are designated as "impaired waterbodies." The MBSST Network project would not increase pollutants of concern associated with impaired water bodies in the vicinity. Impacts associated with the degradation of water quality would be Class III, *less than significant*.	None required	Less than significant
Impact H-4 The proposed MBSST Network project would introduce approximately 53.1 acres of impervious surfaces to Santa Cruz County, which is a region that derives 80 percent of its water supply from groundwater. However, the	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
MBSST Network is not located in a PGR Zone. Impacts associated with groundwater recharge would be Class III, *less than significant*.		
Impact H-5 Portions of the proposed MBSST Network project would be constructed within the 100-year flood plain and would be subject to periodic inundation during major storm events. Construction of the proposed MBSST Network bridge crossings could also alter the flow characteristics of the drainages it would cross, possibly resulting in greater upstream flooding during major flood events. This is a Class II, *significant but mitigable* impact.	**H-5(a) Bridge Design.** The plans for proposed creek bridges shall be submitted to the planning and/or building department of the jurisdiction in which the segment is located for review and approval. Bridges shall be designed to ensure that pre-project flood flows are maintained, such that upstream flooding does not occur. All recommendations in bridge design made by reviewing bodies shall be considered for implementation. These may include, but would not be limited to: structural anchoring, increase in base-flood elevation, and floodproofing techniques, such as the use of paints, membranes or mortars to reduce seepage, reinforcement to resist water pressure, addition of mass or weight to structure to resist flotation. **H-5(b) Trail Inspection Program.** Within 10 calendar days following flooding events, the trail shall be inspected by the Trail Manager or its designee to determine if damage has occurred or if debris has collected and constricted water flow around the bridges. If damage or debris is found, it shall be repaired or cleared immediately. If repair is required, temporary signage shall be posted to indicate the trail's closure until damage is repaired. Routine bridge inspections shall be conducted by the Trail Manager or its designee on an annual basis.	Less than significant
Impact H-6 Portions of the proposed MBSST Network project would be constructed within tsunami inundation and seiche hazard zones. Existing tsunami warning systems and compliance with state and local policies regarding construction in tsunami zones would reduce potential hazards. This is a Class III, *less than significant* impact.	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
NOISE		
Impact N-1 Construction of the proposed MBSST Network would create temporary noise level increases that could disturb nearby sensitive receptors. This is a Class II, *significant but mitigable* impact.	**N-1(a) Construction Hours.** Hours of construction for all segments of the MBSST Network project shall be limited to the hours between 8:00 AM and 7:00 PM on weekdays and 9:00 AM to 4:00 PM on Saturdays. **N-1(b) Acoustical Shelters.** Air compressors and generators used for construction shall be surrounded by temporary acoustical shelters if within 1,500 feet of a sensitive receptor (including residential, institutional, and office land uses). **N-1(c) Construction Equipment.** Stationary construction equipment that generates noise that exceeds 60 dBA at the boundaries of adjacent sensitive receptors shall be baffled to reduce noise and vibration levels. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines shall be prohibited. Whenever feasible, electrical power shall be used to run air compressors and similar power tools.	Less than significant
Impact N-2 Operational use of the proposed MBSST Network would create intermittent noise. However, this noise is not expected to result in a measurable increase in ambient noise levels. Impacts would therefore be Class III, *less than significant*.	None required	Less than significant
Impact N-3 The proposed MBSST Network would incrementally increase traffic in the vicinity of trail staging areas. However, this additional traffic would be minimal, and would not increase ambient noise levels. This is a Class III, *less than significant* impact.	None required	Less than significant
Impact N-4 Users of the proposed MBSST Network may temporarily be exposed to noise near busy roadways, agricultural operations, and active rail segments. However, the trail is not considered a sensitive land use, and exposure would be intermittent. This is a Class III, *less than significant* impact.	None required	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
TRANSPORTATION/TRAFFIC		
Impact T-1 The proposed MBSST Network would incrementally increase the number of vehicles traveling to staging areas. However, the proposed trail would not contribute to an exceedance of a level of service standard. This is a Class III, *less than significant* impact.	None required	Less than significant
Impact T-2 The proposed MBSST Network would incrementally increase the number of vehicles traveling on regional arterials. However, this would be balanced by a reduction in vehicle trips resulting from the MBSST Network project. Therefore, the proposed trail would not contribute to an exceedance of a level of service standard. This is a Class III, *less than significant* impact.	None required	Less than significant
Impact T-3 Potential conflicts between trail users and automobile traffic could occur at any of the trail road crossings. These conflicts could result in hazardous conditions for both trail users and motorists. In addition, conflicts could occur between trail users and agricultural equipment. This is a Class II, *significant but mitigable* impact.	**T-3(a) Trail Crossing Warning Signs.** In addition to the proposed lighted crosswalks, caution signs shall be installed along vehicular roadways preceding each crosswalk to warn motorists of trail users. **T-3(b) Agricultural Access Safety.** Informational signs shall be installed at the trail crossings of public roads along the northern and Watsonville reaches, warning trail users of the presence of agricultural vehicles. Signs shall also be installed where agricultural access points intersect with adjacent roadways, warning operators about the presence of pedestrians and bicyclists. **T-3(c) Right-of-Way Priority.** Right-of-way priority at all roadway crossings shall be determined by the RTC and/or implementing entity, in consultation with private property owners (where appropriate), during the design of individual trail segments. Where feasible, right-of-way preference shall be given to the facility with the higher volume of traffic (i.e., in locations where the roadway has a higher volume of vehicle traffic than pedestrian and bicycle traffic on the trail, right-of-way shall be given to the roadway; in cases where the trail is crossing a	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

<table>
<tr><th>Impact</th><th>Mitigation Measure</th><th>Residual Impact</th></tr>
<tr><td></td><td>road or driveway that has a lower volume of traffic than the trail, right-of-way priority shall be given to the trail). Right-of-way shall be indicated with appropriate stop or yield sign given to the cross traffic.</td><td></td></tr>
<tr><td>Impact T-4 Potential conflicts between trail users and railroad traffic could occur at any of the trail railway crossings. These conflicts could result in hazardous conditions for both trail users and rail operators and passengers. This is a Class III, less than significant impact.</td><td>None required</td><td>Less than significant</td></tr>
<tr><td>Impact T-5 Potential conflicts between pedestrian and bicyclists may occur at street crossings, where line of sight issues are encountered,, or in other areas where there is not a separated path for different types of users. This is a Class II, significant but mitigable impact.</td><td>T-5(a) Crosswalk Markings. The crosswalk marking used at all MBSST Network crossings of public roadways shall incorporate a distinctive crosswalk pattern to orient different types of trail users. The crosswalk markings may incorporate bike trail markings flanking the crosswalk (possibly green in color), separating pedestrians in the middle, with directional signs for bicyclists on either side.

T-5(b) Line-of-Sight. Wherever feasible, the interface between the trail and intersecting roadway shall be designed so that the approaching driver and bicyclist or pedestrian have a view of each other within the appropriate stopping sight distance suggested by AASHTO Guidelines. This sight distance shall be provided through a combination of measures such as minor vegetation trimming and/or removal, sidewalk/shoulder curb extensions, roadway realignment or narrowing, etc.

<table>
<tr><th>Roadway Design Speed (mph)</th><th>Stopping Sight Distance (feet)</th></tr>
<tr><td>25</td><td>155</td></tr>
<tr><td>30</td><td>200</td></tr>
<tr><td>35</td><td>250</td></tr>
<tr><td>40</td><td>305</td></tr>
<tr><td>45</td><td>360</td></tr>
</table>
</td><td>Less than significant</td></tr>
<tr><td>Impact T-6 Construction activity associated with the MBSST Network could introduce a hazard by creating conflicts between construction</td><td>T-6 Construction Activity. Prior to issuance of grading permits, the implementing entity for each trail segment shall prepare a traffic</td><td>Less than significant</td></tr>
</table>

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
vehicles and materials and existing vehicle traffic. This is a Class II, *significant but mitigable* impact.	control plan based on Caltrans standards. The traffic control plan shall outline requirements for construction cone placements, temporary construction signage and flagger placement for conditions such as lane closures, shoulder closures, and/or lane narrowing.	
Impact T-7 The proposed MBSST Network would include fencing. The installation of fencing may inhibit pedestrian access and reduce local connectivity. This is a Class II, *significant but mitigable* impact.	**T-7 Trail Access.** Where applicable, the RTC and/or implementing entities shall consider including openings in trail fencing to allow for pedestrian and bicycle access in locations other than staging areas and roadway crossings. If such openings are located on the trail side of the railroad tracks, no additional measures would be required. However, if the openings are located opposite the trail, such that bicyclists and pedestrians would be required to cross the railroad tracks to access the trail, then appropriate crossing equipment acceptable to the CPUC shall be included. These may include pedestrian railroad crossing gates and signage similar to what is proposed on other planned trail crossings of the railroad.	Less than significant
PUBLIC SAFETY AND SERVICES		
Impact PS-1 The proposed MBSST Network would result in an incremental increase in water demand, and some segments would be located in areas without adequate water to serve this demand. Impacts would be Class II, *significant but mitigable.*	**PS-1(a) Landscaping Irrigation.** Where a segment is proposed in an area that may not have adequate water supplies or water treatment facilities, one or a combination of the following options shall be implemented: 1. Landscaping shall be excluded from the trail design; 2. Landscaping shall consist of native and drought-tolerant species that do not require long-term irrigation; or 3. Landscaping requiring long-term irrigation shall utilize recycled water supplies. Landscaping plans shall be reviewed and approved by the implementing entity, in consultation with the water purveyor, prior to approval of each segment.	Less than significant

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	PS-1(b) Retrofitting Existing Facilities. Where a segment is proposed in an area that may not have adequate water, the RTC and/or implementing entity shall ensure that there is no net increase in water demand for the affected water service area as a result of increased use of existing restrooms or water fountains. This may occur through one of the following options, or a combination thereof: 1. Retrofit existing public restroom facilities at existing trail heads and staging areas (refer to Table 2-1 in Section 2.0, Project Description) to include low-flow toilets and other water saving devices; 2. Retrofit existing public restroom facilities at existing trail heads and staging areas to allow use of recycled water at existing facilities; and/or 3. Retrofit off-site public facilities (e.g. city or county offices, schools, etc.) that are within the same groundwater service area. The determination of the water demand that requires an offset, and the mechanisms for the offset, shall be determined by the implementing entity in consultation with the RTC and applicable water service provider(s). **PS-1(c) New Bathroom in Watsonville Reach.** Should the proposed new bathroom on the Watsonville Reach be sited in an area without adequate surplus water supplies to serve the facility, then one of the following options shall be implemented to ensure no net increase in water demand: 1. Retrofit off-site public facilities (e.g. city or county offices, schools, etc.) that are within the same groundwater service area. The determination of the water demand that requires an offset, and the mechanisms for the offset, shall be determined by the implementing entity in	

Table ES-1
Summary of Significant Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure	Residual Impact
	consultation with the RTC and applicable water service provider(s); 2. Install zero-water demand restroom facility (e.g. compost toilet); or 3. Omit development of the new restroom facility.	
Impact PS-2 The proposed MBSST Network is anticipated to allow sufficient emergency access. In addition, demand generated by trail users would not result in an exceedance of average response times requiring construction of new facilities. Adjacent on-street facilities would also provide emergency access. Impacts to police, fire, and emergency services would be Class III, *less than significant*.	None required	Less than significant
Impact PS-3 The proposed MBSST Network may result in safety hazards due to conflicts between different types of trail users. However, with adherence to strategies and design requirements contained in the proposed MBSST Network Master Plan, impacts would be Class III, *less than significant*.	None required	Less than significant

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1.0 INTRODUCTION

This document is a Program Environmental Impact Report (Program EIR) for the proposed Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan. The purpose of the Master Plan is to establish the continuous alignment, connecting spurs, and set of design standards for a bicycle/pedestrian (multi-use) trail for the length of Santa Cruz County.

The MBSST Network corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport past the Pajaro River in Watsonville and briefly into Monterey County. The trail would extend through unincorporated Santa Cruz County and portions of the cities of Santa Cruz, Capitola, and Watsonville. The southernmost segment (segment 20) would extend into Monterey County. The MBSST Network corridor would primarily align with the former Santa Cruz Branch Rail Line right-of-way, a 32-mile, continuous travel corridor, 31-miles of which are now owned by the Santa Cruz County Regional Transportation Commission (RTC). North of the railroad right-of-way, the trail would align along the west side of Highway 1 for 7.5 miles, for a combined trail length of 39.2 miles. Other proposed new trails outside of the primary MBSST corridor would comprise 10.4 additional miles of paved and unpaved coastal spur trails. The trail network would span a combined total of 49.6 miles of bicycle and pedestrian facilities.

1.1 PROJECT BACKGROUND

The MBSST is a two-county bicycle and pedestrian pathway project championed by Congressman Sam Farr to foster appreciation for the Monterey Bay National Marine Sanctuary. Through the Congressman's efforts, $4.5 million has been secured through federal appropriations and earmarks. The California Coastal Conservancy granted $250,000 toward the preparation of the Master Plan and another $2.2 million has been committed from RTC discretionary sources. The trail would run the length of the Santa Cruz County coast from the San Mateo County line to Monterey County line. The Transportation Agency for Monterey County (TAMC) will be responsible for Monterey County sections (from Lover's Point in Pacific Grove), while the RTC is responsible, in partnership with various local government entities, for the Santa Cruz County segments.

On May 6, 2010, the RTC decided to purchase 31- miles of the 32 mile Santa Cruz Branch Rail Line from Union Pacific for $14.2 million. On January 19, 2011, the RTC secured approval and funding from the California Transportation Commission for purchase of the Santa Cruz Branch Rail Line. On October 12, 2012, the RTC successfully closed escrow, placing title of the branch line into public ownership.

The planning process for the Master Plan involved stakeholder interviews and public workshops. The majority of stakeholder interviews were conducted over a three-day period (October 25, 26 and 27, 2011) at the RTC office. A total of 68 people representing 52 stakeholder groups were interviewed. The information received ranged from specific trail design standard suggestions, alignment ideas and destination linkages to adjacent land use compatibility issues, safety concerns and natural resource protection needs.

The first of two workshop series was held on three consecutive evenings in North, Mid and South county locations from December 13 to December 15, 2011; approximately 200 members of the public attended. The goal of the workshop series was to bring the community into the Trail Network development early in the process, with the focus on soliciting ideas for new alignment opportunities, connection points, and design elements as well as reviewing the opportunities and constraints that had been identified.

The second workshop series was held on four consecutive nights from November 26 to November 29, 2012 in Santa Cruz, Davenport, Live Oak, and Watsonville. The purpose of this workshop series was to receive public input on the Draft Master Plan.

The RTC prepared a Notice of Preparation (NOP) of a Program EIR for the proposed MBSST Network Master Plan and distributed the NOP for agency and public review on August 23, 2012 for a 30-day review period. The review period was extended for an additional 68 days, ending on November 30, 2012. The RTC received eight letters in response to the NOP. The RTC also conducted two public scoping meetings during the NOP comment period, which took place in Santa Cruz (September 5, 2012) and Aptos (September 6, 2012). Comments on the scope of the EIR were also taken at the Master Plan workshop series held in November 2012.

To be as concise as possible and as allowed by CEQA, the Program EIR identifies common environmental topics of concern expressed in the scoping comments. Table 1-1 below summarizes these environmental topics of concern, beginning with the most common comments received. Not all comments received are summarized below. The table focuses on comments pertinent to CEQA. Comments related to the merit of the proposed project or design of the proposed MBSST Network are outside the purview of CEQA analysis, and are therefore excluded from this table. The NOP and Initial Study prepared for the project as well all comment letters received are presented in Appendix A.

Table 1-1
Summary of Scoping Comments

Topic of Concern Index	Comment Received	Response/Reference to Location of Topic in EIR
Topic No. 1	Several commenters expressed concern related to safety, including conflicts among trail users (pedestrian and bicycles), conflicts between trail users and vehicles or rail services (particularly in narrower parts of the corridor), line of sight visibility along the rail corridor (so rail operators can see trail users), and safety hazards related to the geologic instability of the northern reach. Additional safety concerns raised by commenters included the feasibility of access and response times for emergency services to the more rural portions of the trail. Another commenter noted that a well-lit bridge over Highway 1 was preferable to an underground tunnel.	Conflicts among trail users are described in Section 4.12, *Public Safety and Services*. Conflicts between trail users and other modes of travel (vehicles and rail) are described in Section 4.11, *Transportation/ Traffic.* Geologic stability is addressed in Section 4.6, *Geology/Soils*. Emergency access and response times are discussed in Section 4.12, *Public Safety and Services*. Design-related safety concerns are also addressed in Section 4.12, *Public Safety and Services*.
Topic No. 2	Several people commented on transportation-related impacts, including the consideration of a net change in trips (including both additions for maintenance and reductions through increased active commuting), the potential for reduced	Transportation-related impacts are discussed in Section 4.11, *Transportation/Traffic.*

Table 1-1
Summary of Scoping Comments

Topic of Concern Index	Comment Received	Response/Reference to Location of Topic in EIR
	congestion, improved connectivity to activity centers, and a recommendation that automobile speeds be reduced.	
Topic No. 3	Two commenters raised issues related to the proposed phasing of the MBSST Network Master Plan. One suggested that the EIR include an analysis of this phased implementation, while the other questioned the longevity of the EIR.	As the proposed Master Plan includes a phased approach to implementation, the EIR analyzes the project as it would be implemented. As a reasonable worst case scenario, the EIR also assumes full implementation by 2040. This EIR is considered a Program EIR, as described below in Section 1.3. Information in this Program EIR can be used with subsequent environmental documentation for specific trail segments through individual jurisdictions, including segments implemented in the future. However, this Program EIR does not preclude any requirement for individual jurisdictions to undergo further environmental review for implementation of specific trail segments.
Topic No. 4	Two commenters suggested that the EIR consider impacts to endangered and sensitive species.	Impacts to endangered and sensitive species are addressed in Section 4.4, *Biological Resources.*
Topic No. 5	A commenter suggested that commenting on the scope of the EIR prior to release of the public draft Master Plan was not ideal, and suggested extending the public comment period to allow the time to review the draft Master Plan before providing suggestions for the scope of the EIR.	Based on this comment, the NOP comment period was extended from 30 days to 98 days, ending approximately one month after release of the draft Master Plan document.
Topic No. 6	A commenter suggested that the EIR consider the potential for rail service to increase as a result of the proposed MBSST Network.	Current rail service is limited to freight trains and seasonal recreation service. It is not anticipated that the MBSST Network project would increase rail service.
Topic No. 7	A commenter asked whether the trail would provide equestrian access.	Equestrian use on the MBSST Network would be limited to the north coast area extending from Wilder Ranch to Davenport.
Topic No. 8	A commenter suggested that the trail design could physically divide an established community by preventing people from crossing the existing railroad tracks at various mid-block locations, as is current practice.	This issue is discussed in Section 4.11, *Transportation/Traffic.*
Topic No. 9	A commenter suggested that the project description include a discussion of the required approvals and clarify whether future CEQA review would be required. This commenter additionally requested clarification regarding whether the EIR is a Program or Project EIR.	This EIR is considered a Program EIR and subsequent environmental review may be required; refer to Section 1.3 below. Required approvals and permits are described in Section 2.0, *Project Description.*
Topic No. 10	A commenter requested that greenhouse gas (GHG) emissions and sea level rise be discussed.	These issues are discussed in Section 4.7, *Greenhouse Gas Emissions/Climate Change.*

Table 1-1
Summary of Scoping Comments

Topic of Concern Index	Comment Received	Response/Reference to Location of Topic in EIR
Topic No. 11	A commenter suggested that cultural and historic resources be discussed in the EIR.	These issues are discussed in Section 4.5, *Cultural Resources.*

1.2 PURPOSE AND LEGAL AUTHORITY

In order to implement the MBSST Network project, discretionary approval of the RTC is required. This renders the project subject to the requirements of the California Environmental Quality Act (CEQA). In accordance with Section 15121 of the *State of California Environmental Quality Act (CEQA) Guidelines*, the purpose of an EIR is to serve as an informational document that:

> *"...will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project..."*

This Program EIR serves as an informational document for the public and the RTC decision makers. The RTC will review and consider the information in the Program EIR, along with any other relevant information, in making final decisions regarding the proposed MBSST Network Master Plan. The process will culminate with an RTC Commission meeting to consider certification of a Final EIR, adoption of a Statement of Overriding Considerations, and approval of the MBSST Network Master Plan.

1.3 TYPE OF EIR

This EIR is considered a Program EIR under the *CEQA Guidelines* (Section 15168 and 15180(b)). Information in this Program EIR can be used with subsequent environmental documentation for specific trail segments through individual jurisdictions, and if necessary, to focus further environmental assessment on discussion of new effects that had not been considered previously. This Program EIR does not preclude any requirement for individual jurisdictions to undergo further environmental review for implementation of specific trail segments.

The degree of specificity required in this EIR corresponds to the degree of specificity involved in the underlying activity (the proposed MBSST Network project) which is described in the Program EIR. The *CEQA Guidelines* provide the standard for the degree of specificity on which this document is based. Section 15146 of the *CEQA Guidelines* states:

> *(a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.*
>
> *(b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be*

> *expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.*

The analysis provided in this Program EIR is intended to provide sufficient information to understand the environmental impacts of the proposed MBSST Network project at a planning level and to permit a reasonable choice of alternatives so far as the environmental aspects are concerned and is intended to allow informed decision making and public participation. As a program-level EIR, this document focuses on the broad changes to the environment that would be expected to result from implementation of the proposed MBSST Network project, including the construction of approximately 50 miles of bicycle and pedestrian facilities within Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville.

It should be noted that subsequent environmental review may also be required, particularly if an individual trail segment differs from what is analyzed herein. In such instances, this Program EIR may be used as a tiering document, as described in Section 15152 of the *CEQA Guidelines*. Subsequent review, if required, may include a Negative Declaration, Mitigated Negative Declaration, EIR Addendum, or site-specific Project EIR.

Review under the National Environmental Policy Act (NEPA) may also be required for individual segments, if the segment is funded whole or in part by federal funds.

1.4 SCOPE AND CONTENT

This EIR addresses the issues determined to be potentially significant by the Initial Study (refer to Appendix A). The analysis is guided by input gathered during the NOP and scoping process, as summarized in Table 1-1, and consultation with RTC staff. The issues that have been identified to be addressed in this EIR include:

- *Aesthetics*
- *Agricultural Resources*
- *Air Quality*
- *Biological Resources*
- *Cultural Resources*
- *Geology/Soils*
- *Greenhouse Gas Emissions*
- *Hazards and Hazardous Materials*
- *Hydrology and Water Quality*
- *Noise*
- *Transportation/Traffic*
- *Public Services and Safety*

This EIR addresses the issues referenced above and identifies potentially significant environmental impacts, including project-specific and cumulative effects, of the project in accordance with the provisions set forth in the *CEQA Guidelines*. In addition, this EIR recommends feasible mitigation measures, where possible, that would reduce or eliminate significant adverse environmental effects.

EIR preparers consulted pertinent RTC policies and guidelines, background documents prepared by the County of Santa Cruz and cities of Santa Cruz, Capitola, and Watsonville, as well as previously certified EIRs within these jurisdictions. A full reference list is contained in Section 7.0 of this EIR.

An alternatives analysis has been completed in accordance with Section 15126(d) of the *CEQA Guidelines*. The analysis can be found in Section 6.0 of this EIR. The alternatives evaluated include the CEQA-required "No Project" Alternative and two alternative alignments. In accordance with the requirements of CEQA, the EIR also identifies the "Environmentally Superior Alternative" among the alternatives assessed.

1.5 LEAD, RESPONSIBLE AND TRUSTEE AGENCIES

The *CEQA Guidelines* define "lead," "responsible" and "trustee" agencies. The Santa Cruz County RTC is the lead agency for the project because it has the principal agency responsibility for acting on the proposed MBSST Network project.

A "responsible agency" refers to a public agency other than the "lead agency" that has discretionary approval over the project. As individual segments will be implemented by local jurisdictions, the County of Santa Cruz and cities of Santa Cruz, Capitola, and Watsonville are responsible agencies for the MBSST Network project. For segment 20, which extends into Monterey County, the County of Monterey and TAMC would be responsible agencies. For segments where the MBSST Network crosses state highways (e.g. Highway 1), Caltrans would also be a responsible agency. In addition, if individual segments proposed for implementation encroach onto properties managed by other agencies, these agencies may also be responsible agencies for those segments. Possible responsible agencies include, but are not limited to, the California Department of Parks and Recreation, Bureau of Land Management, Caltrans, and/or United States Fish and Wildlife Service (who manages the Ellicott Slough National Refuge Reserve).

A "trustee agency" refers to a state agency having jurisdiction by law over natural resources affected by a project. As biological resources or State-owned lands may be affected by the MBSST Network project, the California Department of Fish and ~~Game~~ Wildlife and the California State Lands Commission would be ~~a~~ trustee ~~agency~~ agencies.

1.6 ENVIRONMENTAL REVIEW PROCESS

The major steps in the environmental review process, as required under CEQA, are outlined below. The steps are presented in sequential order.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing *(CEQA Guidelines* Section 15082; Public Resources Code Section 21092). The NOP may be accompanied by an Initial Study that identifies the issue areas for which the proposed project could create significant environmental impacts. An NOP for the proposed MBSST Network project was released on

August 23, 2012 for a 30-day review period. The review period was extended for an additional 68 days, ending on November 30, 2012.

2. **Draft Environmental Impact Report (DEIR) Prepared.** The DEIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and, h) discussion of irreversible changes.

3. **Notice of Completion.** A lead agency must file a Notice of Completion with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the Notice in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the Notice to anyone requesting it *(CEQA Guidelines* Section 15087). Additionally, public notice of DEIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public, and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the Clearinghouse (Public Resources Code Section 21091) approves a shorter period.

4. **Final EIR.** A Final EIR (FEIR) must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and, d) responses to comments.

5. **Certification of FEIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the FEIR has been completed in compliance with CEQA; b) the FEIR was presented to the decision-making body of the lead agency; and, c) the decision making body reviewed and considered the information in the FEIR prior to approving a project *(CEQA Guidelines* Section 15090).

6. **Lead Agency Project Decision.** A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or, c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted *(CEQA Guidelines* Sections 15042 and 15043).

7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible *(CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations

that sets forth the specific social, economic, or other reasons supporting the agency's decision.

8. **Mitigation Monitoring Reporting Program.** When an agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.

9. **Notice of Determination.** An agency must file a Notice of Determination after deciding to approve a project for which an EIR is prepared *(CEQA Guidelines* Section 15094). A local agency must file the Notice with the County Clerk. The Notice must be posted for 30 days and sent to anyone previously requesting notice. Posting of the Notice starts a 30-day statute of limitations on CEQA legal challenges [Public Resources Code Section 21167(c)].

2.0 PROJECT DESCRIPTION

The proposed project is the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan. The purpose of the Master Plan is to establish the continuous alignment, connecting spurs, and set of design standards for a bicycle/pedestrian (multi-use) trail for the length of Santa Cruz County. This section describes the proposed MBSST Network project, including information about the project proponent/lead agency, trail corridor location, major characteristics, and a list of discretionary approvals needed to implement the project.

2.1 PROJECT PROPONENT/LEAD AGENCY

Santa Cruz County Regional Transportation Commission (RTC)
1523 Pacific Avenue
Santa Cruz, California 95060

2.2 PROJECT LOCATION

The Master Plan corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport past the Pajaro River in Watsonville. The trail would extend through unincorporated Santa Cruz County and portions of the cities of Santa Cruz, Capitola, and Watsonville. The southernmost segment (segment 20) would extend into Monterey County. The MBSST Network corridor would primarily align with the former Santa Cruz Branch Rail Line right-of-way, a 32-mile, continuous travel corridor, 31-miles of which are now owned by the Santa Cruz County Regional Transportation Commission (RTC). The rail right-of-way would serve both rail service and bike/pedestrian trail functions. North of the railroad right-of-way, the trail would align along the west side of Highway 1 for 7.5 miles, for a combined trail length of 39.2 miles. Other proposed new trails outside of the primary MBSST corridor would comprise 10.4 additional miles of paved and unpaved coastal spur trails. The trail network would span a combined total of 49.6 miles of bicycle and pedestrian facilities. The railroad generally runs along the coast, parallel to the Pacific Ocean, except where it turns inland near Manresa State Beach. From there, the tracks run inland toward Watsonville and ultimately end at the Watsonville Junction. Figure 2-1 illustrates the regional location of the MBSST Network corridor.

The MBSST Network corridor is separated into three reaches: the northern reach extends from the San Mateo County line to the western Santa Cruz city limit; the central reach extends from the western Santa Cruz city limit to Seascape Boulevard; and the Watsonville reach extends from Seascape Boulevard to Railroad Avenue in Monterey County. These reaches are further divided into smaller "segments." Segments one through six fall within the northern reach; segments seven through 14 fall within the central reach; and segments 15 through 20 fall within the Watsonville reach. Figure 2-2 illustrates the three reaches within the MBSST Network Master Plan area.

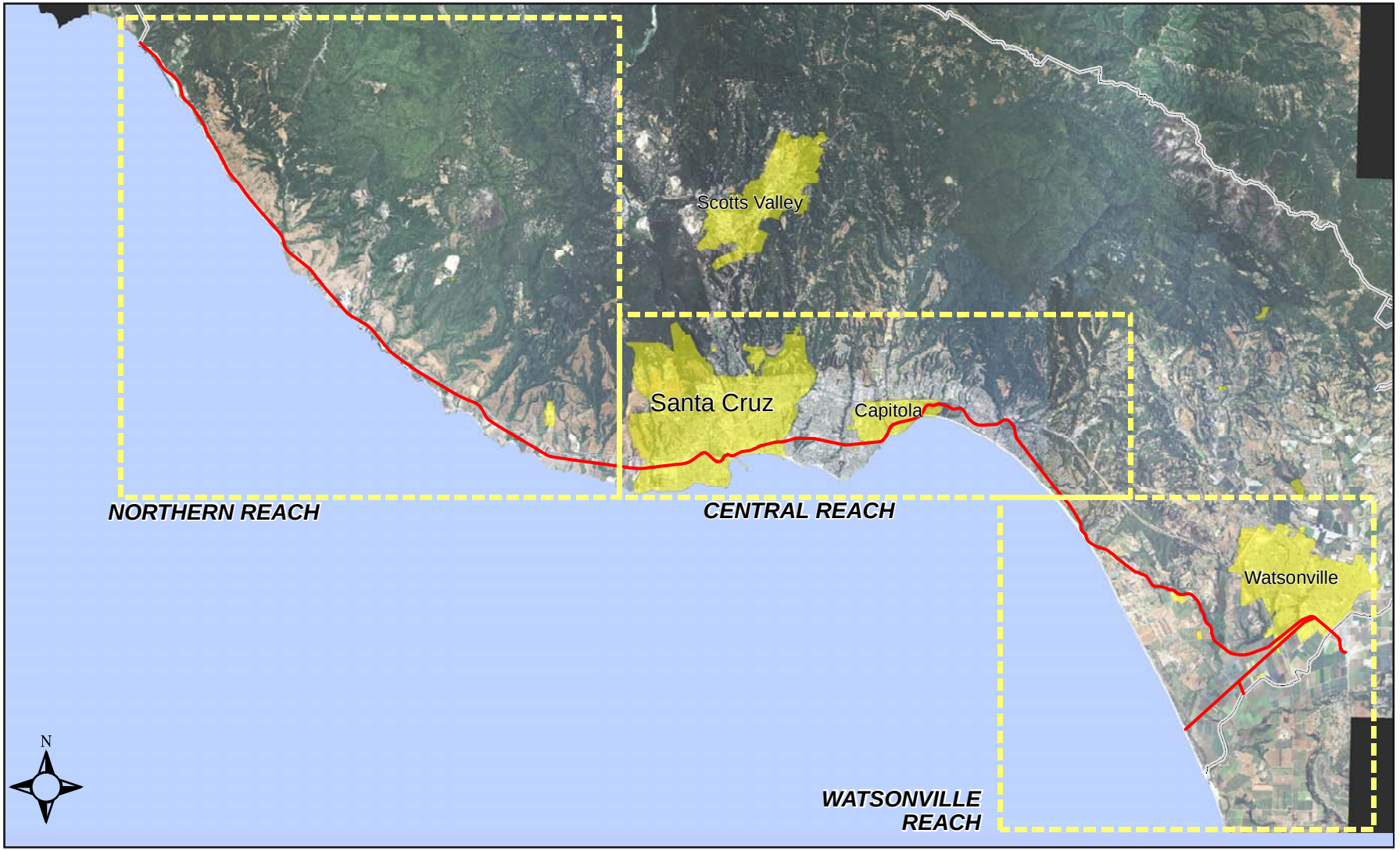
2.3 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Santa Cruz County has 215 miles of bikeways, 190 of which are bi-directional bike lanes, and 25 miles of which are separated paths. Several projects that benefit bicyclists and pedestrians were recently constructed including: the East Cliff Drive Parkway (bicycle/pedestrian multi-use trail)

Imagery provided by National Geographic Society, ESRI and its licensors © 2012.

Regional Location

Figure 2-1



Master Plan Area

Figure 2-2

Source: RRM Design Group, October 2013.

project; Eaton Street pedestrian improvements; Freedom Boulevard bicycle improvements; and a new bike/pedestrian bridge over the San Lorenzo River, adjacent to State Route (Highway) 1. Additional bicycle projects under development include the Broadway/Brommer bicycle and pedestrian path through Arana Gulch, Calabasas Road bicycle lanes and sidewalks, 38th Avenue bicycle lanes in Capitola, and a countywide bicycle route signage and way-finding program.

2.3.1 Existing and Planned Trail Networks

The proposed MBSST Network project's relationship to other existing and planned trail networks is described below.

California Coastal Trail. The California Coastal Trail is a statewide project that endeavors to create a continuous public right-of-way along the California coastline. Some of the Coastal Trail's key objectives are to provide a continuous trail as close to the ocean as possible, with connections to the shoreline, to provide sufficient transportation access to encourage public use, to create linkages to other trail systems, and to use the Coastal Trail system to increase accessibility to coastal resources from urban population centers. The Coastal Trail network alignment was developed by the California State Coastal Conservancy in conjunction with the California Coastal Commission, the California Department of Parks and Recreation, and Coastwalk, and segments have been incorporated into the proposed MBSST Network project. The MBSST Network project would also serve as the California Coastal Trail in Santa Cruz County and follow a blufftop alignment wherever feasible.

Monterey Bay Sanctuary Scenic Trail. The goal of the Monterey Bay Sanctuary Scenic Trail is to provide a safe bicycle and pedestrian route between the cities of Pacific Grove in Monterey County and Santa Cruz. Initially conceived by the Santa Cruz County Sanctuary Inter Agency Task Force, the project was expanded into a trail network plan by the RTC to include additional transportation alignments, namely the Santa Cruz Branch Rail Line Railroad right-of-way. The Sanctuary Scenic Trail will be a bicycle and pedestrian pathway that spans the entire coast of the Monterey Bay National Marine Sanctuary, from Pacific Grove to Santa Cruz. The vision of the project is to create a continuous, safe and accessible scenic trail for pedestrians, bicycles, and other users separated from automobile traffic. Portions of the planned trail are currently in place in Monterey and Santa Cruz counties; however, links between Marina and Aptos are currently missing. The trail is proposed to include interpretive features that provide information on the National Marine Sanctuary, the surrounding communities, adjacent farmlands and natural habitats. A portion of the Santa Cruz County Monterey Bay Sanctuary Scenic Trail alignment was conceptually developed in conjunction with preparation of the *Sanctuary Scenic Trail Standards Manual* in 2005. This document identifies an eleven mile "core-route" adjacent to the coastline between Wilder Ranch State Park and Seacliff Beach State Park. The eleven mile "core-route" alignment has been incorporated into the proposed MBSST Network project.

Pacific Coast Bike Route. In 1976, the American Revolution Bicentennial Commission of California and the California Department of Transportation developed the Pacific Coast Bicentennial Bike Route. The designated route began on U.S. Highway 101 at the California/Oregon state line and ended adjacent to Interstate Highway 5 at the Mexican border.

In the early 1990s, the California State Legislature designated this route the Pacific Coast Bike Route.

In Santa Cruz County, Highway 1 is recognized as the Pacific Coast Bike Route. The route generally follows Highway 1 north of Santa Cruz, surface streets in the cities and county urbanized areas, and along rural surface streets south of Aptos. The route draws recreational bicycle riders, mountain bikers, charity ride participants, group riders, bike delivery operations, triathlons, and bicycle races. The Pacific Coast Bike Route has been incorporated into the proposed MBSST Network project.

Local Hiking/Walking Trails and Public Access Areas. Each jurisdiction within the Master Plan Area has prepared a bicycle plan identifying existing routes. Currently, unincorporated Santa Cruz County has approximately 92 miles of Class II bike lanes and 4 miles of Class I bike paths. The City of Capitola has approximately 14 miles of bike lanes and less than 1 mile of Class I bike paths. The City of Santa Cruz has 48 miles of Class II bike lanes and approximately 10 miles of Class I bike paths. The City of Watsonville has approximately 18 miles of Class II bike lanes and 9 miles of Class I bike paths. The proposed MBSST alignment considers the existing facilities and recommends connections wherever possible with the intent of linking as many facilities as possible along one continuous alignment.

2.3.2 Existing Rail Line

The 136-year old Santa Cruz Branch Rail Line corridor parallels Highway 1, extending almost 32 miles from the town of Pajaro in Monterey County to Davenport in Santa Cruz County. The right-of-way is generally 50 to 60 feet wide with 37 bridges and trestles, including major crossings of the Pajaro River, Highway 1, Soquel Creek, the Santa Cruz Yacht Harbor, and the San Lorenzo River. The corridor links tourism and activity centers as it traverses downtown Watsonville, Aptos Village, Capitola Village, and the Santa Cruz beach area near downtown Santa Cruz.

The Santa Cruz Branch Rail Line historically transported lumber, quarried material, and agricultural products out of the Santa Cruz area. Incoming freight included coal and gypsum for delivery to the cement factory located in Davenport. Following the closure of the cement plant in 2010, freight business on the rail line was reduced by 90 percent. Currently, there is no daily freight service on the rail line outside of the City of Watsonville. There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach~~,~~ south of Davenport and the City of Watsonville to east of Manresa State Beach. This seasonal service operates two to four passenger trains per day, with a higher number of trips on weekends. Within the Watsonville/Pajaro area, there are freight trips every weekday, and weekends as needed. These trips are localized and do not extend outside of the Watsonville/Pajaro area. The rail line in Watsonville is used to transport perishables (including raspberries, strawberries, and other agricultural products), lumber, and biofuels. There is currently no rail operation between Watsonville and Santa Cruz, except when needs arise for a special movement of equipment.

Iowa Pacific Holdings (IPH), operating as Santa Cruz and Monterey Bay Railway (SCMBR), is the current freight and tourist passenger service operator. SCMBR plans to implement

additional freight, passenger, and recreational rail service in the future. While recreational (non-tourist) passenger service is initially planned from Santa Cruz to Davenport, SCMBR is exploring the possibility of service throughout the entire County and possibly beyond.

2.4 PROJECT CHARACTERISTICS

2.4.1 Trail Classifications

The trail network travels through a varied landscape for its nearly 50-mile length. The sections within Santa Cruz, Capitola, Aptos, and Watsonville are urban in nature, characterized by the adjacency of residences and businesses, and a greater number of public street crossings. In contrast, the sections north of Santa Cruz and south of Aptos are surrounded by rural lands and for the most part, working agricultural operations, state parks, or open space.

The MBSST Network Master Plan identifies the type of trail to be constructed within each segment. These types of trails include multi-use paved Class I paths, Class II designated bike lanes, Class III on-street bike routes, unpaved trail surfaces, sidewalks, boardwalks, and shoreline routes[1]. The characteristics of each classification are described below.

Multi-Use Paved Path. A multi-use paved path is a derivative from the Caltrans-defined Class I bikeway. A Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. A multi-use paved path permits a variety of users in addition to bicyclists including walkers, joggers, wheelchairs, and scooters. Multi-use paved paths may generally include the following design elements[2]:

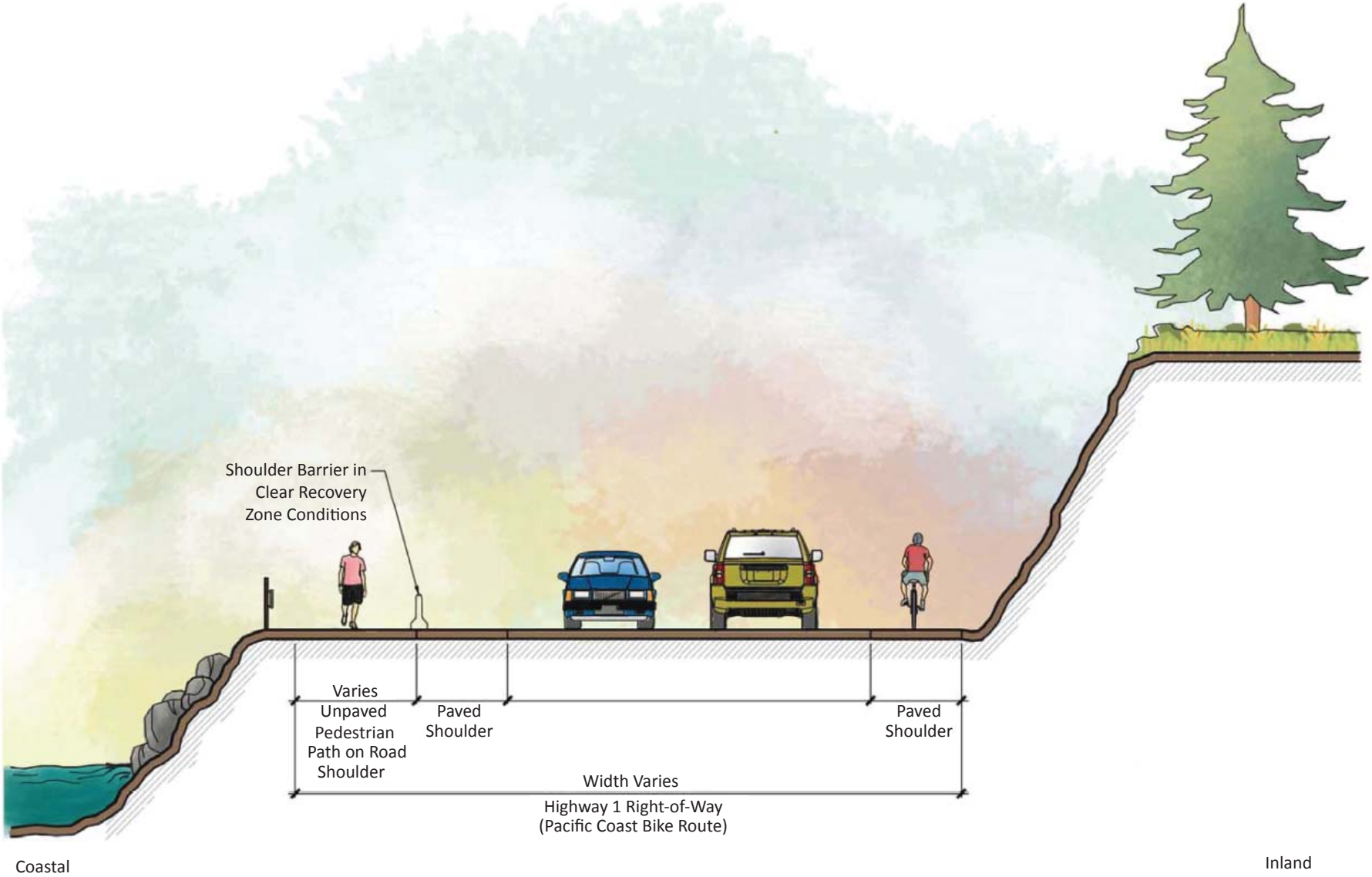
- *Paved surface of eight to twelve feet wide, or wider if right-of-way exists and/or high use is anticipated;*
- *"Rail trail" design for trail and train operations on a shared rail right-of-way;*
- *Center lane striping;*
- *Separation from adjacent roadways by at least twelve feet, where feasible;*
- *Safety fence separating inner trail edge from rail line (e.g. 54 inch minimum post and wire);*
- *Lighting fixtures;*
- *Use of non-invasive ornamental barrier plants as a buffer or to help soften fencing;*
- *Clearly illustrated and properly located signage with informal, interpretive and regulatory messages;*
- *Compliance with ADA requirements, where possible, in trail design; and*
- *Minimum eight foot six inch setback from railroad centerline.*

Typical multi-use paved rail trail cross sections are shown in Figures 2-3a and 2-3b (coastal areas) and 2-4 (urban area).

Designated Bicycle Lanes (Class II). Designated bicycle lanes are synonymous with Caltrans-defined Class II bike lanes. Often referred to as a "bike lane," a designated on-street

[1] *Unless otherwise noted, the terms "trails" and "paths" in this document are synonymously used to refer to paved bike/pedestrian multi-use facilities, defined by Caltrans as "Class I Bikeways (Bike Paths)" – Caltrans Highway Design Manual, Chapter 1000 Bicycle Transportation Design, Topic 1003 – Bikeway Design Criteria.*

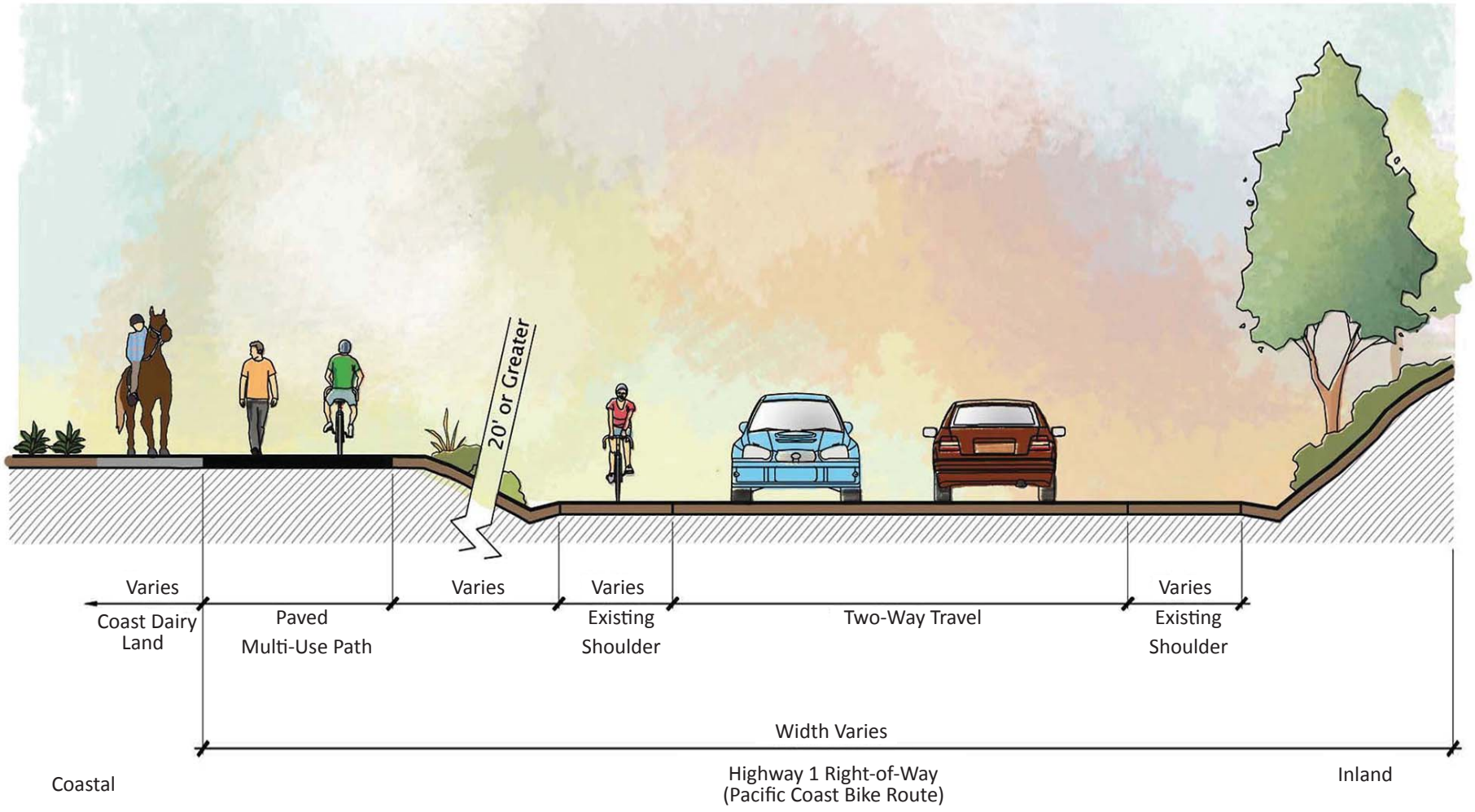
[2] *Precise design elements will vary from segment to segment.*



Typical Multi-Use Path Cross Section: Coastal

Figure 2-3a

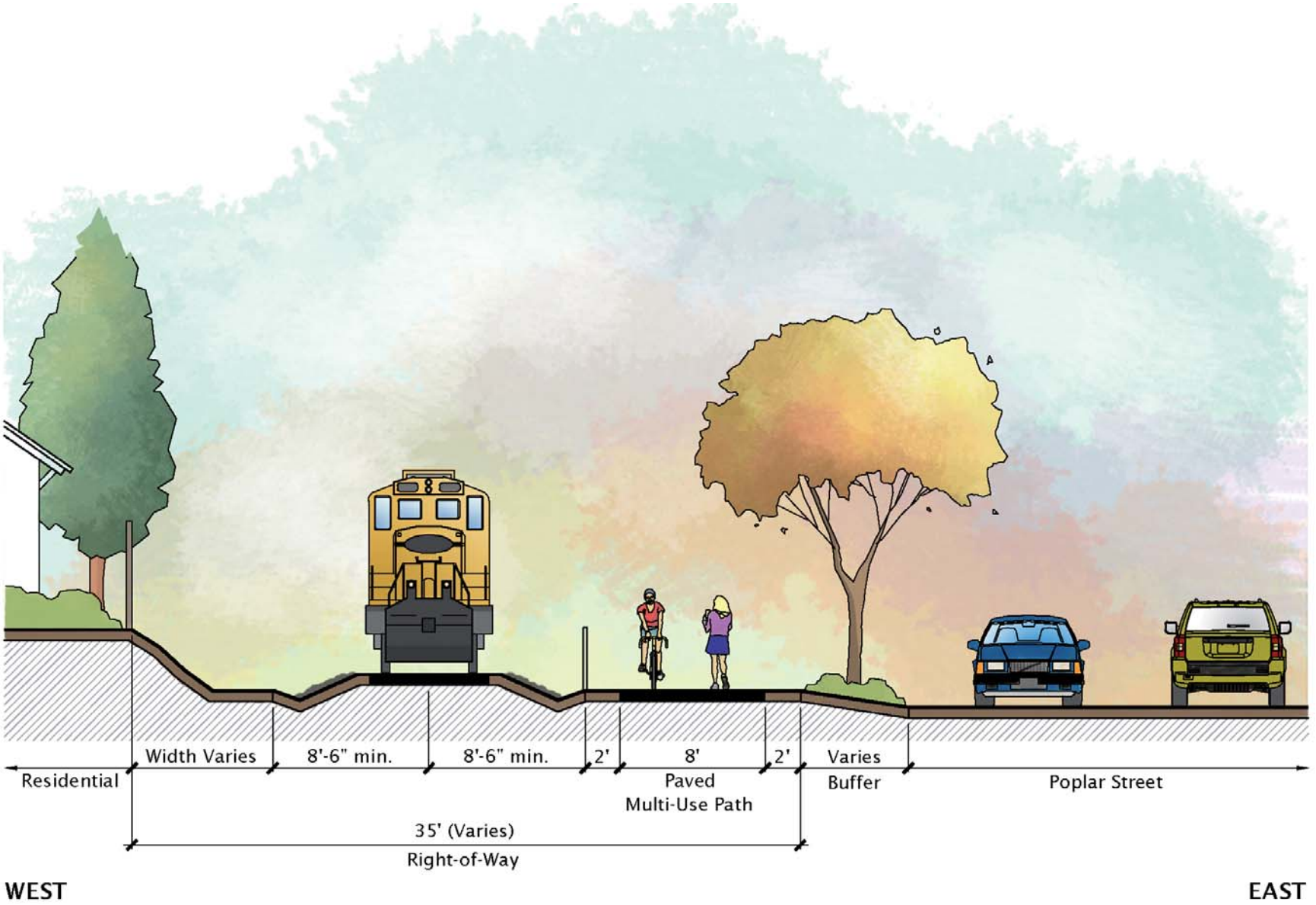
Source: RRM Design Group, 2012



Source: RRM Design Group, 2012

Typical Multi-Use Path Cross Section: Coastal

Figure 2-3b



Typical Multi-Use Paved Path Cross Section: Urban

Figure 2-4

Source: RRM Design Group, 2012.

bike lane provides a striped and stenciled lane for one-way travel on a street or highway. Typical design elements include:

- *Paved surface five feet in width or 3 foot plus a 2 foot curb and gutter;*
- *Lane striping; and*
- *Street markings indicating bike route or bike lane.*

Enhanced design elements include:

- *Colored bike lane; and/or*
- *Bike Box (a bright green rectangle painted onto asphalt at intersections and reserved exclusively for bikes).*

On-Street Bike Routes (Class III). On-street bike routes are synonymous with Caltrans-defined Class III bike routes. Generally referred to as a "bike route," an on-street bike route provides for shared use with motor vehicle traffic and is identified only by signing. Optional shared roadway bicycle marking pavement stencils are also available for use on Class III bike routes.

Sharrows. It is important to note that bicycles are permitted on all roads in the State of California except where specifically prohibited. In order to optimize vehicle and bicycle user understanding, a marking referred to as a "sharrow" may be used. Sharrow refers to shared lane pavement marking and is considered a Class III facility. A sharrow reminds drivers to share the road with bicyclists, while also informing bicyclists to make use of the full lane and position themselves away from vehicle doors. This marking is placed in the center of a travel lane to indicate that a bicyclist may use the full lane. The sharrow symbol consists of a bicycle symbol with two chevron markings above the bicycle. The best practice is to use a sharrow in conjunction with a "Bikes May Use Full Lane" sign. Typical design elements include:

- *Shared lane chevron stencils;*
- *Pavement markings indicating route; and*
- *Pole signage indicating route.*

Unpaved Trail Surface. Unpaved trail surfaces are located in the remote areas of the corridor including the northernmost portion of the northern reach and the southernmost portion of the Watsonville Reach. Unpaved trails are typically five to six feet wide through steep terrain and sensitive areas. To keep the trail as maintenance free as possible, these trails are designed to avoid exceeding grades greater than 12 percent, when possible. Unpaved trails may require some hand tooled segments with drainage crossings, blending with the site character and slope as much as possible. Unpaved trails may also be provided adjacent to a paved surface where right-of-way permits.

Sidewalks. Sidewalks and walkways enhance the walkability of an area. Sidewalk design should incorporate an appropriate walkway width, safety lighting, pleasant walking surface texture, benches and a landscaped separation of pedestrian and vehicular traffic to create a pleasurable walking experience. Sidewalk width is regulated by the implementing entity. Typically, sidewalks vary between four and ten feet wide, depending on available right-of-way and adjacent land use.

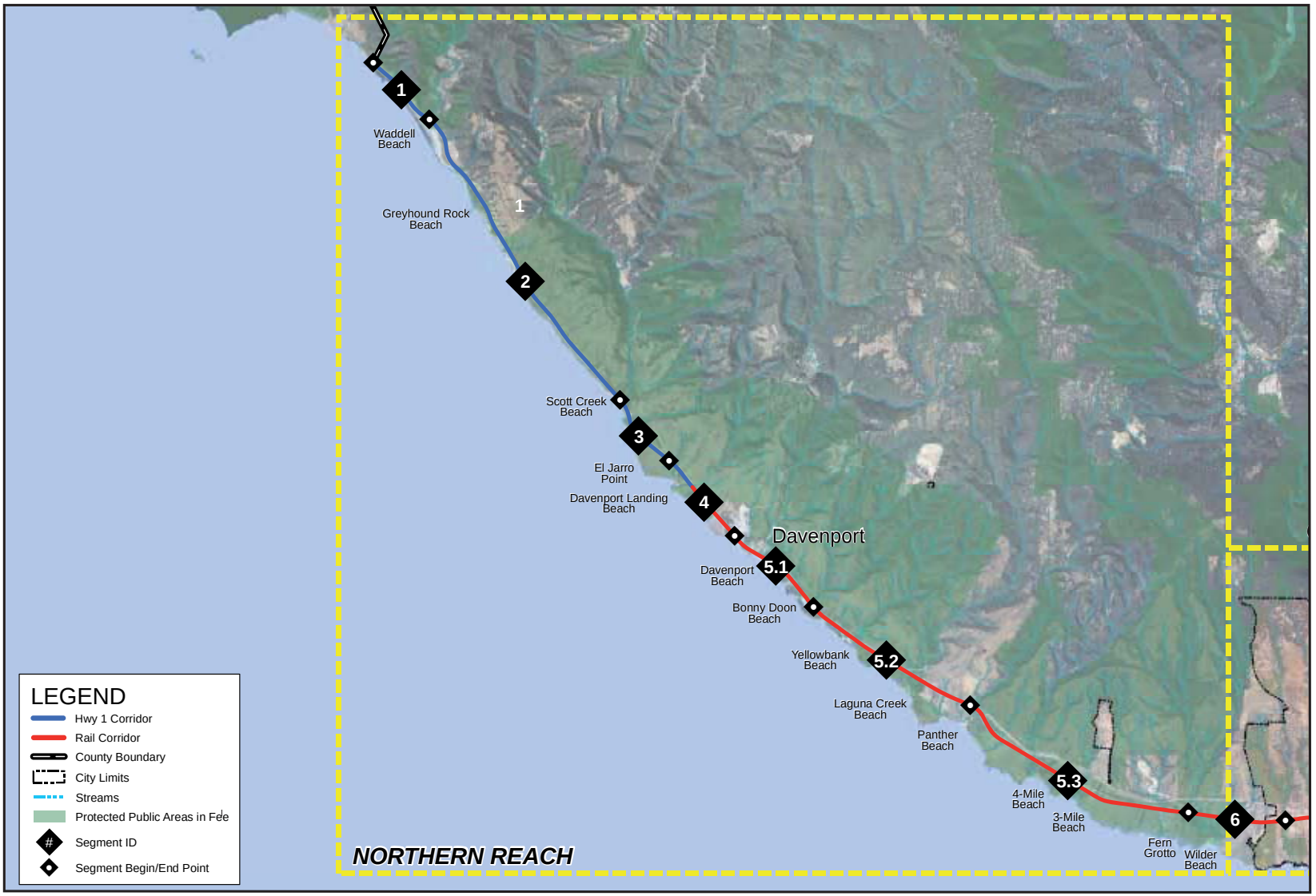
Boardwalks. Boardwalks are used to span unavoidable wet areas, sensitive resource areas or depressions. Boardwalks are considered in the Master Plan for segment 17 where wetland and sensitive habitat areas are located. They also can be used to provide trails in areas where grading and filling might harm tree roots or create trail surfaces that wildlife, such as amphibians, will not cross. Footings vary depending on soil conditions. Plastic lumber is more expensive than wood but very long-lasting for deck boards. Its heavier weight can help avoid floating in sites that flood and the pronounced texture can reduce slippery surfaces.

2.4.2 Proposed Corridor Description

The proposed trail alignment typically follows the Santa Cruz Branch Rail Line right-of-way through the length of Santa Cruz County and into Monterey County. The rail right-of-way would serve both rail service and bike/pedestrian trail functions. The northern reach generally follows coastal areas adjacent to Highway 1. The central reach primarily traverses existing urban neighborhoods of Santa Cruz, Capitola, and Aptos. The Watsonville reach is defined by rural agricultural and open space lands. Each reach and the segments within it are described in the sections that follow.

Northern Reach. The northern reach of the MBSST Network begins at the San Mateo/Santa Cruz county line on Highway 1, just north of the Waddell Bluffs, and continues south to the northern Santa Cruz city limits near Schaffer Road (refer to Figure 2-5). Currently, the northern reach consists primarily of narrow steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coast~~al~~ Dairies, transitioning to rural agricultural land and natural coastal mesas south to Schaffer Road. There are numerous small coves and beach strands with informal footpaths down to the beach shore. Large sections of the coastal edge are owned by California State Parks with several scenic rest stops along Highway 1 providing passive recreation access to beaches, coastal bluffs, and inland parkland trails. Much of the land between Highway 1 and the coastal bluffs is managed under agricultural leases with intermittent public coastal access adjacent to the agricultural land. These intermittent access points vary from paved parking lots with restrooms, potable water, and scenic overlooks to unpaved informal roadway pullouts with difficult access to steep coastal bluff tops and beaches.

An existing multi-use paved path parallels the railroad corridor and Highway 1 for approximately one mile, from Schaffer Road to the Wilder Ranch trailhead parking lot. Many of the other public access points along the northern reach are poorly signed and provide limited quality trail access along the coast. The railroad corridor parallels the coastal side of Highway 1 from Schaffer Road to Davenport, where the tracks cross Highway 1 to the inland side before ending one mile north of Davenport. Except for the crossing in Davenport, the railroad's offset from Highway 1 varies from 100 feet to 1,325 feet (¼ mile) between Schaffer Road and Scaroni Road. The tracks then parallel Highway 1 at a distance of between 50 feet and 100 feet as the coastal bluffs steepen and narrow toward Davenport. The rail tracks cross several small drainages with both wood trestles and box culverts in the northern reach. Much of the land south of Coast Dairies is flat with intermittent rolling hills giving way to steep coastal cliffs further north. Sensitive biological areas exist along perennial creeks and drainages and near coastal bluffs and sand dunes.



Northern Reach Location Map

Figure 2-5

Source: RRM Design Group, October 2012.

The northern reach is divided into five segments. These segments are shown in Figures 2-6a through 2-6g, and described below.[3]

Segment 1: Waddell Bluffs. The Waddell Bluffs segment is the northernmost segment of the MBSST Network corridor, extending for 1.06 miles from the San Mateo County line to Waddell Creek (refe to Figure 2-6a). The alignment of this segment generally follows Highway 1, which is limited in width by the narrow coastal edge on its western flank and the steep eroding cliffs above the roadway on the eastern edge (known as the Waddell Bluffs). Segment 1 proposed improvements include:

- *0.19 miles (1,000 linear feet [LF]) unpaved trail (roadway shoulder on coastal side of Highway 1)*
- *0.87 miles (4,600 LF) Class III on-street/road shoulder bike route*

Segment 2: Greyhound Rock – Cal Poly Bluffs. The Greyhound Rock - Cal Poly bluffs segment extends for 4.77 miles from Waddell Creek south to Scott Creek Beach (refer to Figures 2-6a through 2-6c). The segment is bounded to the east by Highway 1 and to the west by primarily private properties. As a result, this segment of the trail alignment would include sharing portions of the western edge of the Highway 1 right-of-way and optional bluff top trails within the County Park lands. Segment 2 proposed improvements include:

- *4.77 miles (25,170 LF) existing road shoulder improvements*
- *Routine road edge clearing, signs, and shoulder pavement striping*

Segment 3: Upper Coast Dairies at Scott Creek. The Upper Coast Dairies at Scott Creek segment extends for 1.11 miles from Scott Creek Beach to the intersection of Davenport Landing Road and Highway 1, along a small northern stretch of property owned by Coast Dairies (refer to Figure 2-6c and 2-6d). Segment 3 is the northernmost stretch where the publicly held coastal land is sufficiently wide to offer ample space for trail alignment options. Segment 3 proposed improvements include:

- *1.11 miles (5,870 LF) multi-use paved path*
- *One (1) pre-engineered bike/pedestrian bridge, 150-foot span*

Segment 4: Davenport Landing/End of Railroad Tracks. The Davenport Landing/End of Railroad Tracks segment extends for 3.64 miles from the intersection of Davenport Landing Road and Highway 1 to the end of the railroad tracks (refer to Figure 2-6d). This segment would include a new multi-use paved path trail on the west side of Highway 1 until connection with the northernmost extent of the railroad right-of-way, just south of the intersection of Davenport Landing Road, Highway 1, and Cement Plant Road. The trail would become a "rail trail" at this

[3] ~~*The improvements listed for each segment on the following pages may differ from the MBSST Network Draft Master Plan (October 2012) and the figures included in this section. However, the information included herein is considered the most up to date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

location and would include a paved multi-use path on the east side of Highway 1. Segment 4 proposed improvements include:

- *1.38 miles (7,300 LF) multi -use paved path*
- *1.41 miles (7,470 LF) coastal bluff trails*
- *0.85 miles (4,510 LF) on-street ~~improvements and/or sidewalks~~ bike lanes*
- *~~Four~~ Three (~~4~~ 3) road crossings*
- *One (1) rail crossing*

Segment 5: Davenport and Wilder Ranch. The Davenport and Wilder Ranch segment is the longest segment, extending for 10.55~~66~~ miles from Davenport to the existing Wilder Ranch staging area and trailhead parking lot. The rail corridor through this segment begins to narrow in places with the rail line and Highway 1 in close proximity to one another as they parallel their way along the coast.

This segment is broken up into three sub-segments (refer to Figures 2-6d through 2-6g). Sub-segment 5.1 starts at the Highway 1 rail crossing just up the coast from downtown Davenport and ends at the existing Highway 1 informal pull-off parking area at Bonny Doon Beach. Sub-segment 5.2 starts at the Bonny Doon Beach parking lot and continues down coast to Scaroni Road. Sub-segment 5.3 begins at upper Scaroni Road and ends at the existing Wilder Ranch staging area. Sub-segment 5.1 proposed facilities include:

- *1.49 miles (7,890 LF) multi -use paved path*
- *1.26~~7~~ miles (6,689~~0~~ LF) coastal bluff trails*
- *Parking lot improvements to existing dirt lot near the Davenport Overlook*
- *Two (2) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Sub-segment 5.2 proposed facilities include:

- *2.58 miles (13,630 LF) multi-use paved path*
- *1.~~7~~60 miles (~~8,960~~ 8,430 LF) coastal bluff trails*
- *Three (3) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Sub-segment 5.3 proposed facilities include:

- *3.51 miles (18,520 LF) multi-use paved path*
- *0.11 miles (570 LF) coastal bluff trails*
- *Twelve (12) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Central Reach. Beginning at the City of Santa Cruz northern city boundary near Shaffer Road and extending southeast to Seascape Park just south of Aptos, this reach of the MBSST Network corridor traverses densely populated coastal urban areas (refer to Figure 2-7). In the Santa Cruz city limits, the corridor parallels many existing segments of the originally defined Monterey Bay Sanctuary Scenic Trail alignment. The existing Sanctuary Scenic Trail in the central reach is made

up of various pedestrian and bicycle facility types with limited consistency to the overall network. Some sections are strictly in the street as Class III bicycle routes with no sidewalks; other areas are coastal-edge pedestrian boardwalks with beach access and interpretive sites.

The central reach would include several existing large rail bridge and trestle structure crossings. These structures are old, narrow in width, and span steep drainages, roadways, and in one scenario, spans across a historic district in Capitola. The southern portion of the central reach parallels the coast, meanders atop steep coastal bluffs and multiple residential and resort areas.

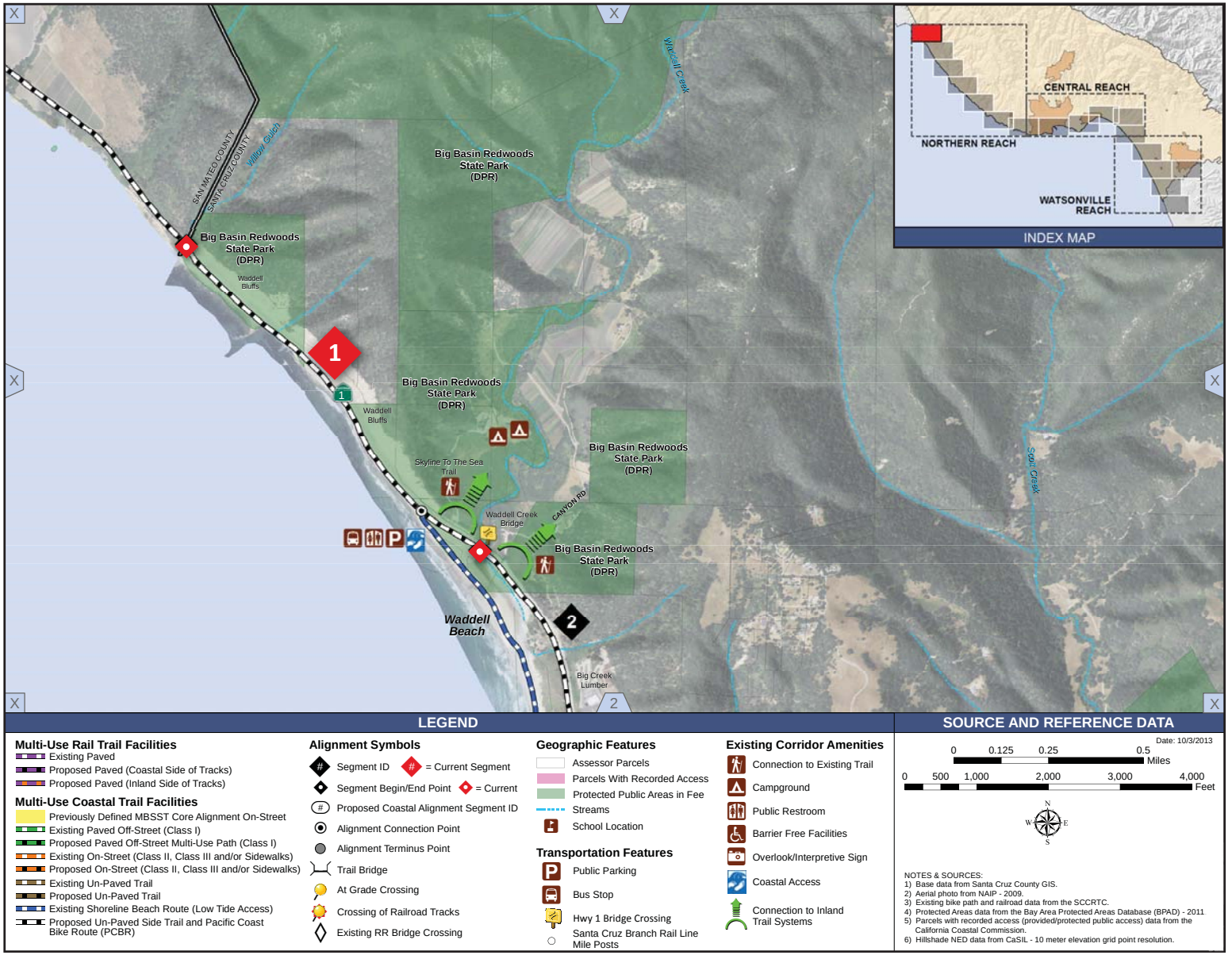
The central reach is divided into nine segments. These segments are shown in Figures 2-6g and 2-8a through 2-8e, and are described below.

Segment 6: Wilder Ranch Trail Head/Shaffer Road. Segment 6 would extend for 1.49 miles from the existing trailhead facilities at Wilder Ranch to down coast from the Schaffer Road/Moore Creek rail bridge trestle crossing near Antonelli Pond (refer to Figure 2-6g).This segment of the MBSST Network has some level of duplication with the existing Wilder Ranch Class I facilities running along the coastal side of Highway 1. The Wilder Ranch State Park trailhead provides parking, restrooms, and serves both travelers arriving by car or along existing multi-use trail from the south. An existing below-grade tunnel crossing of Highway 1 provides connectivity to existing trails leading to inland portions of the Wilder Ranch State Park trail network and the UC Santa Cruz campus lands. Segment 6 proposed facilities include:

- *1.36 miles (7,160 LF) multi -use paved path*
- *0.13 miles (670 LF) coastal bluff trails*
- ~~*One (1) pre-engineered bike/pedestrian bridge, 200-foot span*~~
- ~~*Six (6) rail or roadway crossings*~~
- *Four (4) roadway crossing*
- *Two (2) rail or culvert crossings*

Segment 7: Coastal Santa Cruz. The coastal Santa Cruz segment extends for 3.10 miles from Antonelli Pont to the Pacific Avenue and Beach Street intersection in the City of Santa Cruz (refer to Figure 2-8a). This segment represents the transition from a rural and agricultural environment in the northern reach to an urban and built-up environment in the central reach. This segment boasts several existing trail system networks as well as recreational facilities such as Wilder Ranch State Park, Younger Lagoon Reserve, Antonelli Pond Park, Natural Bridges State Beach, and connectors to the Cliff Drive coastal walk. The proposed trail facility would be located within the rail right-of-way on the coastal side of the rail tracks with at-grade crossings at Swift Street, Fair Avenue, Almar Avenue, and Rankin Street. The trail would cross from the coastal side of the tracks to the inland side at the Rankin Street at-grade crossing, and parallel the inland rail right-of-way toward Neary Lagoon Park. Segment 7 proposed facilities include:

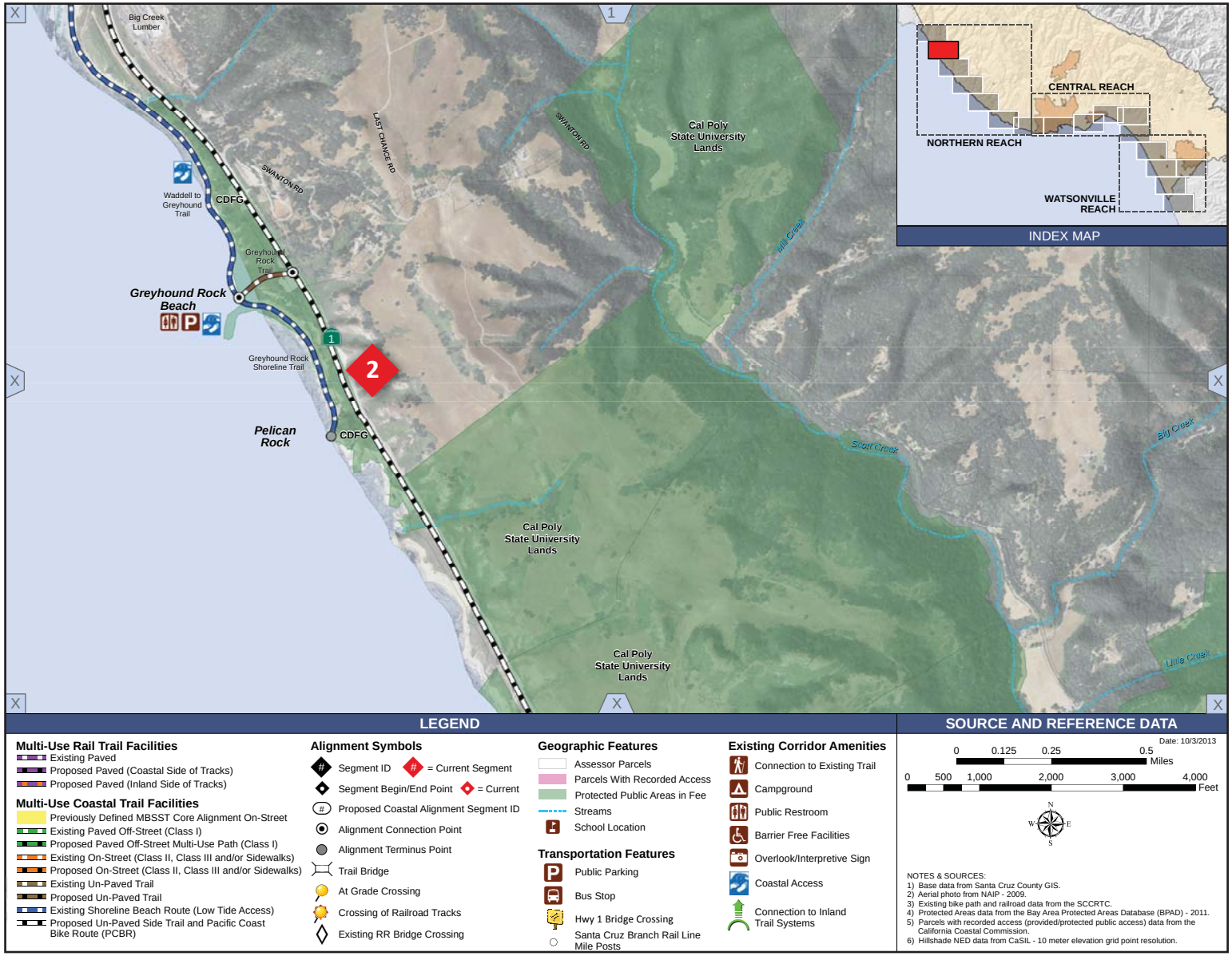
- ~~*3.02 miles (15,930 LF) multi- use paved path*~~
- *2.17 miles (11,450 LF) multi-use paved path along rail right-of-way*
- *0.85 miles (4,480 LF) multi-use paved path along the coastal side of the rail right-of-way*
- *0.08 miles (410 LF)* ~~*Class III*~~ *on-street bike route*
- ~~*Eighteen*~~ *Fifteen (*~~*18*~~ *15)* ~~*rail or*~~ *roadway crossings*
- *Three (3) rail crossings*
- *One (1) pre-engineered bike bridge*



Northern Reach: Segments 1 and 2

Figure 2-6a

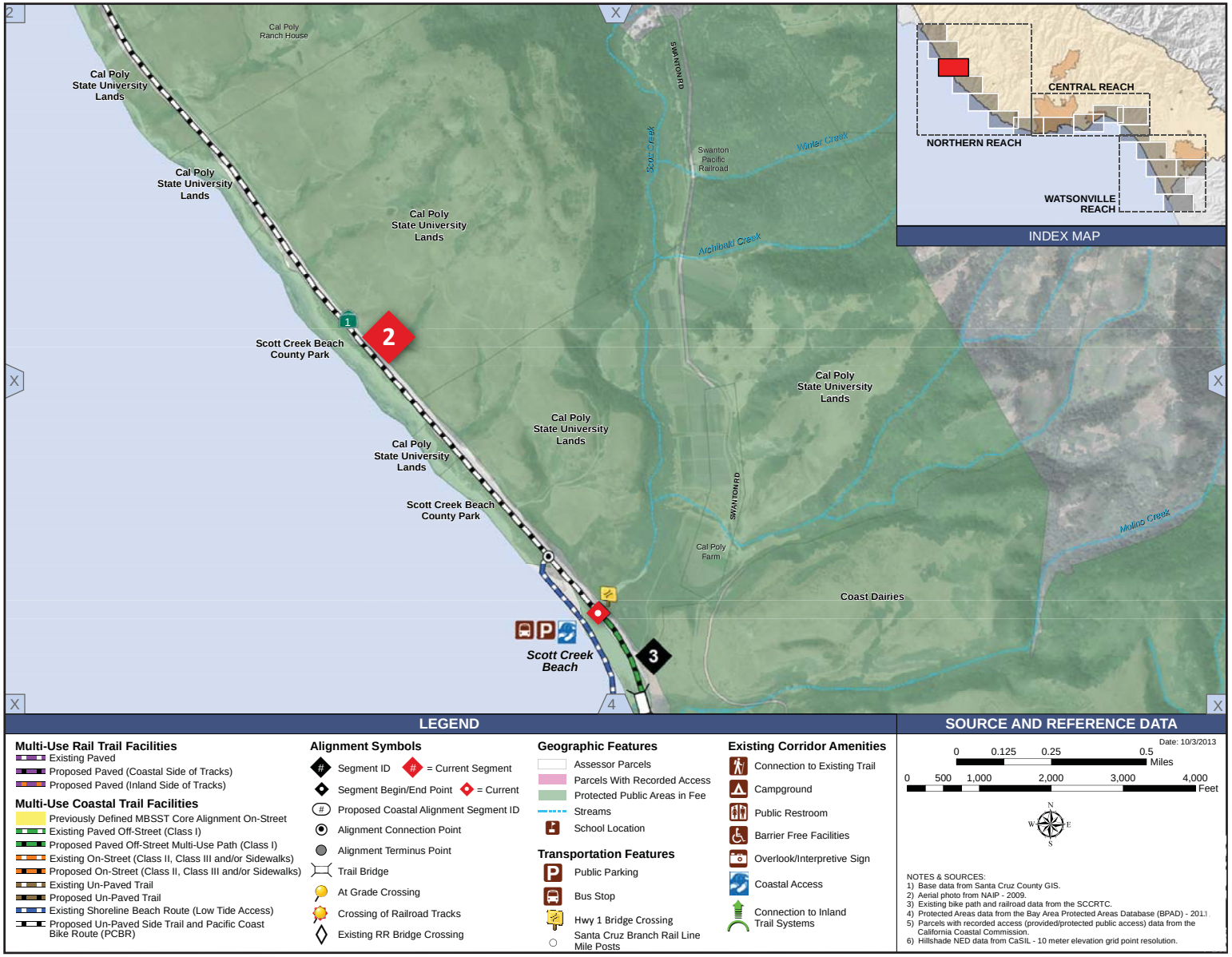
Source: RRM Design Group, October 2013.



Northern Reach: Segment 2

Figure 2-6b

Source: RRM Design Group, October 2013.



Northern Reach: Segment 2 and 3

Figure 2-6c

Source: RRM Design Group, October 2013.

Northern Reach: Segments 3, 4, and 5

Figure 2-6d

Source: RRM Design Group, October 2013.

Northern Reach: Segment 5

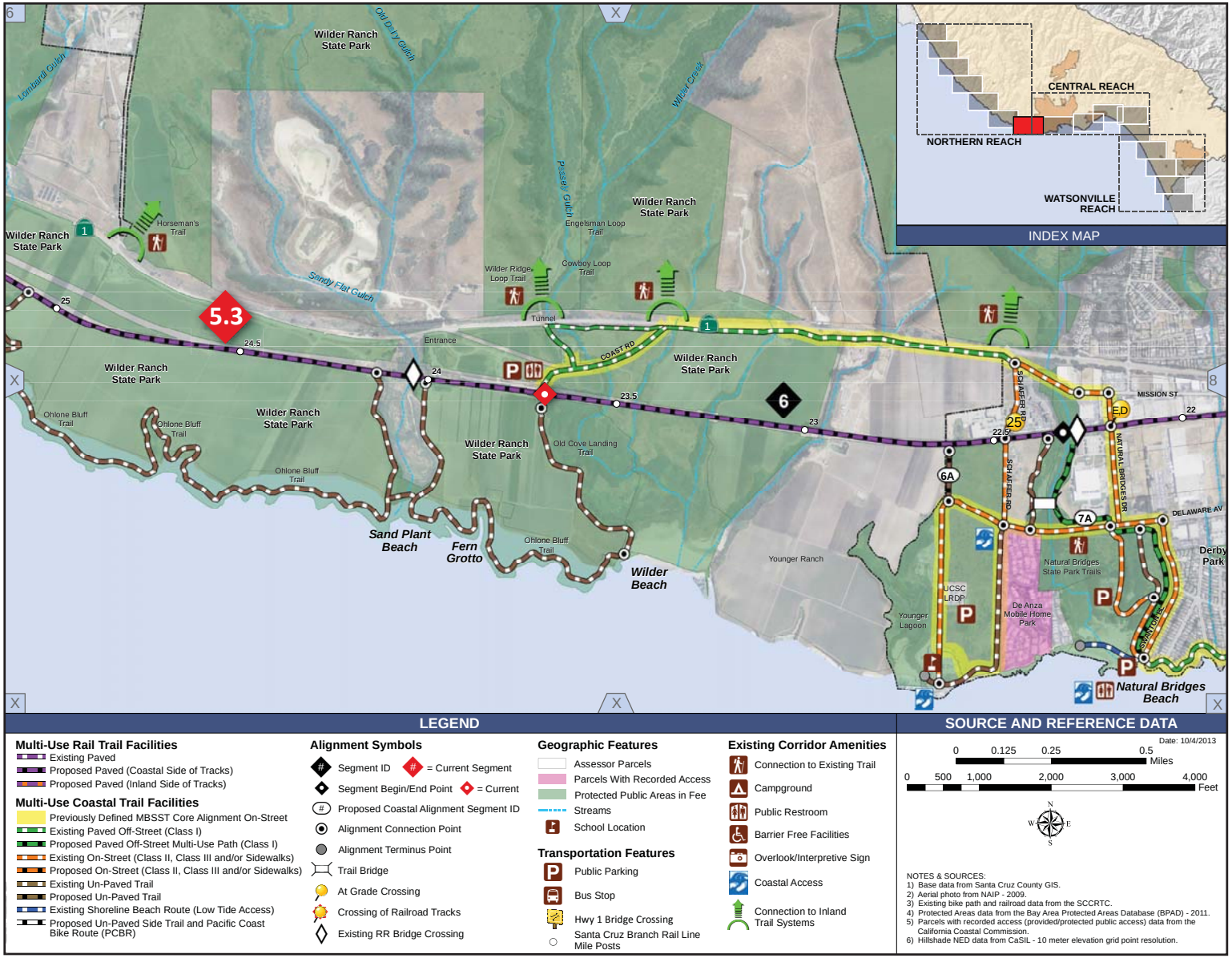
Figure 2-6e

Source: RRM Design Group, October 2013.

Northern Reach: Segment 5

Figure 2-6f

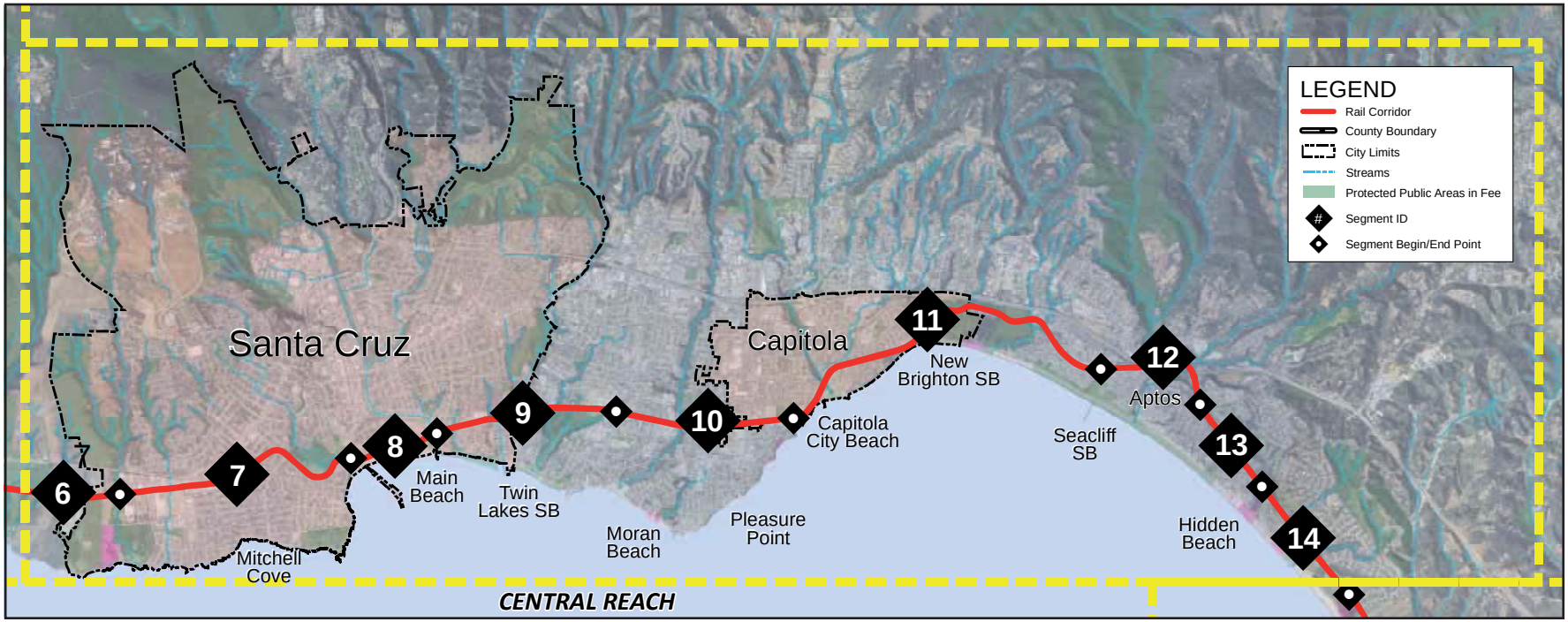
Source: RRM Design Group, October 2013.



Northern and Central Reaches Segments 5 and 6

Figure 2-6g

Source: RRM Design Group, October 2013.



Central Reach Location Map

Source: RRM Design Group, October 2012.

Figure 2-7

Segment 8: Santa Cruz Beach Boardwalk. The Santa Cruz Beach Boardwalk segment extends for 0.77 miles through the City of Santa Cruz, from Beach Street to the San Lorenzo River Rail Bridge crossing (refer to Figure 2-8a). This existing segment of the MBSST Network consists of a two-way cycle-track which follows the coastal side of Beach Street to the San Lorenzo River Rail Bridge. The two-way cycle-track continues between the pedestrian beach boardwalk and the one-way travel lanes along Beach Street. Segment 8 proposed facilities include:

- ~~*0.38*~~ *0.77 miles (~~2,000~~ 4,070 LF) on-street facilities (Class II, III, and sidewalks)*
- *One (1) pre-engineered bike and pedestrian bridge, ~~300~~400-foot span*
- *Improvements of striping to existing cycle track with future roadway roundabout at Pacific Avenue and Beach Street (2,000 LF)*
- *Upgrade existing rail trail to the minimum eight- (8-) foot standard from Depot Park to the intersection of Pacific Avenue and Beach Street*
- *Two (2) road crossings*
- *One (1) rail ~~or road~~ crossing*

Segment 9: Twin Lakes. The Twin Lakes segment extends for 1.73 miles from the eastside of ~~through~~ the City of Santa Cruz to the middle of Live Oak in the unincorporated County, from the San Lorenzo Bridge crossing, over the Harbor, to the 17th Avenue at-grade railroad crossing (refer to Figures 2-8a and 2-8b). The multi-use paved path would cross from the coastal side of the tracks to the inland side at 17th Avenue. The existing San Lorenzo River Rail Bridge (part of Segment 8) offers pedestrian access on the bridge superstructure. However, the attached pedestrian walkway on the inland side of the bridge is narrow and difficult to accommodate passing pedestrian and cyclists walking their bikes across the bridge. Existing facilities along this segment include both off-street and on-street trails and sidewalks as well as sandy beach routes within the City of Santa Cruz. Segment 9 proposed facilities include:

- *1.53 miles (8,100 LF) multi -use paved path*
- *0.20 miles (1,040 LF) on-street facilities (Class II, III, and sidewalks)*
- *~~One~~ Three (~~1~~3) pre-engineered bike/pedestrian bridge crossings~~, 200 foot span~~*
- *~~Five~~ Four (~~5~~4) ~~rail or~~ road crossings*
- *Two (2) rail crossings*

Segment 10: Live Oak – Jade Street Park. The Live Oak – Jade Street Park segment extends for 1.50 miles from the 17th Avenue at-grade railroad crossing in ~~Santa Cruz~~ Live Oak to Jade Street Park at 47th Avenue in Capitola (refer to Figure 2-8b). This segment would include a new multi-use trail on the inland side of the tracks. However, the railroad right-of-way is narrow (approximately 30 feet wide) through this segment, posing a constraint to multi-use trail development. Existing surface street bike lanes and pedestrian sidewalks through this segment would serve as alternate access until design solutions are identified. Segment 10 proposed facilities include:

- *1.50 miles (7,940 LF) multi -use paved path*
- *Relocation of 1.~~5~~0 miles ~~(7,940~~ 5,280 LF) of rail track and signal arm assemblies*
- *One (1) pre-engineered bike/pedestrian bridge crossing, 200-foot span (Rodeo Gulch Creek)*
- *~~Five~~ Four (~~5~~4) ~~rail or~~ road crossings*
- *One (1) rail crossing*

Segment 11: Capitola – Seacliff. The Capitola – Seacliff segment extends for 3.20 miles through Capitola, from Jade Street Park at 47th Avenue to State Park Drive (refer to Figures 2-8b and 2-8c). This segment is characterized by extreme topography, dense urban development, and infrastructure constraints. The greatest challenge in this segment of the trail is the rail trestle crossing of Soquel Creek. The current rail trestle passes through an historic district. Discussions are currently ongoing regarding improvements to this bridge trestle due to structural conditions. Coastal trail access through this area would continue on existing surface streets and sidewalks to cross Soquel Creek and navigate through Capitola Village. Segment 11 proposed facilities include:

- *3.20 miles (16,880 LF) multi -use paved path*
- *Bike and pedestrian facilities to be included in any design plans for rail bridge replacement of the Soquel Creek rail crossing*
- ~~*One*~~ *Two (~~1~~2) pre-engineered bike/pedestrian bridges~~, 50-foot span~~*
- ~~*Ten*~~ *Eight (~~10~~8) ~~rail or~~ road crossings*
- *One (1) rail crossing*

Segment 12: Aptos Village. The Aptos Village segment extends for 1.14 miles from State Park Drive to Rio Del Mar Boulevard in Aptos. As shown in Figures 2-6c and 2-6d, this segment crosses Highway 1 into Aptos Village and then crosses back over Highway 1 before heading southwest to the coastline. This segment would include two rail bridge crossings over Highway 1, four other rail bridge crossings, and would require redesign of existing parking along Soquel Drive in Aptos Village. The new facility would include a multi-use paved path on the inland side of the railroad tracks in the northern half of the segment and on the side of the tracks in the southern half.

Segment 12 proposed facilities would include the following:

- *1.14 miles (6,030 LF) multi -use paved path*
- *Three (3) pre-engineered bike/ped bridges, bridge spans vary*
- *One (1) modification to an existing bridge*
- ~~*Eight*~~ *Three (~~8~~3) ~~rail or~~ road crossings*
- *One (1) rail crossing*

Segment 13: Rio Del Mar – Hidden Beach. The Rio Del Mar – Hidden Beach segment extends for 0.85 miles from Rio Del Mar Boulevard to Cliff Drive/Hidden Beach in Aptos (refer to Figures 2-8d and 2-8e). This segment contains steep hillsides on either side of the alignment, and may require retaining walls to accommodate the proposed width of the trail. The close proximity of residences along this segment may also require privacy fences on the rail right-of-way boundary. Segment 13 proposed improvements include:

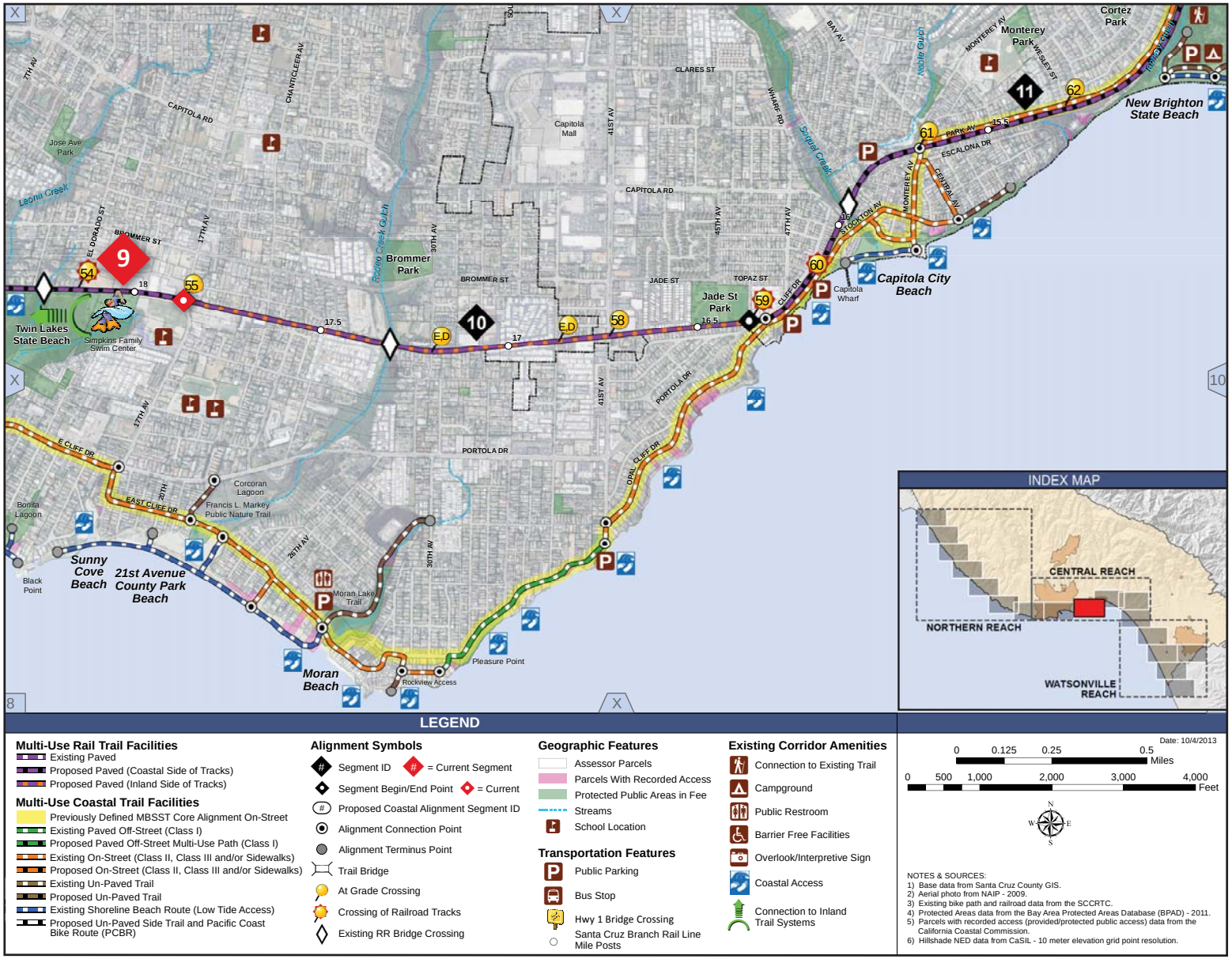
- *0.85 miles (4,510 LF) multi-use paved path*
- *One (1) existing undercrossing connection to Rio Del Mar Boulevard*
- *One (1) pre-engineered bike/pedestrian bridge, 200-foot span*

~~*One (1) road or rail crossing*~~

Central Reach: Segments 7, 8, and 9

Source: RRM Design Group, October 2013.

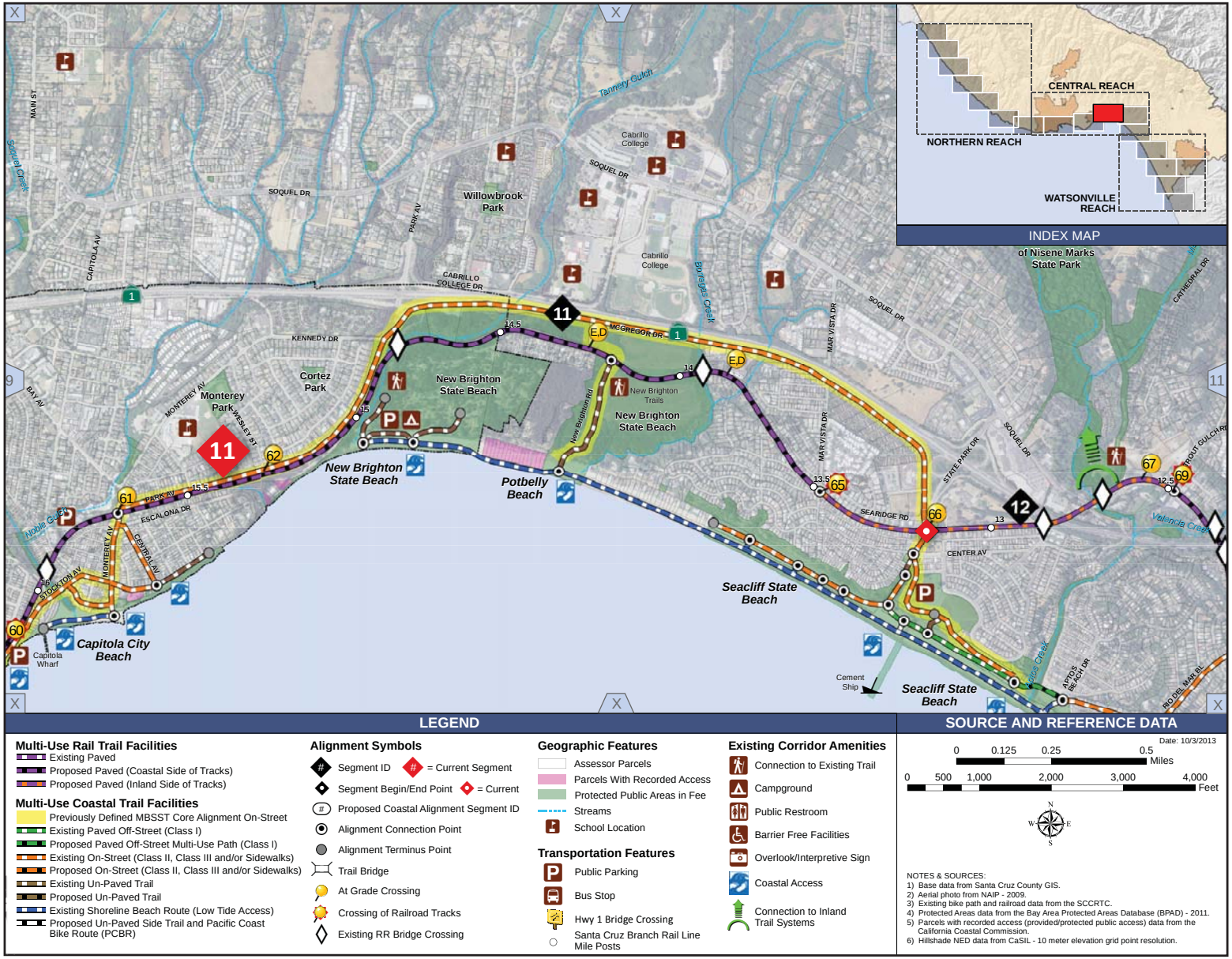
Figure 2-8a



Central Reach: Segments 9, 10, and 11

Figure 2-8b

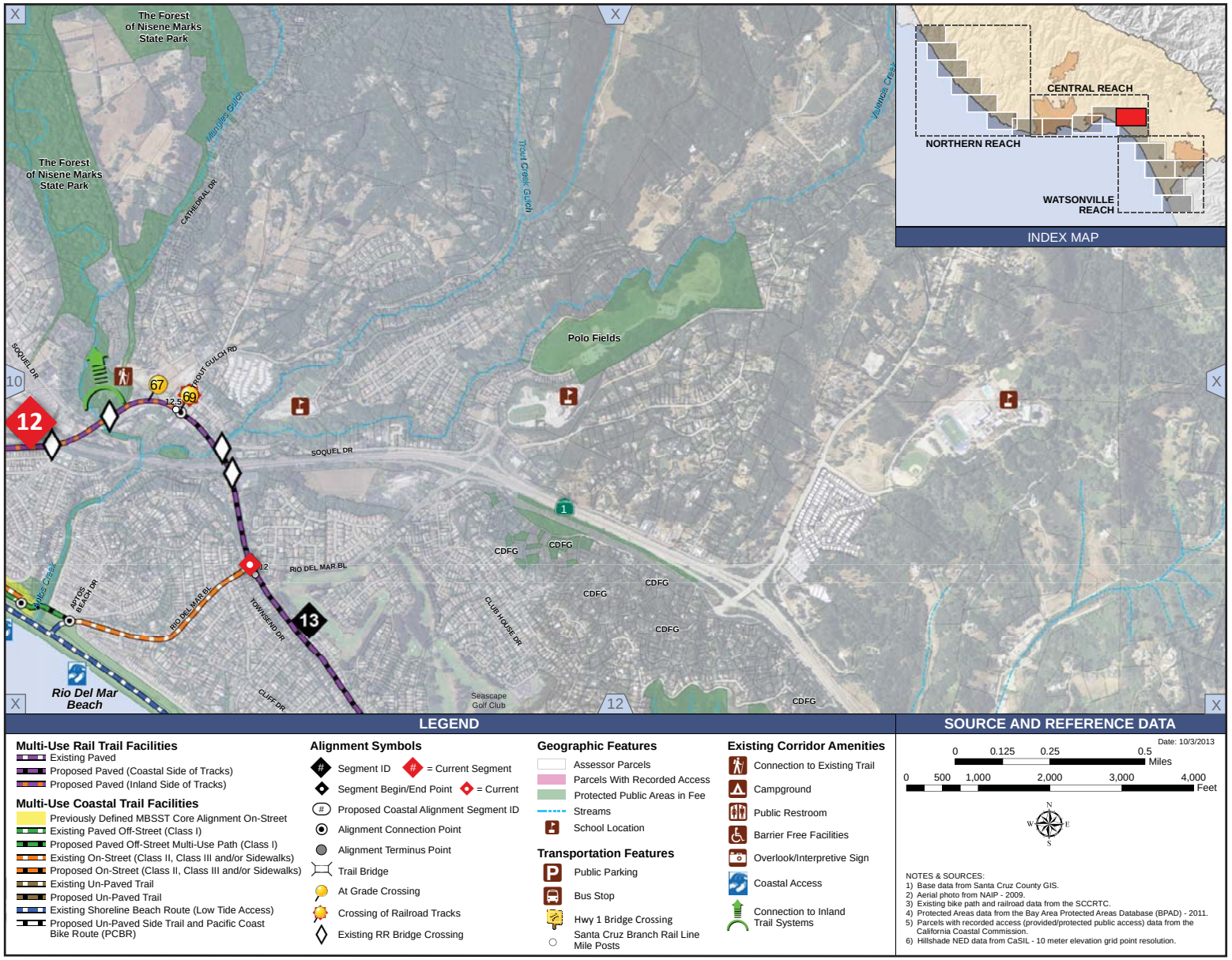
Source: RRM Design Group, October 2013.



Central Reach: Segments 11 and 12

Source: RRM Design Group, October 2013.

Figure 2-8c



Central Reach: Segments 12 and 13

Figure 2-8d

Source: RRM Design Group, October 2013.

Central Reach: Segments 13, 14, and 15

Source: RRM Design Group, October 2013.

Figure 2-8e

Segment 14: Seascape. The Seascape segment extends for 1.17 miles from Cliff Drive/Hidden Beach to Seascape Park in the Rio del Mar area (refer to Figure 2-8e). The proposed trail would use an existing rail trestle as a grade-separated crossing on the south abutment and cross under the tracks to the inland side of the rail corridor. The trail would continue on the inland side of the tracks next to Sumner Road with an at-grade street crossing at Clubhouse Drive. The trail would continue down the coast between Sumner Road and the rail tracks to the next trestle crossing near Sumner Road and Dolphin Drive. This segment includes several existing unpaved trails that would connect the proposed new facility to the beach. Segment 14 proposed improvements include:

- *1.17 miles (6,160 LF) multi -use paved path*
- *~~One~~ Two (~~1~~2) road ~~or rail~~ crossings*
- *One (1) trail undercrossing of the existing rail bridge at Hidden Beach*

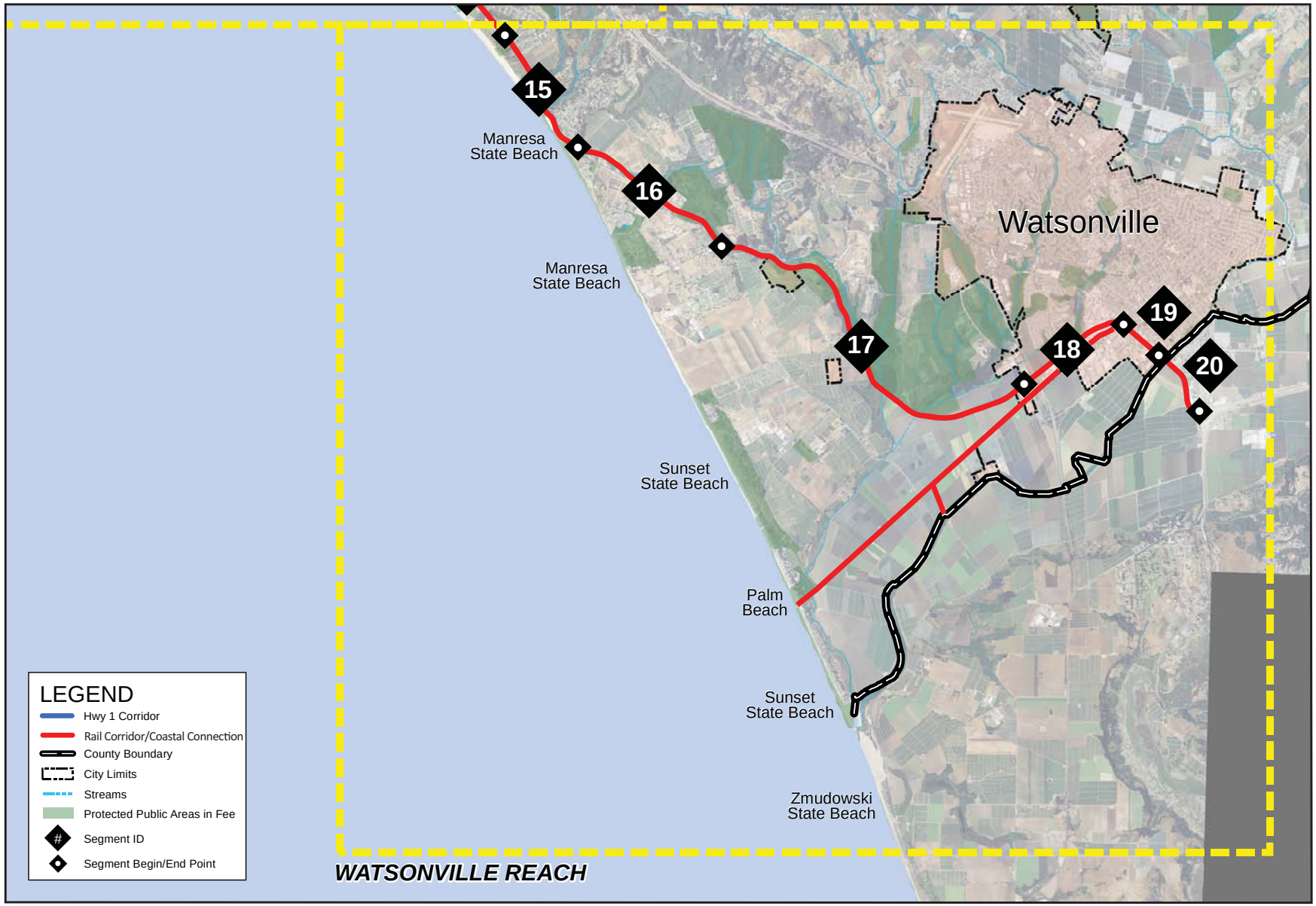
Watsonville Reach. The Watsonville reach of the MBSST Network begins at railroad mile marker 10 near Seascape Village Park and ends at Railroad Avenue in Monterey County (refer to Figure 2-9). A spur also connects via San Andreas Road to the Santa Cruz/Monterey County line at~~s~~ the Pajaro River to connect to Monterey County's MBSST system. This reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The landscape is primarily open space with some residential areas near Manresa, tapering off to rural farm and agricultural lands further to the south. The rail alignment eventually drifts away from San Andreas Road just south of railroad mile marker 7 and follows the inland side of a steep sloping mesa.

The Watsonville reach travels through native woodlands flanked to the west by agricultural land on the mesa top and to the east by rural land sloping away to the Galighan Slough below. The Harkin Slough is a formidable wetland crossing with wide open fields intermittently flooded throughout the year. The rail crossing at the Harkin Slough is on a stretch of raised earthen dike. The rail line eventually crosses the Watsonville Slough and passes through the center of the agricultural fields just west of the City of Watsonville, eventually connecting to city parkland and the downtown street network at Walker Street. The rail line crosses the Pajaro River to the south and ends at Porter Street in the town of Pajaro.

The Watsonville reach is divided into six segments. These segments are shown in Figures 2-10a through 2-10e, and described below.

Segment 15: Manresa State Beach. The Manresa State Beach segment extends for 1.37 miles from Seascape Park to the Manresa State Beach railroad bridge at San Andreas Road in unincorporated Santa Cruz County (refer to Figures 2-8e and 2-10a). This segment would include a new multi-use paved path on the inland side of the railroad tracks, and would connect to Manresa State Beach via existing, unpaved trails. This segment would include two rail bridge crossings. The multi-use paved path would cross to the coastal side of the tracks near the end of this segment. Segment 15 proposed improvements include:

- *1.37 miles (7,240 LF) multi -use paved path*
- *Two (2) pre-engineered rail bridge crossings, one ~~200~~300-foot span, one ~~100~~225-foot span*
- *~~Five~~ Four (~~5~~4) road ~~or rail~~ crossings*
- *One (1) rail crossing*



Watsonville Reach Location Map

Figure 2-9

Source: RRM Design Group, October 2013.

Segment 16: Ellicott Slough. This segment extends for 2.66 miles from the existing rail bridge crossing of San Andreas Road at Manresa State Beach to Buena Vista Drive in unincorporated Santa Cruz County (refer to Figure 2-10a). Within this segment, the proposed multi-use paved path would begin to head inland toward Watsonville. Manresa State Beach provides coastal access with public parking, restrooms, an accessible scenic overlook, and picnic areas, stairs and ramps down to the beach, drinking water, and State Park controlled gated access to the parking lot off San Andreas Road. The proposed trail would be located on the coastal side of the tracks connecting to the inland State Beach public facilities. Segment 16 proposed facilities include:

- ~~*2.18*~~ *1.78 miles (~~11,500~~ 9,400 LF) multi-use paved path along the rail right-of-way*
- *0.40 miles (2,100 LF) multi-use paved path along coastal trail*
- *0.48 miles (2,530 LF) on-street facilities (Class II bike lanes)*
- ~~*Four*~~ *Two (~~4~~2) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Segment 17: ~~Gallighan~~ Harkins Slough. The ~~Gallighan~~ Harkins Slough segment extends for 4.00 miles from the Buena Vista Drive and San Andreas Road intersection to Lee Road (refer to Figure 2-10a). This segment is heavily wooded with several smaller rail trestle bridge crossings over small drainages and sloping ravines, and may require retaining walls on the uphill side of the ravines. This segment would include a new multi-use paved path on the inland side of the railroad tracks, and would pass by agricultural fields, a mineral quarry, and wooded slopes as it descends toward the Gallighan Slough-Harkins Slough wetland area. The Harkins Slough is seasonally flooded and a 400 foot segment of the trail may need to be a boardwalk type bridge structure to cross the wetland area to reach the south side of the Slough. Segment 17 proposed facilities include:

- *4.0 miles (21,140 LF) multi -use paved path*
- ~~*Four*~~ *Seven (~~4~~7) ~~pre- engineered~~ rail bridge/culvert crossings*
- ~~*Two*~~ *Three (~~2~~3) road ~~or rail~~ crossings*

Segment 18: Watsonville Slough Open Space Trails. The Watsonville Slough open space trails segment extends for 4.01 miles from Lee Road to Walker Street in the City of Watsonville (refer to Figures 2-10b and 2-10c). This segment would include a new multi-use paved path on the inland side of the railroad tracks, which would cut across agricultural fields before entering the southeastern portion of the City of Watsonville. The proposed alignment crosses the Ohlone Parkway at-grade rail crossing and connects to the Watsonville Wetlands trail system. This segment ends east of the industrial areas on the inland side of the tracks, just as they connect to Walker Street in the City of Watsonville. Segment 18 proposed facilities include:

- *1.20 miles (6,350 LF) multi-use paved path*
- *2.81 miles (14,820 LF) on-street facilities (Class II, III, and sidewalks)*
- ~~*Five*~~ *Two (~~5~~2) road ~~or rail~~ crossings*
- *One (1) rail culvert crossing*

Segment 19: Walker Street, City of Watsonville. This segment extends for ~~0.65~~ 0.47 miles from Walker Street to the north bank of the Pajaro River in the City of Watsonville (refer to Figures 2-10c). This segment would be part of the City of Watsonville bike facility network. Segment 19 starts as an existing Class II bike lane facility at the intersection of Walker Street and Coastal Beach Street. New Class II bike lanes would be added along Walker Street and sidewalks on the inland side of the street south of Riverside Drive, all the way to the terminus of Walker Street, to connect with the Pajaro River levy trail network. Segment 19 proposed facilities include:

- ~~*0.47 miles*~~ *0.29 miles* (~~*2,460*~~ *1,510 LF)* ~~*multi-use paved path*~~ *existing on-street facilities (Class II)*
- *New sidewalks on the inland side of Walker Street*
- *0.18 miles (950 LF) on-street facilities (Class II~~, III, and sidewalks~~)*
- *One (1) road ~~or rail~~ crossing*

Segment 20: Pajaro River. The Pajaro River segment is the final segment of the proposed MBSST Network corridor, and would extend for 0.74 miles from the north bank of the Pajaro River to Railroad Avenue in Monterey County (refer to Figure 2-10c). This segment is a short connection that includes a new pre-engineered bridge crossing the Pajaro River. This segment would extend through County of Monterey jurisdiction, and would require cooperation with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. The purpose of segment 20 is to provide a regional connection to the existing and proposed Pajaro River levee-top trail network in Watsonville and the Monterey County section of the Monterey Bay Sanctuary Scenic Trail, which will span the entire coast of the Monterey Bay National Marine Sanctuary, from Pacific Grove to Santa Cruz. Segment 20 proposed facilities include:

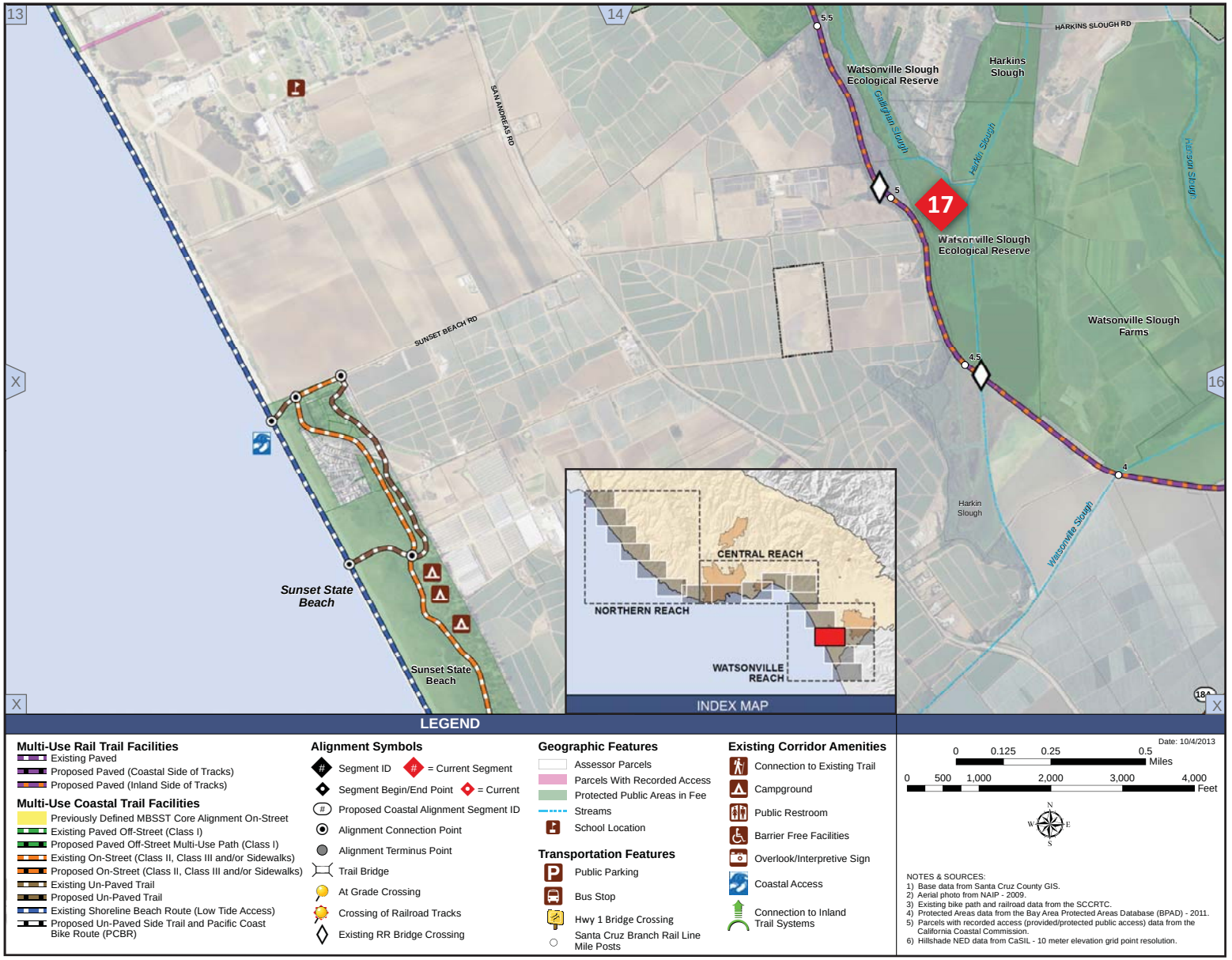
- *0.74 miles (3,930 LF) multi -use paved path*
- *One (1) new pre-engineered bike/pedestrian bridge, 200-foot span*
- *3,930 feet of fencing for agricultural operations and safety*

In addition to the segment-specific improvements outlined above, one new public restroom facility would be constructed within the Watsonville reach. Although its precise location has not been determined, it is anticipated that this restroom would be in a predominantly rural location and utilize a septic disposal system.

Watsonville Reach: Segments 15, 16, and 17

Figure 2-10a

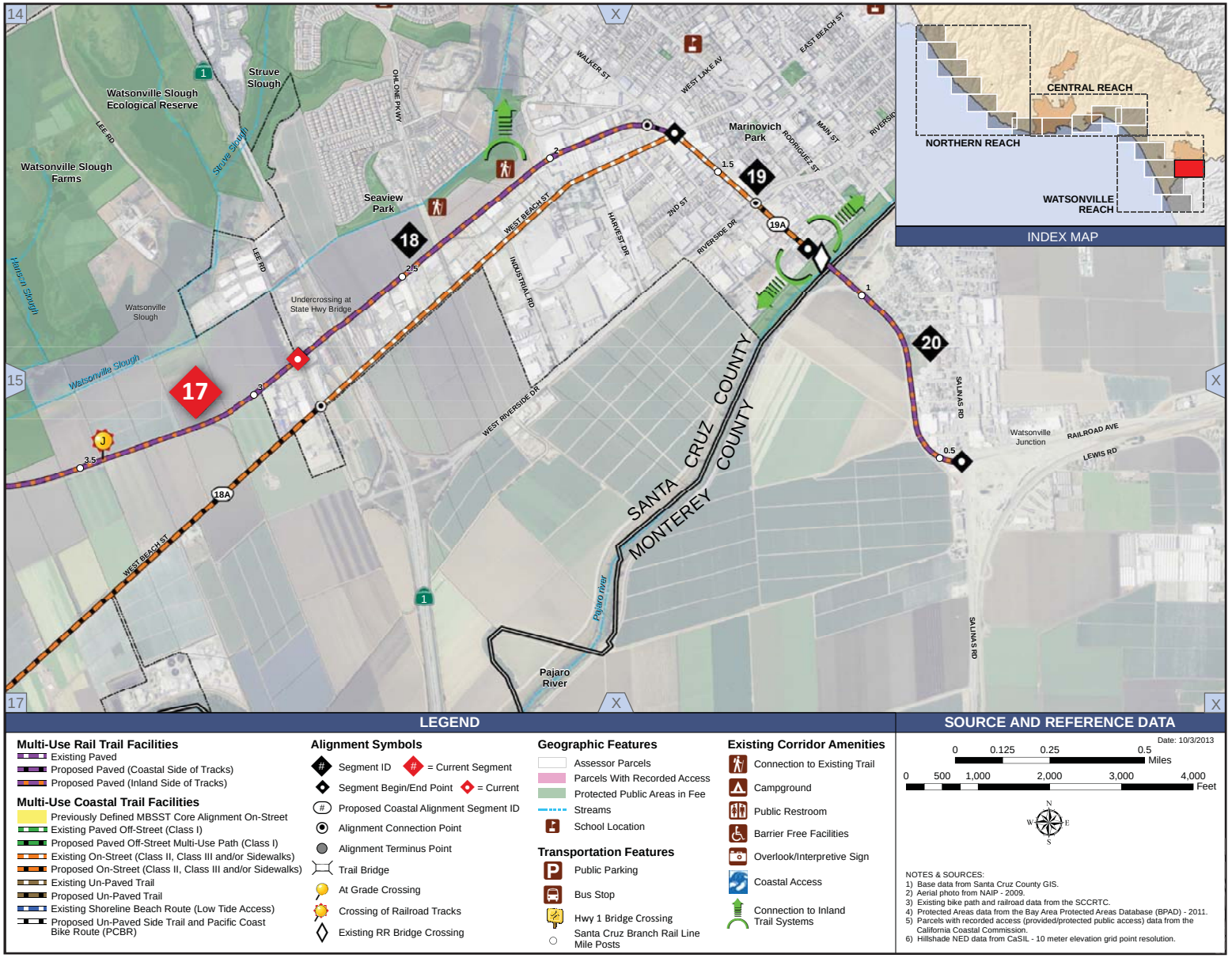
Source: RRM Design Group, October 2013.



Watsonville Reach: Segment 17

Source: RRM Design Group, October, 2013.

Figure 2-10b



Watsonville Reach: Segments 18, 19, and 20

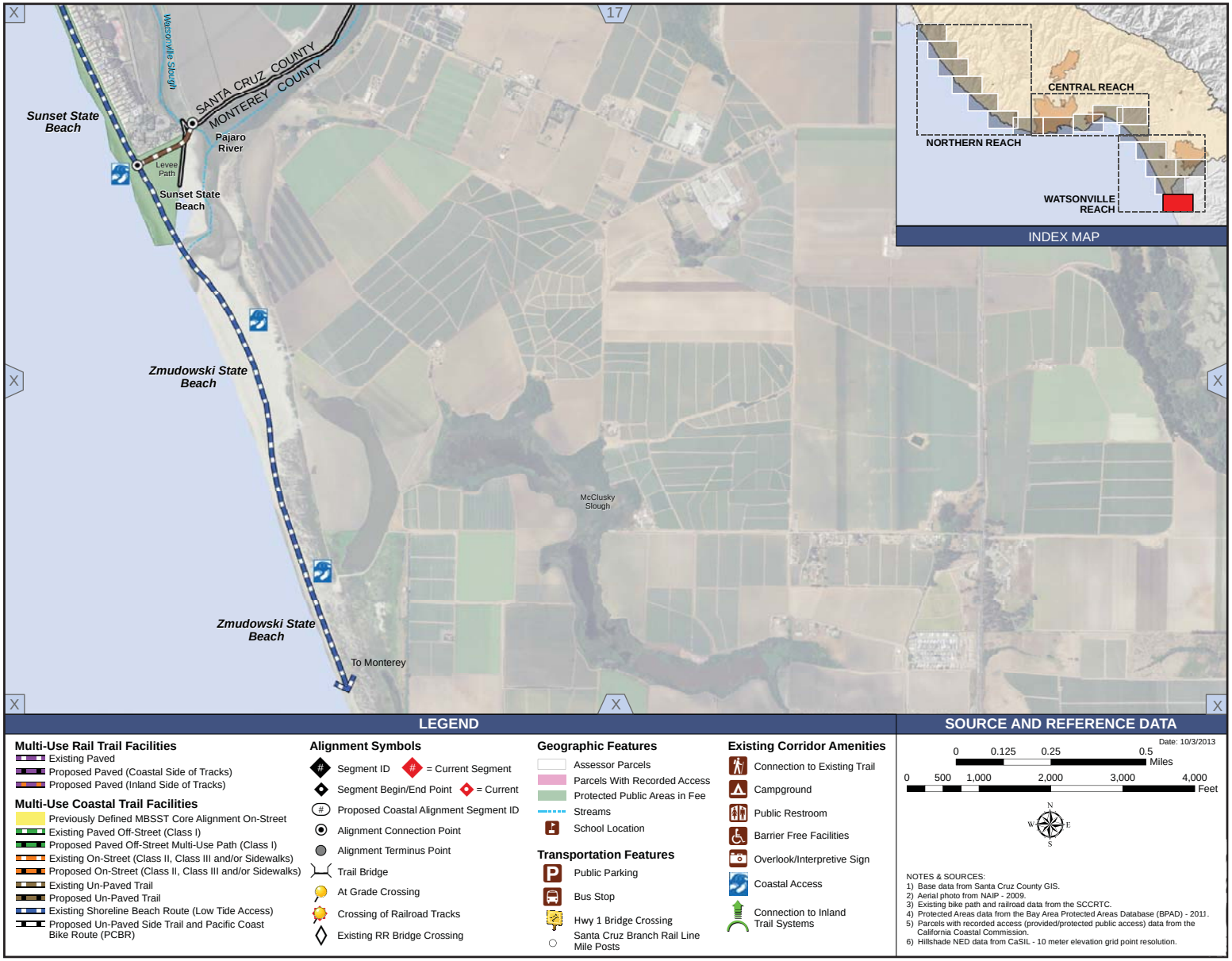
Figure 2-10c

Source: RRM Design Group, October 2013.

Watsonville Reach: Pajaro River Connection

Figure 2-10d

Source: RRM Design Group, October 2013.



Watsonville Reach: Shoreline Beach Connection

Figure 2-10e

Source: RRM Design Group, October 2013.

2.5 DESIGN STANDARDS

Trail classifications included in the MBSST Network Master Plan are described in Section 2.4.1. These include Class I multi-use paved paths, Class II designated bike lanes, Class III on-street bike routes, unpaved trail surfaces, sidewalks, and boardwalks. The proposed MBSST Network contains design standards for each facility type, some of which are mandatory and some of which are advisory. Mandatory standards include those related to: trail width; separation of pathway to roadway; design speed; Class I bike path standards; Class II bike lane standard; Class III bike route standard; bridge standards; signing, markings, and traffic controls; and sidewalks. Advisory (non-mandatory) standards are also provided, and include: striping; intersections and crossings; horizontal alignment; stopping sight distance; lateral clearance on horizontal curves; gradients; structural section; drainage; barrier posts; bikeway and railroad intersections; trail setbacks from railroad tracks; and multi-use path standards. Specific design standards are described in greater detail below.

2.5.1 Continuous Theme

Since the 49.6-mile MBSST Network crosses through several jurisdictions, certain design features are proposed to maintain a uniform and cohesive appearance. These key unifying design features include:

- *Trail Logo*
- *Directional Signs*
- *Kiosks and Information Resources*
- *Landscaping Features*
- *Pavement Markings*
- *Mile Markers*
- *Interpretative Exhibit Design*
- *Trail Entrance Features*

Trail logos, conceptual signage, and other drawings are included in Chapter 5 of the MBSST Network Master Plan.

2.5.2 Trail Crossings and Intersections

The proposed MBSST Network would require the construction of ~~17~~ 23 new, pre-engineered bridges; retrofitting of ~~one~~ 1 existing bridge; ~~and would require 93~~ 76 roadway crossings (including 1 undercrossing); ~~or~~ and 20 railway crossings (including 1 undercrossing).[4]

[4] ~~*The precise number of bridges and roadway/railway crossings may differ from the MBSST Network Draft Master Plan (October 2012) and the figures presented in Section 2.0, Project Description. However, the information included herein is considered the most up to date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

Trestle and Bridge Crossings. There are three possible bridge crossing treatments included in the MBSST Master Plan. The following treatment types describe three possible design concepts for existing railroad bridge and trestle crossings.

Type 1 Crossing: Rail Bridge Replacement. The MBSST Network project does not propose removal or replacement of any existing bridges. It is possible that some bridges may be slated for replacement as part of future projects. In such instances, the Master Plan encourages that future design of any replacement bridges consider including multi-use path facilities on the bridge deck.

Type 2 Crossing: Retrofitted Rail Bridge. Existing bridges, which are considered structurally sound and evaluated to potentially accommodate a retrofit trail bridge attached to the existing superstructure, would provide an alternate solution for trail crossings where there is no room for a new, separate trail bridge. This design alternative can sometimes be the most costly and would be evaluated against bridge crossing Types 1 and 3 for cost, span, scheduling, connectivity efficiency, environmental impacts and clearances. Retrofitting existing rail bridges is limited to one location for this project (in segment 12).

Type 3 Crossing: New Multi-Use Trail Bridge. Where retrofit of existing rail bridge structures is infeasible, a new separate trail bridge parallel to the existing rail bridge structure could be constructed. This scenario would include new abutments, a prefabricated bridge, and permitting for the new crossing. A total of ~~17~~23 such bridges are planned for the length of the MBSST Network.

Additional bridge design considerations, including consideration of drainage way characteristics, bridge length and placement, load consideration, aesthetics, and rail track realignment/relocation, are described ~~on page 5-15~~ in Section 5.3 of the ~~proposed~~ Master Plan.

Roadway and Railway Crossings. The proposed trail alignment would intersect public and private roadways and/or the railway at ~~93~~ 96 locations. ~~Eleven~~ Ten types of treatments are included in the MBSST Master Plan for these crossing locations. These improvements would be installed at railroad crossings and at street intersections or midblock crossings. In some locations, a custom treatment would be necessary and may include unusual combinations of the standard treatments or an altogether unique treatment. The treatment types include:

- *Type A. Railroad signal equipment – new signal or modification of existing signal*
- *Type B. Traffic signal modification*
- *Type C. Hawk traffic signal/pedestrian hybrid beacon*
- *Type D. Active enhanced midblock – Pedestrian-activated warning system*
- *Type E. Passive enhanced midblock – Additions to the Standard midblock treatment*
- *Type F. Standard midblock – Signs and markings*
- *Type G. Traffic calming measures – Raised medians, curb extensions, or bulb-outs*
- *Type H. Connection facilities–Pedestrian walkways, intersection crosswalks, and/or bicycle*
- *markings*
- *Type I. Rail crossing without railroad signal equipment (very low crossing volumes)*
- *Type J. Standard private crossing – Typical controls include a combination stop sign/private crossing-no trespassing sign*
- *Type K. No additional improvements or changes*

~~Figures 5.8 through 5.10 in the proposed Master Plan detail roadway crossing concepts that illustrate how the trail would interact with existing streets and with the rail tracks.~~

Custom Crossing Treatments. Twenty six custom crossing treatments are identified in the MBSST Network Master Plan. Each custom treatment contains unique features not found in Types A through K above. The custom treatments are depicted in ~~Figures 5.14 through 5.38~~ Figures F-4 through F-30 in the ~~proposed~~ Master Plan. The locations of these treatments are shown in Figures ~~5.11 to 5.13~~ F-1 to F-3 in the proposed Master Plan. Please refer to ~~Chapter 5~~ Appendix F of the proposed MBSST Network Master Plan.

2.5.3 Trail Amenities and Features

A variety of trail amenities in the form of benches, shade structures, informational signs, trash containers, staging areas, and a restroom, would be located along the trail in strategic locations. The proposed Master Plan calls for design of these elements to reflect an ocean theme through the use of wood, stone, wire fences, self weathering (rusted) steel, and other rustic materials. Specific aspects of these amenities are described below.

Trail Furnishings.

Benches and Seating Areas. Benches would be comprised of durable materials and secured to their locations to avoid theft and/or vandalism. Bench style would be consistent, rather than conform to the bench standards of each jurisdiction which it passes through. Benches would be placed at a minimum of every ¼ mile to ½ mile to provide convenient resting places along each segment. Existing adjacent park furnishings would be utilized as appropriate, to avoid redundancy or clutter. Alternatives to fabricated benches include the use of large boulders for seating in more rural or natural settings. Benches would be clustered with trash receptacles and other key furnishing elements.

Trash Receptacles. Trash receptacles would be placed in areas where there are benches and at all major trailhead locations. The trash receptacle unit would include one trash container and one recycle container. The containers would include animal proof lids and a consistent design, color, and style along those trail segments which are outside of an existing agency's park and trail segments.

Bike Racks. Bike racks would be located at rest areas, existing and proposed trail heads, near transit stops, at picnic and park sites, and in commercial areas adjacent to the trail.

Picnic and Shade Shelters. Shelters would be placed along the trail corridor where existing park facilities are located more than ¼ mile apart. They would be located at trailhead parking areas, rest areas, scenic overlooks, and removed or exposed segments along the trail corridor. Picnic and shade shelter design and style would be consistent along the trail corridor. Design exceptions may occur when a proposed shelter location is adjacent to or within an agency jurisdiction that has an existing shelter in that site or within view of the trail corridor's chosen location.

Bollards. The purpose of bollards is to keep unauthorized motorists off the path. Bollards would be removable for emergency and maintenance access, light in color, reflectorized for visibility, lit

with solar-powered LED lights (where feasible), and between 36 inches tall and 46 inches tall. Bollards, if used, would be positioned at least 5 feet apart and include diversion striping on the pavement.

Trail Fencing. Fencing along the trail would vary depending on the location and agreements between adjacent land owners and the RTC. Fencing along the trail corridor would be used conservatively to maintain the open feel and views of the coastal environment. Where excess right-of-way allows, a landscaped buffer would be provided instead of fencing. The fence designs proposed for the trail corridor are standards that can be applied to several scenarios. Fencing would typically be used for the following reasons: safety, security, trespass prevention, environmental impacts, and privacy. The following narrative describes the types of fencing at various locations.

- *Wire Security Fence.* This fence type would consist of 72-inch high woven-wire security fencing with metal posts. This fence type provides a high level of trespass prevention and security. This fence also provides an opportunity for screening with vine plantings to soften the look of the fence and provide additional protection from train blown dust and debris. This fence type would be provided in urban and industrial areas; as a rail track and trail separator (where a high number of illegal crossings are expected); and for safety and security.
- *Smooth wire fencing.* This fence type would consist of 54-inch high, ten-strand smooth wire fencing with concrete posts. This fence type provides a level of trespass prevention and provides open visibility of the surrounding landscape. This fence type is recommended in both rural and urban areas, at agricultural land boundaries, as a rail track and trail separator (where the trail is within 15 feet of rail tracks), within scenic and open space areas, and at environmentally sensitive sites. This type of fence would be used when required by either RTC or the adjacent landowner, and would be located at the right-of-way edge or a minimum of two feet from the outer most edge of the trail surface.
- *Concrete split-rail fencing.* This fence type would consist of 48-inch high, three-rail concrete split rails. This fencing provides a low level of trespass prevention, some open visibility, boundary delineation, and parkland character. This fence type is recommended in both urban and rural residential areas and within open space and park lands. In urban areas, this fence type may be used to separate the trail from adjacent property. The design and use of this fence is subject to the discretion of each implementing entity, as approved by the RTC. Fencing types may include wood, wood substitute, stone and wrought iron, wrought iron, or other suitable materials excluding chain link materials.
- *Privacy fencing.* This fence type would consist of 72-inch high concrete fencing with metal posts, and would provide some level of trespass prevention, security, and privacy for adjacent landowners. This fence type also provides an opportunity for screening with vine plantings. This fence type is recommended in urban and industrial areas, in residential areas, and where safety and security are a concern.

Utilities and Lighting. Existing surface and subsurface utilities within the railroad right-of-way include active and abandoned railroad communications cable, signal and communication boxes, fiber-optic cables, water and sewer lines, and telephone lines. The MBSST Network would be

designed to avoid having to move most active surface utilities, although utility poles no longer in use may be removed. The trail may be located directly over existing subsurface utilities assuming (a) adequate depth exists between the trail surface and utility to prevent damage, and (b) agreements can be reached with the utility owner regarding access for repairs and potential impact to the trail.

Portions of the trail may include lighting, especially where there is considerable evening pedestrian and bicycle commuter traffic. There would be some lighting benefit from existing light sources along adjacent roadways and crossings. Dark sky compliant lighting, which projects light downward without releasing lighting upwards into the atmosphere or outward past the intended projected path, would be used to illuminate the trail.

Trail Access/Staging Areas. Twenty-two existing trail access and staging areas are located in close proximity to the trail alignment (for example, at Depot Park and the Wilder Ranch State Park Visitor Center). Features include parking for vehicles and bicycles, drinking water, trash receptacles, kiosks with traveler information, and other amenities. As future usage increases, additional new staging areas may be constructed. A concept for future trail access/staging areas is identified in Figure 5-~~5~~8 of the proposed Master Plan. Table 2-1 shows the existing and planned trailhead and staging area amenities. Design elements generally include:

- *Paved parking (aggregate base in sensitive areas)*
- *Information kiosk with a trail directory map / trail information*
- *Picnic tables*
- *Drinking fountains*
- *Trash cans*
- *Accessible restrooms (all but one existing)*
- *Safety lighting*
- *Bike racks*
- *Shade and shelter*
- *Potential for commercial vending and service (food, bike support, equipment)*
- *Interpretive signs*
- *Food kiosk*
- *Bike shop/station rental*

Rest Areas. Facilities for comfort (benches, trash receptacles, shade and water), safety (phones and kiosks with traveler information), and interpretive information (historical, cultural, and educational information) would be developed along the trail. Rest areas would be located at places of interest and at regular intervals (approximately two to three miles apart). Design elements for rest areas would include:

- *Trash Cans*
- *Drinking water*
- *Shade element*
- *Directional signage/trail information*
- *Benches with backrest and armrest*
- *Grades that do not exceed 5 percent*

Uniform Signing and Marking. A uniform sign design and logo theme would be provided along the trail. Elements such as bollards to prevent unauthorized trail access, mile post markers to identify specific locations along the trail, directional signs to various places of

interest and user services, informational and traffic control signs and a trail logo would all provide necessary information and help to unify the design.

Signs along the trail would be designed to meet all of the required and recommended signing and marking standards developed by Caltrans in Chapter 1000 of the Highway Design Manual. In addition, all signs and markings would conform to the standards developed in the Manual on Uniform Traffic Control Devices (MUTCD).

In general, all signs would be located at least three to four feet from the ends of the paved surface, have a minimum vertical clearance of eight and a half (8.5) feet when located above the trail surface and be a minimum of four feet above the trail surface when located on the side of the trail. All signs should be oriented so as not to confuse motorists. The designs (though not the size) of signs and markings should be the same as used for motor vehicles.

Directional signing may be useful for trail users and motorists alike. For motorists, a sign reading 'Coastal Rail Trail Xing' along with a trail emblem or logo helps both warn and promote use of the trail itself. For trail users, directional signs and street names at crossings help direct people to their destinations.

Signage. A customized wayfinding signage program for the proposed MBSST Network would be further developed to orient users, provide educational opportunities, and unify the trail corridor. The design would mirror the existing MBSST sign program in terms of height, scale, and font type. However, the signs would differ from the existing MBSST in terms of colors and materials used. All trail signage would be identified with the MBSST logo. Conceptual illustrations of compatible signage types are provided in Chapter 5 of the proposed Master Plan.

In addition, a Coastal Rail Trail logo would be created to enhance the identity of the rail trail. The logo may be a variation of the MBSST logo by keeping the same orientation, font, and use of black. The colors and central design would be modified in order to reflect a rail trail theme.

Historic and Educational Themes. In addition to the exhibit locations identified by the previously prepared MBSST Standards Manual, additional historic and educational exhibits (interpretive exhibits) would be placed along the trail at strategic locations offering a variety of information. For example, information concerning the history of railroads, lumber, beaches, and farming in the area would be portrayed. Educational exhibits describing the environment and natural resources would be developed to educate visitors and residents about current issues and stewardship. All of these topics would be presented in a cohesive design to help reinforce the continuity of trail design.

Sanctuary Scenic Trail Signage. The RTC and the Santa Cruz County InterAgency Task Force secured funding from a Federal Transportation Enhancement Grant to develop conceptual designs for a trail logo, a wayfinding system to orient trail users, and an interpretation system

Table 2-1
Existing/Planned Trail Head/Staging Area Amenities

	Paved Parking Lot	Accessible Parking	Street Parking	Shelter	Overlook with Benches	Trash Cans	Bike Racks	Accessible Restrooms	Drinking Water	Benches	Picnic Area	Other/Notes
Waddell Beach	X	X						X				
Greyhound Rock Beach	X	X					X	X				
Scott Creek Beach			X		X	X	X					
Davenport Beach Landing			X		X	X	X	X				
Davenport												Unpaved parking lot
Coast Dairies, Bonny Doon	X					X						
Coast Dairies, Yellowbank												Unpaved parking lot
Wilder Ranch, 4 Mile												Unpaved parking lot
Wilder Ranch, Old Cove	X	X	X				X	X	X			Trailer parking
Natural Bridges State Park	X	X										
Neary Lagoon Park (Planned)												Existing boardwalk
Depot Park	X	X		X			X	X	X	X	X	Other amenities
Main Beach	X	X					X	X	X	X	X	Other park amenities
Santa Cruz Harbor	X	X					X	X	X	X	X	Other park amenities
Simpkins Swim Center	X	X		X			X	X	X	X	X	Other amenities
Jade Street Park at 47th St.	X	X					X	X	X	X		Other park amenities
New Brighton State Beach	X	X		X			X	X	X	X	X	Other amenities
Aptos Village	X	X					X					
Hidden Beach	X						X			X	X	Lawn area
Seascape Park	X	X			X		X	X	X	X	X	Lawn area, trails
Manresa State Beach	X	X			X		X	X	X	X	X	
Watsonville Slough Trails							X			X	X	Lawn area, trails
Walker Street, Watsonville	X											

to showcase distinct habitat areas, and illustrate themes and stories consistent with the conservation and education goals of the Monterey Bay National Marine Sanctuary. Through this process, a series of wayfinding and interpretive exhibits were designed to be distributed through a core 11-mile length of the MBSST Network. There are five types of signs and exhibits: trail markers, directional signs, orientation signs, minor interpretive exhibits and major interpretive exhibits. A handful of these signs have already been installed.

The Sanctuary Scenic Trail Standards Manual (June 2005) includes locations and design direction for trail signage and should be implemented where the proposed Monterey Bay Sanctuary Scenic Trail alignment intersects with the signage locations identified by the Standards Manual. As new trail signs are installed, they would incorporate directional information leading users to the Coastal Rail Trail and/or the California Coastal Trail, where appropriate.

Countywide Bicycle Route Signage. In an effort to further increase bike ridership and provide a viable transportation alternative, the RTC is developing a Countywide Bicycle Route Signage Program. The exact sign type has not been agreed to yet but the mock-ups proposed would fit in with existing signage, would be easily integrated into the proposed sign types and is in compliance with the MUTCD.

Multiple Trail Designations. In certain instances, the MBSST Network would include additional trail network alignments such as the California Coastal Trail, Monterey Bay Sanctuary Scenic Trail, and/or the Pacific Coast Bike Route. When this is the case, the application of the proper logo(s) would be applied to trail signage to inform the user of the multiple route status.

Landscaping. The landscaping treatment along the proposed MBSST Network would vary along the corridor as it traverses from one region to another. The landscape treatment would be limited by availability of space in the trail corridor, narrow rights-of-way, railway operational clearance, agricultural operations, sensitive coastal bluffs, and other mitigating factors, and would be determined through the design phase of each segment in coordination with the primary managing agency.

Currently there are existing segments of the MBSST corridor that follow highly urbanized areas with landscape treatments existing along street corridors, parks, adjacent open space, harbor edges, and beachfront areas. The landscape for new segments of the MBSST would vary with the setting and with the agency responsible for the design, implementation, and long-term maintenance. The landscape treatment would also vary by setting. Landscape treatment in intense urbanized areas would include both native and non-native drought tolerant plant palettes. However, areas where the trail is located in and/or adjacent to native landscape settings, or rural and agricultural lands, every effort would be taken to maintain native and indigenous plant species in the planting and restoration efforts. Plant palettes would be determined as part of the design phase for each segment in coordination with the implementing entity. Planting plans would also comply with environmental studies and recommendations concerning sensitive or critical native plant habitats. Other precautions would consist of the strict avoidance of invasive species being included in any planting plans.

Drainage and Erosion Control.

Drainage Improvements. Drainage improvements to accommodate the trail would be made in conjunction with construction of the trail. Trail design would be engineered so as not to increase any historical run off onto a property, and would be coordinated with any adjacent and regional efforts that may be underway at the time to resolve historical problems to the greatest degree feasible. A combination of culverts, channelization and improved bridge crossings would occur in conjunction with trail construction. Trail engineering would focus on methods to minimize siltation maintenance issues.

Culverts. Culverts can be used in seasonal drainage ways or seeps along gullies and swales. Culverts would be sized to handle the high flow during seasonal rains. Culverts may consist of plastic or metal corrugated pipe. Trail approaches would be designed at a straight 90-degree angle. Culvert crossing width would match the trail approach width on both sides. Culvert faces would be concealed with native stone and channels downstream of culverts with rip-rap.

Sea Level Rise. Generally, the California Coastal Commission (CCC) requires new development to be setback from bluff edges so that development would be safe from bluff retreat for at least 100 years. However, the CCC does make exceptions to the setback requirements for recreational/trail projects. The 100-year sea rise projection is unlikely to impact on-street trails. However, natural surface trails along coastal bluffs may be impacted and development of new trails should consider sea level rise impacts.

Universal Trail Design. "Accessibility" or "universal access" would be considered in the decision-making processes including planning, design, construction, and management of the MBSST Network. Universal access includes design strategies that provide trail access to those with and without disabilities including families, the elderly and mobility impaired persons. At a minimum, current state and federal regulations concerning the Americans with Disabilities Act (ADA) would be applied to provide access to a wide range of user capabilities where it is deemed appropriate and reasonable.

While trail designers would refer to the federally mandated ADA guidelines, the following five design characteristics are identified by the MBSST Network Master Plan as being typical of the types of challenges that must be overcome to ensure a universally accessible trail.

- *Trail Grade*
- *Cross Slope*
- *Width*
- *Surface Type*
- *Obstacles*

User Conflict Reduction Strategies. The MBSST Network Master Plan identifies preventative measures to anticipate heavy use and preclude user conflict in multiple-use trails, permitting use by walkers, runners, bicyclists, etc. These include the following:

1. *Involve all potential user groups in the planning process to raise issues and help address them*

2. *Design to minimize conflicts with separate trails or shoulders for pedestrian and equestrian use, where possible, and provide adequate width and sight lines, furnish turnouts at stopping points, etc.*
3. *Use clear signage or pavement markings to define etiquette and yielding protocol*
4. *Set expectations for multi-use*
5. *Enforcement of rules by volunteer trail patrols and/or a uniformed presence – especially when a trail is new to establish precedent and expectations*

The proposed Master Plan emphasizes trail etiquette through both informal and formal means. The proposed Master Plan recommends visual and simple displays of expectations, including the following potential courtesy advisories:

- *Wheels yield to heels*
- *Be courteous to all trail users*
- *Travel at a reasonable speed in a consistent and predictable manner*
- *Always look ahead and behind before passing*
- *Pass slower traffic on their left; yield to oncoming traffic when passing*
- *Give a clear warning signal before passing – use voice signal, not horn or bell, when passing horses*
- *Keep all pets on a short leash*
- *Respect the rights of adjacent property owners*
- *Don't be a litterbug*
- *Please clean up after your pets*
- *Move off the trail when stopped to allow others to pass*
- *Yield to other users when entering and crossing the trail*
- *Motorized vehicles are prohibited (except electric wheelchairs)*
- *Alcoholic beverages and illegal drugs are not permitted on the trail*
- *Firearms, fireworks, and fires are not permitted on the trail*
- *All trail users should use a light and reflectors after dusk and before dawn*
- *Travel no more than two abreast*
- *Be aware and courteous to others while using a cellular phone*

Dogs On Trails. The approximately 50-mile MBSST Network passes through several different city, county, and state properties, all with varying rules and regulations addressing dogs in the park lands and on trails. The proposed Master Plan encourages implementing entities to provide dog waste bag dispensers at trailheads. More remote sites or neighborhood access areas may include a simple regulation sign requiring pet owners to collect their pet waste both as a courtesy to other users and a management tool for habitat preservation. Dogs may be restricted adjacent to agricultural lands where sensitivity relating to contamination exists.

The waste removal restrictions do not apply to service animals, as defined by the Federal Americans with Disabilities Act (ADA). The ADA defines a service animal as any guide dog, signal dog, or other animal individually trained to provide assistance to an individual with a disability.

Currently the California State Parks rules and regulations require dogs be on a leash within the park boundaries. California State Beach regulations require dogs be on a leash and allowed on paved trails only. Other regulations for dogs on trails may include requests to have the pet up-

to-date with all applicable vaccinations and a current license with the County Department of Animal Services. Some implementing entities may have their own animal care services or licensing.

Equestrians on Trails. Equestrian use on the MBSST Network would be limited to the north coast area extending from Wilder Ranch to Davenport, i.e. along segments 5.1, 5.2, 5.3 and 6. Equestrians would utilize the existing facilities located in Wilder Ranch. The proposed Master Plan suggests specific design considerations when planning for equestrian use on multi-use paths, including trail width of at least 8 feet with a vertical clearance of at least 10 feet, separated a minimum of three feet from the paved multi-use path.

2.6 TRAIL IMPLEMENTATION AND ADMINISTRATION

2.6.1 Project Prioritization

The proposed MBSST Master Plan prioritizes projects based on the following criteria:

- *Proximity to activity centers*
- *Population Density*
- *Coastal access connectivity*
- *Trail segment cost*
- *Trail s~~S~~egment length*
- *Minimal or no ~~Number of~~ bridge crossings*
- *Limited right-of-way constraints*
- *Gap closures (and connections to existing and planned non-motorized facilities)*
- *Public input*

The specific methodology for project prioritization, including the points awarded to each of the above criteria, is described in ~~Chapter 6~~ Appendix E of the MBSST Network Master Plan.

All phases of the MBSST design and implementation may require various outside agency sources to match local funding. Outside funding sources may include, but would not be limited to: the Federal Highway Administration (FHWA) (including Federal Lands Highway Funds, Recreational Trails Program, and Transportation, Community and System Preservation Program); California Transportation Commission (including the Transportation Alternatives Program); Caltrans (including the Highway Safety Improvement Program, Bicycle Transportation Account, and Community-Based Transportation Planning Program, and Environmental Enhancement Program); the National Park Service (NPS) (including the Land and Conservation Fund, and the Rivers, Trails, and Conservation Assistance); the California Coastal Conservancy; the California Department of Parks and Recreation (Habitat Conservation Funds); California State Parks (Statewide Park and Community Revitalization Program); the Wildlife Conservation Board (Public Access Program); and the Resources Agency (River Parkways Program).
It should be noted that actual implementation may differ from what is outlined in the Master Plan as a result of funding opportunities, community support, and other criteria. However, the intent is to use the prioritization in the Master Plan as a mechanism by which to fund and implement each segment.

2.6.2 Administration

Administration of the proposed MBSST would involve the RTC and the implementing entities (City of Santa Cruz, County of Santa Cruz, City of Capitola, City of Watsonville, and/or State Parks). The RTC, as the owner of the Santa Cruz Branch Rail Line, would continue to provide regional policy oversight for the corridor and coordination with the rail operator. RTC staff would provide a forum for public input throughout the trail development process, augmenting public input in the local planning and design process.

In regards to trail network improvements, the main role of the RTC is to provide ongoing coordination services and funding for implementation of the Trail. The RTC would take the lead in preparing a memorandum of understanding (MOU) between itself and implementing entities to clarify roles, responsibilities for design, development, construction, monitoring, and maintenance of the Trail. The RTC may itself act as a project manager. The following describes the RTC's implementation responsibilities in greater detail:

- ~~*Phasing - Using the Master Plan-identified phasing as a guide, the RTC would coordinate with implementing entities to identify segments that are to be implemented.*~~
- *Funding - Upon identification of a segment, the RTC would organize a funding strategy to design, construct, and maintain the segment. RTC staff would assist implementing entities in developing fundable projects, matching projects with funding sources, and helping to complete competitive funding applications. In some cases, RTC may act as the project sponsor or cosponsor.*
- *Progress - Through board presentations, website notifications, and other venues, the RTC would provide regular updates to the public regarding the status of the trail development.*
- *Oversight - The RTC would work closely with implementing entities, planning, parks, and public works staff to implement trail segments.*
- *Coordination - Finally, should the RTC incur additional operating expenses to coordinate implementation, maintenance, operation and liability of the trail through agreements with implementing entities, funding would need to be identified.*

The following describes implementing entities' responsibilities in greater detail

- *Once the segment has been identified and funded, the RTC and/or implementing entities may employ in-house staff or retain a qualified bicycle and pedestrian trail planning consultant to design the trail construction documents. After review by the RTC's advisory committees and implementing entities, boards and committees, the RTC would review and approve all trail designs submitted by the implementing entities.*
- *In conjunction with implementing entities and/or trail planning consultant, a series of workshops would be conducted to introduce the project to the public and to identify any new information not included in the Master Plan.*
- *Implementing entities would be responsible for overseeing any necessary environmental clearance. The implementing entities would obtain the necessary planning, environmental, and development permits.*
- *The RTC may oversee project construction in consultation with the implementing entity and/or trail planning consultant.*

2.6.3 Operation and Maintenance

The proposed MBSST Network Master Plan contains an operations and maintenance plan (O&M Plan) to ensure that the MBSST Network is operated in an efficient and safe manner for all trail users and adjacent uses. The O&M Plan identifies the responsibilities, tasks, procedures, estimated operations and trail maintenance costs and other aspects related to the management of the trail.

Operations. Operational activities associated with the MBSST facilities would consist primarily of developing regulatory information to define the rules and regulations of the facilities, methods for documenting and monitoring trail accidents, and establishing security measures aimed at reducing any negative activities along the trail facilities.

Developing specific rules and regulations for the multi-use MBSST facilities are an important consideration in reducing potential conflicts along the trail. In addition, the need to monitor collisions, including the collision type, and identification of primary causes of collisions and then following through and rectifying any physical deficiencies associated with conflict points must be the responsibility of the implementing entities. Law enforcement and/or fire would be responsible for collecting collision information and identifying causes that may have contributed to the collision and documenting this information appropriately.

Implementing entities would be responsible for identifying and improving physical or operational conditions that may have contributed to any conflict along the trail. In addition, the implementing entity would be responsible for warning users of any problems and obstructions as well as to close the trail when conditions warrant. Educational materials, trailhead kiosks, signage, and promotional events are also considered tools to inform trail users and reduce the potential for collisions.

Maintenance. The MBSST Network Master Plain identifies several maintenance activities that should be considered. Each activity has an estimated frequency schedule that would be initiated and refined and a primary agency that is charged with leading the maintenance activity. Many of the maintenance activities are dependent on the final design and implementation of the trail amenities, materials, degree of landscape improvements, and amount of support infrastructure that is developed along the trail.

The following list indicates general maintenance activities anticipated for the MBSST:

- *Shoulder and grass mowing*
- *Prune and remove fallen trees*
- *Trash disposal*
- *Pavement sealing, repaving and pothole repairs*
- *Bollard replacement*
- *Irrigate plants*
- *Graffiti removal*
- *Fountain and restroom cleaning and repair*
- *Pavement sweeping and marking replacement*
- *Weed control*
- *Tree, shrub and grass trimming and fertilization*

- *Sign replacement and repair*
- *Fence and barrier repair and replacement*
- *Clean drainage system*
- *Maintain irrigation lines and replace sprinklers*
- *Lighting replacement and repair*
- *Maintain furniture*
- *Maintain emergency telephones*
- *Bridge inspection*

Trail Manager. A primary contact point (the Trail Manager) would be identified and be made available to the general public within their jurisdictions for general inquiries and management. The RTC board would work to identify the agency most appropriate to house a Trail Management Program and how to fund a Trail Manager, Trail Ranger, and/or an Adopt-A-Trail Coordinator position. The Trail Manager would ensure that each element described in the operations and maintenance is completed.

The following list represents the major tasks that may be the responsibility of the Trail Manager:

- *Coordinate development of the MBSST*
- *Organize, coordinate, and implement trail operations plan*
- *Implement maintenance plan and assure adequate funding*
- *Obtain bids and manage contracts for maintenance and improvements*
- *Monitor security and safety of the trail through routine inspections*
- *Oversee maintenance and rehabilitation efforts*
- *Manage and respond to issues and incidents*
- *Act as the local trail spokesperson with the public, including elected officials, and respond to the issues and concerns raised by trail users*
- *Develop and manage an emergency response system in coordination with local fire and police*
- *Respond to direction regarding development and construction of the project and ongoing maintenance*
- *Maintain records*
- *Manage an operation and maintenance budget*
- *Pursue outside funding sources*

The following list represents the major tasks that may be the responsibility of the Trail Ranger:

- *Trail patrol*
- *Ensure temporary trail closure gates are open or closed, should they be needed*
- *Ensure temporary trail closure signage is in place*
- *Ensure maintenance needs are addressed*

For additional information related to liability and indemnification, insurance, government tort claims, and risk management, as well as additional detail regarding the Trail Manager responsibilities, please refer to Chapter 7 of the proposed Master Plan.

Emergency Vehicle Access. The Trail Manager would be responsible for observing trail operations to ensure the trail can accommodate all emergency (police and fire) vehicles that

might need to access the trail. Where removable bollards are installed, the Trail Manager would ensure that all appropriate agencies have ~~the keys for~~ direct access. The MBSST itself is generally accessible from adjacent public rights-of-way. However, where it is not, a minimum 10 feet of pathway clearance and 12 feet of vertical clearance would be provided.

Trail and Rail Operation Interface. There are few universally accepted national standards or guidelines to dictate trails facility design adjacent to active railroad tracks, therefore trail designers would work closely with the railroad operator and maintenance staff to achieve a suitable design. Well-designed trails can meet the operational requirements of railroads, often providing benefits in the form of reduced trespassing and dumping. ~~However, a poorly designed trail would compromise safety and function for both trail users and the railroad.~~

The term "setback" refers to the distance between the edge of a paved multi-use path and the centerline of the closest active railroad track. Although paved multi-use paths currently are operating throughout the United States along train corridors of varying types, speeds, and frequencies, there is no consensus on an appropriate setback recommendation. Therefore, it is up to the rail operator and trail designer to come to an agreement based on the following factors:

- *Type, speed, and frequency of trains in the corridor*
- *Separation technique*
- *Topography*
- *Sight distance*
- *Maintenance requirements*
- *Historical problems*

The setback distance along individual segments of the MBSST Network would be determined on a case-by-case basis. The minimum setback distance ranges from eight feet and six inches to 25 feet, depending on the circumstances. In many cases, additional setback distance may be recommended. The lower setback distances may be acceptable to the railroad operator or agency and design team in such cases as constrained areas, along relatively low speed and low frequency lines, and in areas with a history of trespassing where a trail might help alleviate a current problem. The presence of vertical separation or techniques such as fencing or walls also may allow for a narrower setback.

Trail and Agricultural Operation Interface. Several methods of information collection and issue resolution relating to agricultural operations were employed during the trail planning process. Adjacency issues faced by the agricultural community are addressed through preventative design measures presented below. Some of the proposed measures are design related and others are operational in nature (a function of the ongoing management of the trail).

Notices Posted

- *Trail entrances would be posted with notices of on-going agricultural activities stating that the trail user agrees to using the trail at his/her own risk*
- *Trail users would be advised that agricultural operations will be occurring and may include pesticide spraying, agricultural dust and debris, and burning activities in accordance with State and local laws and ordinances*

- *Notices would state that the trail may be subject to closure without notice to accommodate such activities*
- *Signage would direct trail users to nearby restroom facilities*

Ability for Trail Closures

- *The trail would be designed with the ability for its physical closure (of isolated segments) in the event it becomes necessary to facilitate permitted spraying*
- ~~*Notification to the Trail Manager of impending spraying activity would be the responsibility of the agricultural operators*~~
- *Agricultural operators are responsible for notifying the Agricultural Commissioner of any impending spraying activity*

The Santa Cruz County Agricultural Commissioner's office is responsible for issuing pesticide spraying permits and regulating the use of pesticides and other agricultural chemicals. The implementing entity would work with the Agricultural Commission's office to minimize impacts to agricultural operators due to development of the adjacent trail as long as pesticides and other agricultural chemicals are applied in compliance with the label, worker safety requirements, weather conditions, drift restrictions, and all other safety requirements as required by federal, state and local laws.

Trail and Residential Interface. The Trail Manager would be required to facilitate communication with adjacent property owners by providing them with contact information for each jurisdiction and the departments that handle routine trail maintenance. Adjacent property owners would also be informed of any changes in trail operations and any major trail rehabilitation or expansion projects.

The Trail Manager would also be required to ensure that the trail is well-maintained. Particular emphasis would be paid to the operation of driveways that cross the trail to access property and ensuring that landscaping in those areas is well maintained. Graffiti would also be removed as quickly as possible.

2.7 PROJECT GOALS

The proposed MBSST Network project includes the following goals that guide the trail's implementation. A complete list of goals, objectives, and policies is provided in the proposed MBSST Network Master Plan.

- *Define a continuous trail alignment that maximizes opportunities for a multi-use bicycle and pedestrian trail separate from roadway vehicle traffic spanning the length of Santa Cruz County.*
- *Develop public trail access along the Monterey Bay National Marine Sanctuary to enhance appreciation, understanding, and protection of this special resource.*
- *Promote awareness of the trail, trail opportunities, and trail user responsibilities.*
- *Develop a long- and short-term program to achieve the policies set forth in this plan through a combination of public and private funding, regulatory methods, and other strategies.*
- *Develop the necessary organizational, staffing, and funding mechanisms to ensure that all trail segments, trailheads, and accessory features are safe, well-maintained, and well-managed.*

2.8 REQUIRED APPROVALS and PERMITS

The proposed project requires the certification of this EIR and approval of the Master Plan by the RTC prior to the initiation of the project. In addition, the following discretionary approvals from other agencies may be required prior to construction of individual segments:

- *Local jurisdiction adoption and amendment of existing planning documents (including by the County of Santa Cruz, County of Monterey [for segment 20] and cities of Santa Cruz, Capitola, and Watsonville);*
- *Coastal Development Permit(s) from the County of Santa Cruz, cities of Santa Cruz, Capitola and Watsonville, County of Monterey [for segment 20] or California Coastal Commission;*
- *Section 404 Permit(s) from the U.S. Army Corps of Engineers;*
- *Section 1600 Permit(s) from the California Department of Fish and ~~Game~~ Wildlife;*
- *Section 401 Water Quality Certification from the Regional Water Quality Control Board;*
- *Approval by the U.S. Fish and Wildlife Service;*
- *Approval by the California Public Utilities Commission Rail Crossing Engineering Section;*
- *Caltrans Encroachment Permit(s); and/or*
- *Approval by Federal Railroad Administration.*

In addition, if individual segments proposed for implementation encroach onto properties managed by other agencies, approvals may also be required by these agencies. Agencies that may have discretionary approval authority include, but are not limited to: the California Department of Parks and Recreation, the California State Lands Commission, Bureau of Land Management, Caltrans, and/or United States Fish and Wildlife Service (who manages the Ellicott Slough National Refuge Reserve).

Subsequent environmental review may also be required, particularly if an individual trail segment differs from what is analyzed herein. In such instances, this Program EIR may be used as a tiering document, as described in Section 15152 of the *CEQA Guidelines*. Subsequent review, if required, may include a Negative Declaration, Mitigated Negative Declaration, EIR Addendum, or site-specific Project EIR.

Review under the National Environmental Policy Act (NEPA) may also be required for individual segments~~, if the segment is funded whole or in part by federal funds~~. NEPA review could be as simple as a Categorical Exclusion, unless certain criteria are met. For example: (1) significant environmental impacts; (2) substantial controversy on environmental grounds; (3) significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or (4) inconsistencies with any federal, state, or local law.

3.0 ENVIRONMENTAL SETTING

3.1 LOCATION

The Master Plan corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport past the Pajaro River in Watsonville. The trail would extend through unincorporated Santa Cruz County and portions of the cities of Santa Cruz, Capitola, and Watsonville. The southernmost segment (segment 20) would extend into Monterey County. The MBSST Network corridor would primarily align with the Santa Cruz Branch Rail Line right-of-way, a 32-mile, continuous travel corridor, 31-miles of which are now owned by the Santa Cruz County Regional Transportation Commission (RTC). The rail right-of-way would serve both rail service and bike/pedestrian trail functions. North of the railroad right-of-way, the trail would align along the west side of Highway 1 for 7.5 miles, for a combined trail length of 39.2 miles. Other proposed new trails outside of the primary MBSST corridor would comprise 10.4 additional miles of paved and un-paved coastal spur trails. The trail network would span a combined total of 49.6 miles of bicycle and pedestrian facilities. The railroad right-of-way generally runs along the coast, parallel to the Pacific Ocean, except where it turns inland near Manresa State Beach. From there, the tracks run inland toward Watsonville and ultimately end at the Watsonville Junction.

The Master Plan corridor is separated into three reaches: the northern reach extends from the San Mateo County line to the western Santa Cruz city limit; the central reach extends from the western Santa Cruz city limit to Seascape Boulevard; and the Watsonville reach extends from Seascape Boulevard to Railroad Avenue in Monterey County. These reaches are further divided into smaller "segments." Segments one through six fall within the northern reach; segments seven through 14 fall within the central reach; and segments 15 through 20 fall within the Watsonville reach.

Figures 2-1 and 2-2 in Section 2.0, *Project Description*, illustrate the regional location of the MBSST Network corridor as well as the three reaches within the MBSST Network, respectively.

3.2 PHYSIOGRAPHY AND CLIMATE

Because the Master Plan corridor stretches the entire length of Santa Cruz County, the physiographic setting of the MBSST Network varies. The topography of the 49.6-mile area varies from flat to steep and rugged. Along the primary alignment, the MBSST Network connects to the scenic coastal bluffs in the north county, traversing rural agricultural and open space lands in the south county. Dense urban areas characterize the central portion of the proposed alignment.

The majority of the MBSST Network corridor is located on lowlands west of the Santa Cruz Mountains and along the coastal bluffs in the northern extent of the County. The area of the corridor that turns inland toward Watsonville generally follows the flood plains of the Watsonville Slough and Pajaro River. Because the project is located on the lowlands of the Santa Cruz Mountains, moderate to steep slopes are prevalent throughout the alignment. Elevations throughout the corridor range from sea level to approximately 30 to 40 feet above sea level.

The MBSST Network would traverse through nearly every watershed in Santa Cruz County, and be located where the watersheds drain, due to its coastal location. A list of the watersheds within the MBSST Network is provided below. Because several watersheds fall within more than one reach of the MBSST Network, the watersheds are listed in order from north to south, rather than by reach.

- *Waddell*
- *Swanton Bluffs*
- *Scott Creek*
- *Davenport*
- *San Vicente Creek*
- *Liddell Creek*
- *Laguna Creek*
- *Majors*
- *Baldwin Wilder*
- *San Lorenzo River*
- *Arana Gulch – Rodeo*
- *Soquel Creek*
- *Aptos Creek*
- *Pajaro River*
- *Watsonville Slough*
- *San Andreas*

The watersheds cover almost all of Santa Cruz County, except for the less than 20 acres that are within the Año Nuevo Creek Watershed and the Pescadero Watershed. Each watershed consists of numerous tributaries, with over 50 tributaries combined.

The project is located within the North Central Coast Air Basin (NCCAB). A semi-permanent high pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends from the Pacific High, forming a stable temperature inversion of warm air over a cooler coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The airflow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High pressure cell. The Pacific High migrates southward during the winter and so has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. The general absence of deep, persistent inversions and occasional storm systems usually result in good air quality for the basin as a whole in winter and early spring.

3.3 ADJACENT LAND USES

Because the Master Plan corridor stretches the entire length of Santa Cruz County, the surrounding land uses vary from reach to reach and segment to segment. The general land use setting of each reach is described below.

Northern Reach. The northern reach of the MBSST Network begins at the San Mateo/Santa Cruz county line on Highway 1, just north of the Waddell Bluffs, and continues south to the northern Santa Cruz city limits near Schaffer Road (refer to Figure 2-5 in Section 2.0, *Project Description*). The northern reach is bounded primarily by steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coastal Dairies, transitioning to rural agricultural land and natural coastal mesas south to Schaffer Road. There are numerous small coves and beach strands with informal footpaths down to the beach shore. Large sections of the coastal edge are owned by California State

Parks with several scenic rest stops along Highway 1 providing passive recreation access to beaches, coastal bluffs, and inland parkland trails. Land uses within the vicinity of the more remote regions of the northern reach include agriculture and open space. Where the northern reach parallels the town of Davenport (segments 4 and sub-segment 5.1), land uses include residential, institutional, and religious institutions (i.e. places of worship).

Central Reach. The central reach begins at the City of Santa Cruz northern city boundary near Schaffer Road and extends southeast to Seascape Park just south of Aptos (refer to Figure 2-7 in Section 2.0, *Project Description*). This reach of the MBSST Network corridor traverses through densely populated coastal urban areas, including industrial, commercial, residential, and recreational land uses. The southern portion of the central reach parallels the coast, meandering atop steep coastal bluffs and multiple residential and resort areas.

Watsonville Reach. The Watsonville reach begins at railroad mile marker 10 near Seascape Village Park and ends at Railroad Avenue in Monterey County (refer to Figure 2-9 in Section 2.0, *Project Description*). At its start, this reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The surrounding landscape is primarily open space with some residential areas near Manresa, tapering off to rural farm and agricultural lands further to the south. The northern portion of the Watsonville reach (approximately segments 16 and 17) would be located adjacent to agricultural activity, while segments 18 and 19 would pass through industrial and commercial areas in the City of Watsonville. Segment 20 would extend into Monterey County.

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4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified through the Initial Study process as having the potential to experience significant impacts.

"Significant effect" is defined by the *State CEQA Guidelines* §15382 as:

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

The assessment of each issue area begins with the setting and is followed by the impact analysis. Within the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the RTC (as the CEQA Lead Agency) or other resource agencies. Other thresholds are universally recognized or have been developed specifically for this analysis. The next subsection describes each impact of the proposed trail, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded impact listing also contains a statement of the significance determination for the environmental impact as follows:

Significant and Unavoidable: *An impact that cannot be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.*

Significant but Mitigable: *An impact that can be reduced to below the significance threshold level with implementation of reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.*

Less than Significant: *An impact that may be adverse, but does not exceed the significance threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.*

No Impact: *No impact would occur.*

Beneficial Impact: *The project would result in a beneficial impact on the environment.*

Following each environmental effect discussion is a listing of mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area. Please refer to the Executive Summary for this EIR, which clearly summarizes all impacts and mitigation measures that apply to the proposed MBSST Network project.

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4.1 AESTHETICS

4.1.1 Setting

a. Overall Visual Character of the MBSST Network. The Master Plan corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport past the Pajaro River in Watsonville to connect to Monterey County's MBSST system, and into the town of Pajaro at the rail right-of-way southern terminus. The visual character of the approximately 50-mile corridor is diverse, unique, and highly scenic. Along the primary alignment, the MBSST Network connects to the scenic coastal bluffs in the north county and traverses the rural agricultural and open space lands of the south county. Dense urban areas characterize the central portion of the proposed alignment.

The topography of the nearly 50-mile alignment varies from flat to steep and rugged. Views of Monterey Bay and the Pacific Ocean are available for much of the length of the MBSST Network. Other primary views along the trail corridor include agricultural crop production, open space, hillsides, and urban areas.

The MBSST Network corridor is divided into three reaches: northern, central, and Watsonville. The visual characteristics of each reach are discussed below.

Northern Reach. The northern reach of the MBSST Network is approximately 22.74 miles long, beginning at the San Mateo/Santa Cruz county line on Highway 1, just north of the Waddell Bluffs, and continuing south to the northern Santa Cruz city limits near Schaffer Road (refer to Figure 2-5 in Section 2.0, *Project Description*). The northern reach is characterized by expansive views of the Pacific Ocean from steep coastal bluffs that extend from Waddell Creek to Yellow Bank Beach at Coastal Dairies. South of Coastal Dairies, the visual character transitions to a more rural agricultural and natural coastal mesa environment as the alignment moves south to Schaffer Road. There are numerous small coves and beach strands with informal footpaths down to the beach shore. Large sections of the coastal edge are owned by California State Parks with several scenic rest stops along Highway 1 providing passive recreation access to beaches, coastal bluffs, and inland parkland trails. Much of the land is flat south of Coast Dairies with intermittent rolling hills giving way to steep coastal cliffs further north. Typical views along the northern reach are shown in Figure 4.1-1.

Central Reach. The central reach is approximately 13.46 miles long, beginning at the City of Santa Cruz northern boundary near Shaffer Road and extending southeast to Seascape Park just south of Aptos (refer to Figure 2-7 in Section 2.0, *Project Description*). The central reach is characterized by densely populated coastal urban areas. Segment 7, in the northern portion of the central reach, includes connections to several scenic areas, including: Wilder Ranch State Park, Younger Lagoon Reserve, Antonelli Pond Park, Natural Bridges State Beach, and the Cliff Drive coastal walk. The southern portion of the central reach parallels the coast, meandering atop the steep coastal bluffs and multiple residential and resort areas. Access to coastal areas and peaks of Monterey Bay are available from a variety of areas along the central reach. Views therefore include a mix of dense urban areas and coastal vistas. Typical views along the central reach are shown in Figure 4.1-2.

View of coastal bluffs and cliffs.

View of coast line from a coastal bluff trail, facing north; segment 1.

View of rail line right-of-way; segment 5.

View of coast line from Highway 1, facing south; segment 1.

Northern Reach Visual Resources

Figure 4.1-1a

Source: RRM, 2011.

View from a coastal bluff in Capitola, looking south toward Aptos; segment 11.

View of Capitola City Beach and pier from the MBSST Network corridor; beginning of segment 11.

View of rail line right-of-way at the Santa Cruz Beach Boardwalk, facing north; segment 8.

View of rail line right-of-way in Capitola looking toward the Capitola Rail Bridge; segment 11.

Source: RRM, 2011.

Central Reach Visual Resources

Figure 4.1-1b

Watsonville Reach. The Watsonville reach is approximately 13.43 miles long, beginning at railroad mile marker 10 near Seascape Village Park and ending at Railroad Avenue in Monterey County (refer to Figure 2-9 in Section 2.0, *Project Description*). This reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The landscape is primarily open space with some residential areas near Manresa, tapering off to rural farm and agricultural lands further to the south. As the trail alignment enters the City of Watsonville, the visual character transitions to a more urban environment. The visual character of the Watsonville reach is therefore distinguished by coastal vistas, expansive and intense agricultural areas, and open space in the northern portion of the reach; and urban land uses in the southern portion of the reach. Typical views along the Watsonville reach are shown in Figure 4.1-3.

b. Scenic Highways. There are no officially designated state scenic highways in Santa Cruz County. However, Highway 1 is listed as an eligible state scenic highway by the California Department of Transportation, as are Highways 9, 17, and 152. The proposed MBSST Network would parallel Highway 1 in the northern reach. Through the central reach the proposed alignment would deviate from Highway 1 until segment 11 near New Brighton State Beach, where the proposed alignment would come within 350 feet of Highway 1. Segment 12 crosses Highway 1 into Aptos Village and then crosses back over Highway 1 before heading southwest to the coastline. The proposed alignment does not encounter Highway 1 again until segment 18, where the proposed MBBST Network would cross under the highway as it enters the City of Watsonville.

The County of Santa Cruz and City of Watsonville both designate highways and roadways as locally scenic. The County of Santa Cruz designates the following roadways, which abut either the northern or Watsonville reaches, as scenic:

- *Highway 1*
- *Highway 129/Riverside Drive*
- *Bonny Doon Road (from Highway 1 to Pine Flat Road)*
- *Swanton Road (from Highway 1 at Davenport Landing to Highway 1 at Greyhound Rock)*
- *Beach Road – from Highway 1 to Palm Beach*
- *Bonita Drive and San Andreas Road – from Highway 1 to Beach Road*
- *Buena Vista Drive – from San Andreas Road to Larkin Valley Road*
- *Sand Dollar Drive*
- *Sunset Beach and Shell Road*

The City of Watsonville designates Highway 1 and Riverside Drive/Highway 129 (from Highway 1 to Salsipuedes Creek/San Benito County) as scenic highways. Neither the City of Santa Cruz nor the City of Capitola designates additional local roadways in the central reach as scenic.

View of agricultural land adjacent to the MBSST Network corridor; segment 17.

View of La Selva Beach parking lot from the MBSST Network corridor; beginning of segment 15.

View of Harkins Slough from the MBSST Network corridor; segment 17.

View of rail line right-of-way, adjacent open space, and agriculture.

Watsonville Reach Visual Resources

Figure 4.1-1c

Source: RRM, 2011.

c. Lighting. The extent of existing lighting varies along the length of the proposed MBSST Network corridor. Within the northern reach, existing adjacent lighting is minimal and limited to residences and businesses in and near Davenport. In the central reach, adjacent urban lighting, including from roadways and crossings, illuminates portions of the rail corridor. In the Watsonville reach, night lighting is limited to lighting associated with adjacent residential areas near Manresa State Beach and the City of Watsonville. The rail corridor itself does not currently contribute to night lighting or daytime glare in the project vicinity.

d. Landscaping. Currently there are existing segments of the MBSST Network corridor that follow highly urbanized areas with landscape treatments existing along street corridors, parks, adjacent open space, harbor edges, and beachfront areas. In less urbanized area, the MBSST Network corridor does not currently include landscaping.

e. Regulatory Setting.

Santa Cruz County.

Santa Cruz County General Plan. The Conservation and Open Space Element of the Santa Cruz County General Plan includes objectives and policies to protect visual resources. The objectives and policies applicable to this project are discussed below.

Policy 5.10.2 *Development Within Visual Resource Areas. Recognize that visual resources of Santa Cruz County possess diverse characteristics and that the resources worthy of protection may include, but are not limited to, ocean views, agricultural fields, wooded forests, open meadows, and mountain hillside views. Require projects to be evaluated against the context of their unique environment and regulate structure height, setbacks and design to protect these resources consistent with the objectives and policies of this section. Require discretionary review for all development within the visual resource area of Highway One, outside of the Urban/Rural boundary, as designated on the GP/LCP Visual Resources Map and apply the design criteria of Section 13.20.130 of the County's zoning ordinance to such development.*

Policy 5.10.3 *Protection of Public Vistas. Protect significant public vistas as described in policy 5.10.2 from all publicly used roads and vista points by minimizing disruption of landform and aesthetic character caused by grading operations, timber harvests, utility wires and poles, signs, inappropriate landscaping and structure design. Provide necessary landscaping to screen development which is unavoidably sited within these vistas.*

Policy 5.10.4 *Preserving Natural Buffers. Preserve the vegetation and landform of natural wooded hillsides which serve as a backdrop for new development. Also comply with policy 8.6.6 regarding protection of ridgetops and natural landforms.*

Policy 5.10.5 *Preserving Agricultural Vistas. Continue to preserve the aesthetic value of agricultural vistas. Encourage development to be consistent with the agricultural character of the community. Structures appurtenant to agricultural uses on agriculturally designated parcels shall be considered to be compatible with the agricultural character of surrounding areas.*

Policy 5.10.6 *Preserving Ocean Vistas. Where public ocean vistas exist, require that these vistas be retained to the maximum extent possible as a condition of approval for any new development.*

Policy 5.10.7 *Open Beaches and Blufftops. Prohibit the placement of new permanent structures which would be visible from a public beach, except when allowed on existing parcels of record, or for shoreline protection and for public beach access. Use the following criteria for allowed structures:*

(a) Allow infill structures (typically residences on existing lots of record) where compatible with the pattern of existing development.

(b) Require shoreline protection and access structures to use natural materials and finishes to blend with the character of the area and integrate with the landform.

Policy 5.10.8 *Significant Tree Removal Ordinance. Maintain the standards in the County's existing ordinance which regulates the removal of significant trees and other major vegetation in the Coastal Zone, and provide appropriate protection for significant trees and other major vegetation in areas of the County located within the Urban Services Line.*

Policy 5.10.11 *Development Visible from Rural Scenic Roads. In the viewsheds of rural scenic roads, require new discretionary development, including development envelopes in proposed land divisions, to be sited out of public view, obscured by natural landforms and/or existing vegetation. Where proposed structures on existing lots are unavoidably visible from scenic roads, identify those visual qualities worthy of protection (see policy 5.10.2) and require the siting, architectural design and landscaping to mitigate impacts on those visual qualities.*

Policy 5.10.12 *Development Visible from Urban Scenic Roads. In the viewsheds of urban scenic roads, require new discretionary development to improve the visual quality through siting, architectural design, landscaping and appropriate signage.*

Policy 5.10.13 *Landscaping Requirements. All grading and land disturbance projects visible from scenic roads shall conform to the following visual mitigation conditions:*

(a) Blend contours of the finished surface with the adjacent natural terrain and landscape to achieve a smooth transition and natural appearance; and

(b) Incorporate only characteristic or indigenous plant species appropriate for the area.

Policy 5.10.14 *Protecting Views in the North Coast and Bonny Doon. In order to preserve the agricultural and coastal grassland vistas of the North Coast and Bonny Doon Highway 1 view corridor, prohibit the division of all grassland habitat as mapped on the County's Resource Constraints Map.*

Policy 5.10.17 *Swanton Road Coastal Special Scenic Area. In the Swanton Road Scenic area (north of Last Chance Road toward Highway 1), require new development to be hidden from public view. Utilize parcel recombinations and other techniques as appropriate to accomplish this; and at a minimum, require dense landscape screening when it would be impossible to locate otherwise permissible development*

so as to place it out of public view. Vegetative screenings shall be consistent with patterns and type of existing vegetation and comprised of indigenous species.

Policy 5.10.18 *Signs Visible from Scenic Roads. Actively discourage the placement of signs which will be visible from scenic roads; where allowed, require compliance with the County Sign ordinance to minimize disruption of the natural scenic qualities of the viewshed. Give priority to sign abatement programs from scenic roads.*

Policy 5.10.19 *Highway One Signage in Rural Areas. In the rural Highway 1 corridor, allow only Caltrans standard directional, access, and business identification signs except for the commercial area at Davenport.*

Policy 5.10.20 *Highway One Signage in Urban Areas. In the urban Highway 1 corridor, allow signage where consistent with the Sign ordinance and any applicable village, town, community, or specific plan.*

Policy 5.10.22 *Requirement for Sign Plans. Require new project submittal applications to include standard road sign designs for directional, access, and business identification and designate appropriate locations for these signs consistent with the County Sign ordinance and Caltrans requirements.*

In addition, Policy 5.10.10 designates scenic roads and highways in the County, and requires that public vistas from these roads be afforded the highest level of protection. Refer to Section 4.1.1(b) (Scenic Highways) for a list of designated scenic roads and highways in the County.

Policy 5.10.16 additionally designates the Bonny Doon sandstone formations and the area enclosed by the Swanton Road and Highway 1 scenic roads as Coastal Special Scenic Areas. The area enclosed by Swanton Road and Highway 1 is easterly adjacent to the MBSST Network corridor in the northern reach.

Santa Cruz County Municipal Code. Chapter 13.20.130 (Design criteria for Coastal Zone developments) of the Santa Cruz County Municipal Code outlines design criteria for projects sited anywhere in the Coastal Zone. Criteria applicable to the MBSST Network include:

1) *Visual Compatibility. All new development shall be sited, designed and landscaped to be visually compatible and integrated with the character of surrounding neighborhoods or areas.*
2) *Minimum Site Disturbance. Grading, earth moving, and removal of major vegetation shall be minimized. Developers shall be encouraged to maintain all mature trees over six inches in diameter except where circumstances require their removal, such as obstruction of the building site, dead or diseased trees, or nuisance species. Special landscape features (rock outcroppings, prominent natural landforms, tree groupings) shall be retained.*
3) *Ridgeline Development. Structures located near ridges shall be sited and designed not to project above the ridgeline or tree canopy at the ridgeline. Land divisions which would create parcels whose only building site would be exposed on a ridgetop shall not be permitted.*
4) *Landscaping. When a landscaping plan is required, new or replacement vegetation shall be compatible with surrounding vegetation and shall be suitable to the climate, soil, and ecological characteristics of the area. The County's adopted landscape criteria shall be used as a guide.*

5) *Fences, walls, and hedges shall be sited and designed so that they do not block significant public views and so that they do not significantly adversely impact significant public views and scenic character.*

Section 13.20.130(C) further defines design criteria for projects located in designated rural scenic resource areas. Criteria relevant to the MBSST Network include:

1) *Location of Development. Development shall be located, if possible, on parts of the site not visible or least visible from the public view. Development shall not block views of the shoreline from scenic road turnouts, rest stops or vista points.*
2) *Site Planning. Development shall be sited and designed to fit the physical setting carefully so that its presence is subordinate to the natural character of the site, maintaining the natural features (streams, major drainage, mature trees, dominant vegetative communities). Screening and landscaping suitable to the site shall be used to soften the visual impact of development in the viewshed.*
3) *Signs. Signs shall minimize disruption of the scenic qualities of the viewshed.*
   a) *Materials, scale, location and orientation of signs shall harmonize with surrounding elements.*
   b) *Directly lighted, brightly colored, rotating, reflective, blinking, flashing or moving signs are prohibited.*
   c) *Illumination of signs shall be permitted only for State and County directional and informational signs, except in designated commercial and visitor serving zone districts.*
   d) *In the Highway 1 viewshed, except within the Davenport commercial area, only Caltrans standard signs and public parks, or parking lot identification signs, shall be permitted to be visible from the highway. These signs shall be of natural unobtrusive materials and colors.*

Section 13.20.130(D) defines design criteria for projects located on blufftops and visible from beaches, including:

1) *Blufftop Development. Blufftop development and landscaping (e.g., decks, patios, structures, trees, shrubs, etc.) in rural areas shall be set back from the bluff edge a sufficient distance to be out of sight from the shoreline, or if infeasible, not visually intrusive. In urban areas of the viewshed, site development shall conform to subsections (C)(2) and (3) of this section.*
2) *Beaches. The scenic integrity of open beaches shall be maintained:*
   a) *No new permanent structures on open beaches shall be allowed, except where permitted pursuant to Chapter 16.10 (Geologic Hazards) or 16.20 SCCC (Grading Regulations).*
   b) *The design of permitted structures shall minimize visual intrusion, and shall incorporate materials and finishes which harmonize with the character of the area. Natural materials are preferred.*

City of Santa Cruz Regulations.

City of Santa Cruz General Plan 2030. The Community Design chapter of the City of Santa Cruz General Plan includes several policies and actions aimed at preservation of natural features and provision of appropriate design. These policies and actions are listed below.

Policy CD1.1 *Preserve natural features that visually define areas within the city.*

Action CD1.1.2 *Protect the Monterey Bay National Marine Sanctuary and the shoreline and views to and along the ocean, recognizing their value as natural and recreational resources.*

Policy CD1.2 *Ensure that the scale, bulk, and setbacks of new development preserve important public scenic views and vistas.*

Policy CD1.3 *Ensure that development is designed to be in harmony with natural topography and vegetation.*

Policy CD1.4 *Ensure that development adjacent to open space lands maintains visual and physical connections to that open space.*

Policy CD1.5 *Ensure that new development adjacent to the San Lorenzo River relates to the river in its design.*

Action CD1.5.1 *Enhance the prominence of the San Lorenzo River as a natural feature that provides structure, orientation, and recreational enjoyment by including it in surrounding area and management plans.*

Action CD1.5.2 *Provide incentives for new development adjacent to the San Lorenzo River that includes patios overlooking the river, enhanced connections to the levee trails, and other design features that connect the built environment to the river*

Policy CD3.1 *Develop and maintain physical and visual linkages between key areas in the city.*

Action CD3.1.1 *Strengthen the linkage between Downtown, the Beach Area, and San Lorenzo River through amendments to corresponding Area Plans and the Zoning Ordinance.*

Policy CD3.4 *Encourage new development to incorporate "universal design" principles.*

Action CD4.1.4 *Protect and enhance historic street patterns, rail lines, walls, and pedestrian walkways to emphasize historic routes and help define districts and neighborhoods.*

Action CD4.1.5 *Maintain the visual prominence of important city landmarks and destinations as viewed from major circulation routes and public viewpoints when possible.*

Policy CD4.3 *Ensure attractive, functional, and appropriate landscaping throughout the city.*

Policy CD5.2 *Require new development to include elements that relate to the pedestrian scale.*

Action CD5.2.2 *Encourage the incorporation of public benches and natural seating areas along public walkways and in public plazas and parks.*

Policy CD5.3 *Encourage increased access to existing community facilities, such as schools, to serve as neighborhood parks and open space.*

Policy LU3.11 *Protect open spaces that provide scenic, recreational, educational, and environmental benefits.*

Action LU3.11.1 *Continue to recognize and protect the Pacific Ocean, Monterey Bay, and the Monterey Bay National Marine Sanctuary as natural resources and valuable open space.*

Policy PR1.11 *Improve the scenic and recreational value of the Riverfront.*

The Hazards, Safety, and Noise chapter of the City of Santa Cruz General Plan additionally includes the following goal, policy, and action related to light pollution.

Goal HZ5 *Minimal light pollution*

Policy HZ5.1 *Reduce light pollution.*

Action HZ5.1.3 *Consider appropriateness of lighting when reviewing proposed development or renovation of parks and recreation facilities.*

City of Capitola.

City of Capitola General Plan. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. The Open Space, Parks and Recreation chapter of the existing Capitola General Plan contains the following goals and policies related to visual resources.

Goal 1 *To preserve the existing significant natural features within the community including: the coastal bluffs, beach area, creekways, gulches, and major tree cover.*

Goal 5 *To conserve and enhance the waterfront area for public use and views.*

Policy 1 *The following significant natural features are of ecological, visual and safe well being to the community and should be included in the Open Space system in essentially their natural state:*

- *The waterfront area except for modifications needed for cliff stabilization, beach maintenance, and wharf improvements,*
- *The coastal bluffs with modifications needed for stabilization and public safety.*

Policy 15 *No new permanent structures shall be permitted on the open, sandy beach area of Capitola because of their potential impact on visual resources, hazards and public recreation, except for facilities required for public health and safety (lifeguard stands, approved beach erosion control structures).*

Policy 16 *Permitted development shall not block or detract from the public view to and along Capitola's shoreline.*

Capitola Municipal Code. Chapter 17.29 of the Capitola Municipal Code outlines requirements for the Parks and Open Space zoning district. The purpose of this zone is to designate areas which:

A. *Are to be set aside or have been previously set aside as permanent scenic easements, forest preserves, riparian corridors, public waterfront or beach areas, public parks, or similar public open space; or*
B. *Are to be set aside by the owners as buffer areas separating district from recreational, open space/scenic or natural resource areas; or*
C. *Should be retained in their existing and undeveloped open character because of excessive danger from flood, fire and erosion.*

Pursuant to Section 17.29.060, the development standards for parks and open space districts are:

A. *Architectural and site review committee approval is required for all buildings and structures which are accessory to permitted uses of the land;*
B. *Any structure or use or removal of any vegetation or natural materials that, in the opinion of the planning commission, would defeat the purpose of this district is prohibited;*
C. *Development in this district shall be subordinate to its recreational, scenic, or natural resource purpose consistent with all applicable local coastal program policies. Natural resource protection shall include protection of arroyos, creeks and riparian corridors, woodlands and other environmentally sensitive habitats; and*
D. *No new permanent structures shall be permitted on the open, sandy beach area of Capitola except for facilities required for public health and safety (i.e., lifeguard stands, approved beach erosion control structures). (Ord. 677 § 16 (part), 1989)*

City of Watsonville.

City of Watsonville General Plan. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, identifies nine scenic roadways in the City, including two in the vicinity of the MBSST Network: Riverside Drive/Highway 129 (from Highway 1 to Salsipuedes Creek) and Highway 1. The goals, policies, and implementation measures applicable to this project are discussed below.

Goal 5.1 *Visual Resources. Preserve and enhance the built and natural visual resources within Watsonville.*

Goal 5.2 *Community Appearance. Blend new development with recognized values of community appearance and scenic qualities, and ensure that new development enhances, rather than detracts from, its surroundings.*

Goal 5.5 *Viewscape. Preserve scenic rural qualities surrounding the urbanized portions of the Planning Area.*

Goal 5.9 *Scenic Corridors. Protect and enhance the views of and from the scenic streets and highways in Watsonville and the Planning Area.*

Goal 5.10	*Natural Scenic Resources. Conserve and enhance natural resources that contribute to the visual, recreational, and educational aesthetics of Watsonville. Such resources include: wetlands, sloughs, rivers, lakes, hillsides and stands of vegetation.*
Impl. 5.A.5	*Scenic Resources. The City shall, through its design review process, consider the impact of the development on both the visual quality of the built environment and the scenic quality of natural features including sloughs, wetland, rivers, lakes, hillsides and stands of vegetation.*
Policy 5.C	*Sign Control. The design review process shall be used to ensure that signs (materials, size, color, lettering and location) are aesthetically pleasing and compatible with surroundings.*
Policy 5.J	*Scenic Natural Resources. The City shall conserve and enhance natural resources that contribute to the visual, recreational, and educational aesthetics of Watsonville. Such resources include: wetlands, sloughs, rivers, lakes, hillsides, and stands of vegetation.*
Goal 9.2	*Open Space Preservation. Preserve the open space and agricultural land uses surrounding the urban limit line which contribute to the economic base, provide scenic vistas, and offer opportunities for scientific exploration.*

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.1.2 Impact Analysis

a. Methodology and Significance Threshold. A significant effect on the environment is generally defined as a substantial or potentially substantial adverse change in the physical environment (*CEQA Guidelines* Section 15358). "Environment" in this instance is meant to include objects of aesthetic significance (both natural and man-made). The assessment of aesthetic impacts involves qualitative analysis that is inherently subjective in nature. Different viewers react to viewsheds and aesthetic conditions differently. This analysis focuses on adopted aesthetic policies and the questions in the recommended *State CEQA Guidelines* checklist concerning Aesthetics in order to make determinations.

Evaluation Criteria. A significant impact would occur if the proposed MBSST Network project would result in any of the following conditions:

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

2) *Have a substantial adverse effect on a scenic vista;*
3) *Substantially degrade the existing visual character or quality of the site and its surroundings; and/or*
4) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*

b. Project Impacts and Mitigation Measures.

Impact AES-1 There are no officially designated state scenic highways in Santa Cruz County. Therefore, the proposed MBSST Network project would not substantially damage scenic resources within a state scenic highway. Impacts would be Class III, *less than significant.*

There are no officially designated state scenic highways in Santa Cruz County. Four highways are listed as "eligible" by the California Department of transportation: Highway 1, Highway 9, Highway 17, and Highway 152. The proposed MBSST Network corridor would be visible from portions of Highway 1, particularly in the northern reach. However, because this highway is not an officially designated scenic highway, impacts to scenic resources within a state scenic highway would be less than significant.

It should be noted, however, that several highways and roadways in the vicinity of the MBSST Network are designated as scenic by the County of Santa Cruz and the City of Watsonville, including Highway 1. Impacts related to scenic vistas from these locally-designated scenic roads are addressed under Impact AES-2, below.

Mitigation Measures**.** No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-2 Portions of the proposed MBSST Network would be visible from locally-designated scenic roadways as well as from public viewing areas with access to scenic vistas. However, the project would not result in a substantial adverse effect on scenic vistas. Impacts are therefore Class III, *less than significant.*

The proposed project is a multi-use recreation trail that would generally follow the Santa Cruz Branch Rail line right-of-way through Santa Cruz County. Views would vary along the nearly 50-mile corridor, including coastal and agricultural vistas in the northern reach, urban and coastal views in the central reach, and agricultural vistas in the Watsonville reach. Potential impacts to these views, including from locally-designated scenic roadways, are described below.

Northern Reach. The proposed MBSST Network would parallel Highway 1 in the northern reach, which is designated as a scenic highway by the County of Santa Cruz. Two other roadways in the northern reach are designated as scenic by the County of Santa Cruz: Bonny Doon Road (from Highway 1 to Pine Flat Road) and Swanton Road (from Highway 1 at

Davenport Landing to Highway 1 at Greyhound Rock). Portions of segment 5 would be visible from Bonny Doon Road where it intersects with Highway 1 and portions of segment 2 would be visible from Swanton Road where it intersects with Highway 1 near Greyhound Rock. The Swanton Road intersection with Highway 1 at Davenport Landing is the transition point from segment 3 to segment 4. Existing views along the northern reach include steep coastal bluffs and coastal mesas, rural agriculture, and the Pacific Ocean. Vistas along this route are considered highly scenic.

Structural improvements along the northern portion of the northern reach (segments 1 and 2) would be limited, as the trail would consist of a Class III on-street/road shoulder bike route, much of which is currently in place. Improvements would therefore be limited to routine road edge clearing, signs, and shoulder pavement striping. The County of Santa Cruz General Plan Policy 5.10.18 discourages the placement of signs which would be visible from scenic roads, but allows limited signage that complies with the County Sign Ordinance and Caltrans standards. Signs along the MBSST Network corridor would be designed to meet all of the required and recommended signing and marking standards developed by Caltrans in Chapter 1000 of the Highway Design Manual and the Manual on Uniform Traffic Control Devices (MUTCD). Limited signage along segments 1 and 2 would be consistent with the County Sign Ordinance and would not be expected to substantially degrade scenic vistas of the Pacific Ocean, as viewed from Highway 1.

Beginning in segment 3, the proposed MBSST Network would include a new multi-use paved path adjacent to Highway 1. This path would be an approximately twelve foot wide paved surface with center lane striping in some areas. Structural improvements may include: various types of trail fencing; trail furnishings such as benches and seating areas, trash receptacles, bike racks, and picnic and shade shelters; landscaping; night lighting (in some areas); and signage. In addition, parking lot improvements to an existing dirt lot near the Davenport Overlook would be implemented along sub-segment 5.1. Some of these improvements may be visible from Highway 1 and other County-designated scenic roadways. However, much of the trail would be screened from view by existing topography and vegetation, particularly in the southern portion of the northern reach (sub-segment 5.3), where the existing railroad right-of-way deviates from Highway 1. Landscaping would be used as needed to screen the trail from view, in accordance with Santa Cruz County General Plan Policy 5.10.3. The intermittent visibility of the proposed trail and associated structural improvements would not constitute a substantial adverse effect to a scenic vista, as existing views of coastal mesas/bluffs, agriculture, and the Pacific Ocean would not be obstructed.

The northern reach also includes 4.61 miles of coastal bluff trails. These trails would be five to six feet wide, unpaved, and blended into the site character and slope. These unpaved trails would not include structural improvements that could block views from Highway 1 or other public areas. These paths would improve public access to scenic viewing areas and may therefore be considered an improvement rather than a detriment to scenic vistas.

Central Reach. The central reach traverses portions of the unincorporated Santa Cruz County, the City of Santa Cruz, and the City of Capitola. The County of Santa Cruz designates Highway 1 as a scenic highway for the entire length of the county. Neither the City of Santa Cruz nor the City of Capitola designates additional local roadways as scenic. Views from

Highway 1 along the central reach include urban development (particularly through the City of Santa Cruz), transitioning to rolling hills and vegetation as the highway travels south.

Within the central reach of the proposed MBSST Network, the trail alignment would primarily diverge from Highway 1 until segment 11, where the proposed alignment would come within 350 feet of the highway near New Brighton State Beach. The trail would likely not be visible from Highway 1 in this location due to dense intervening vegetation. In segment 12, the trail would cross over to the east side of Highway 1 into Aptos Village and back over Highway 1 before heading southwest to the coastline. The crossing over Highway 1 into Aptos Village from the north is anticipated to consist of retrofitting the existing bridge to allow for pedestrian and bicycle passage. The second crossing (leaving Aptos Village to continue south) would include a new pre-engineered pedestrian and bicycle bridge adjacent to the existing rail bridge. Although new facilities would be added in these locations, they would be attached or adjacent to existing rail bridges. Therefore, the new facilities would not be expected to block views from Highway 1 to a greater extent than existing conditions.

In addition to Highway 1, numerous other scenic vistas are available from public viewing locations along the central reach. These include, but are not limited to: Wilder Ranch State Park, Younger Lagoon Reserve, Antonelli Pond Park, Natural Bridges State Beach, Neary Lagoon Park; and the Cliff Drive coastal walk in the northern portion of the central reach (segments 6 and 7); the Santa Cruz Beach Boardwalk in segment 8; Capitola City Beach and New Brighton State Beach in segment 11; and steep coastal bluffs in segments 13 and 14. Structural improvements along the central reach would include: various types of trail fencing; trail furnishings such as benches and seating areas, trash receptacles, bike racks, and picnic and shade shelters; rest areas containing trail furnishings, kiosks with traveler information, and interpretive signage; new pre-engineered and/or retrofitted bridges; roadway and railway crossings, which may include signals, striping, signs, and/or traffic calming devices; landscaping; night lighting (in some areas); and signage.

Although the proposed MBSST Network project would include the construction of a multi-use trail and associated facilities in areas where highly scenic vistas are available, these facilities would not be expected to substantially degrade these vistas. Signs would comply with Caltrans standards and the City of Santa Cruz Sign Ordinance. In addition, the MBSST Network would not include the construction of new buildings or other large facilities that would have the potential to obstruct or substantially degrade existing scenic vistas. In fact, the trail network would improve public access to scenic viewing areas, and would provide comfort features such as benches and shade structures in these locations, which may be considered an improvement rather than a detriment to scenic vistas.

Watsonville Reach. Scenic views along the Watsonville reach primarily include expansive rural agricultural vistas. Coastal vistas are also prevalent in the northern portion of the Watsonville reach, near Manresa State Beach.

Both the County of Santa Cruz and the City of Watsonville designate Highway 1 and Riverside Drive/Highway 129 (from Highway 1 to Salsipuedes Creek/San Benito County) as scenic highways. The Watsonville reach would cross under Highway 1 in segment 18, but would otherwise not be visible from this highway. Trail improvements along segment 18 would

include a 12-foot wide paved path and adjacent six-foot wide unpaved (decomposed granite) path, fencing, landscaping, and signs. As these improvements would be at a lower elevation than Highway 1, no scenic views would be obstructed.

The MBSST Network would only be visible from Riverside Drive/Highway 129 as it intersects with this roadway at Walker Street in segment 19. Improvements along segment 19 would be limited to the addition of a Class II bike lane along Walker Street and new sidewalks on the inland side of Walker Street beginning at Riverside Drive/Highway 129. Views in this area are industrial in nature, and these improvements would not degrade an existing scenic vista.

The County of Santa Cruz additionally designates the following roadways in the vicinity of the Watsonville reach as scenic:

- *Beach Road – from Highway 1 to Palm Beach*
- *Bonita Drive and San Andreas Road – from Highway 1 to Beach Road*
- *Buena Vista Drive – from San Andreas Road to Larkin Valley Road*
- *Sand Dollar Drive*
- *Sunset Beach and Shell Road*

Beach Road and Bonita Drive are located near segment 15 in the vicinity of Manresa State Beach; Buena Vista Drive is located near the transition between segment 16 and segment 17; Sand Dollar Drive is located near segment 17; and Sunset Beach and Shell Road are located in the southern coastal segment of the Watsonville reach (refer to Figures 2-10d and 2-10e in Section 2.0, *Project Description*).

No improvements would be constructed in the southern coastal section of the MBSST Network, with the exception of the proposed on-street improvements (Class II, Class III and sidewalks) to Beach Street (refer to Figures 2-10c and 2-10d in Section 2.0, *Project Description*). For most of this area, the trail would consist of an existing shoreline beach route (low tide access). Because of the limited extent of improvements, the project would not degrade scenic vistas near Sunset Beach and Shell Road. Portions of segments 15 through 17 would be visible from the remaining designated roadways, and would include 7.55 miles of a multi-use paved path. Structural improvements in this area would include: various types of trail fencing; trail furnishings; at-grade road crossings; rail bridge/culvert crossings; new pre-engineered rail bridge crossings; landscaping; night lighting (in some areas); and signage. Although located in the vicinity of locally-designated scenic roadways, these facilities would be relatively minor and would not be expected to substantially degrade or obstruct scenic vistas.

Mitigating Design Features. The proposed MBSST Network Master Plan contains design guidelines that would limit potential adverse effects to scenic vistas. Specifically, the Master Plan outlines the types of trail fencing to be used in various environments along the trail network, and recommends that fencing along the trail corridor be used conservatively to maintain the open feel and views of the coastal environment. With the exception of privacy fencing – which would be used to provide trespass prevention, security, and privacy for adjacent landowners in urban areas – and provision of fencing where agricultural food safety and security concerns exist, trail fencing would be designed to allow open visibility of the surrounding landscape, thus maintaining access to scenic vistas.

A uniform sign design and logo theme would be provided along the trail. Elements such as bollards to prevent unauthorized trail access, mile post markers to identify specific locations along the trail, directional signs to various places of interest and user services, informational and traffic control signs and a trail logo would all provide necessary information and help to unify the design. Signs along the trail would be designed to meet all of the required and recommended signing and marking standards developed by Caltrans in Chapter 1000 of the Highway Design Manual. In addition, all signs and markings would conform to the standards developed in the Manual on Uniform Traffic Control Devices (MUTCD). However, signs would be a smaller scale than highway signs, and thus would be unlikely to block scenic vistas.

The trail and other related facilities – including trail furnishings and signage – would be relatively unobtrusive and would not be expected to alter or obstruct views from locally-designated scenic roadways or other public viewing areas. In fact, in many locations the proposed trail network would improve public access to scenic viewing areas, which may be considered an improvement rather than a detriment to scenic vistas. Overall, the proposed facilities would not create a substantial adverse effect on a scenic vista, and impacts would be considered less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-3 The proposed MBSST Network would introduce physical improvements in the form of a multi-purpose trail, fencing, landscaping, signage, and other facilities in highly scenic areas throughout Santa Cruz County. These features would not substantially degrade the existing character or quality of the MBSST Network corridor. Impacts would be Class III, *less than significant*.

Northern Reach. The visual character of the northern reach is rural and highly scenic, with expansive coastal bluff, Pacific Ocean, and agricultural vistas. The Santa Cruz County General Plan additionally designates Highway 1 and areas outside of the Urban/Rural boundary as a visual resource area. The proposed MBSST Network project would construct limited pedestrian and bicycle improvements to the northernmost portion of the northern reach (segments 1 and 2) and would introduce a new multi-purpose trail along the existing railroad right-of-way for the remainder of the northern reach. Unpaved coastal bluff trails would also be constructed in some segments. Various improvements would be installed along the northern reach, including fencing, trail furnishings, landscaping and signage, as described under Impact AES-2. The most visible improvements would be continuous fencing and shade shelters, since these features would be relatively tall. Fencing height and type along the trail would vary depending on the location and agreements between adjacent land owners and the RTC and whether it is required to address rail security concerns. Where excess right-of-way permits, a landscaped buffer would be provided instead of fencing in order to maintain the open feel and views of the coastal environment. Fencing types for the northern reach would likely be smooth wire fencing or concrete split rail fencing, if not landscape buffers. Smooth wire fencing would be 54 inches high

and split-rail fencing would be 48 inches tall. Shade shelters would only be placed along the trail corridor where existing park facilities are farther than ¼ mile in distance.

Vegetation removal along the corridor would be minimal, as the project would be located within an existing railroad right-of-way. Segments of the proposed trail would be landscaped, which would help to blend the paved pathway into the surrounding vegetation. The landscaping treatment along the proposed MBSST Network would vary with the setting as the trail traverses from one region to another. In areas where the trail is located in and/or adjacent to native landscape settings or rural and agricultural lands (as is the case in the northern reach), every effort would be taken to maintain native and indigenous plant species in the planting and restoration efforts.

Overall, the proposed trail, landscaping, and relatively minor structural improvements along the northern reach would be visually compatible with the coastal bluff and agricultural character of the project vicinity. Therefore, the proposed MBSST Network project would not substantially degrade the existing character or quality of the northern reach.

Central Reach. The visual character of the central reach is primarily urban, with intermittent coastal views. As described under Impact AES-2, improvements through the central reach would include fencing, trail furnishings, landscaping, signage, new pre-engineered and/or retrofitted bridges, and roadway and railway crossings.

As with the northern reach, the most visible improvements, due to their height, would be trail fencing and the occasional shade shelter. Fencing types for the central reach would vary depending on the location and agreements between adjacent land owners and the RTC. In urban and industrial areas, this may include 72 inch tall wire security fencing, 54 inch tall smooth wire fencing, 48 inch tall concrete split-rail fencing, or 72 inch tall privacy fencing. In highly scenic areas, fencing would be used conservatively to maintain the open feel. Security fencing would only be used to provide trespass prevention, security (including rail security concerns), and privacy for adjacent landowners in urban areas. In such areas, this fencing type would be consistent with the urban environment. Shade shelters would only be placed along the trail corridor where existing park facilities are farther than ¼ mile in distance. These and other improvements along the trail corridor would generally appear compatible with the urban landscape within the central reach.

Given that the project would be located within an existing railroad right-of-way, vegetation removal along the corridor would be minimal. In highly urbanized areas of the central reach, landscape treatments exist along some street corridors, parks, open space, harbor edges, and beachfront areas adjacent to the trail. The landscaping for new segments of the MBSST will vary with the setting and with the agency responsible for the design, implementation, and long-term maintenance, but would include a variety of both native and non-native drought tolerant plant palettes. Given the flexibility of plant palettes within the central reach, it is anticipated that landscaping would serve to blend the proposed trail network into the surrounding urban environment.

Overall, the proposed trail, landscaping, and relatively minor structural improvements along the central reach would be visually compatible with both the urban and coastal character of the

project vicinity. Therefore, the proposed MBSST Network project would not substantially degrade the existing character or quality of the central reach.

Watsonville Reach. The visual character of the Watsonville reach ranges from urban and industrial (in portions of the City of Watsonville) to rural agricultural. Coastal vistas are available in the in the northern portion of the Watsonville reach, near Manresa State Beach. However, the primary visual character of the Watsonville reach is rural agricultural.

As with the northern and central reaches, the most visible improvements, due to their height, would be trail fencing and the occasional shade shelter. Fencing types for the Watsonville reach would vary depending on the location and agreements between adjacent land owners and the RTC and whether it is required to address rail security concerns. In agricultural areas, this would likely include 54 inch tall smooth wire fencing or 48 inch tall concrete split-rail fencing. This type of fencing would allow for an open feel and would not block views of adjacent agricultural lands. Shade shelters would only be placed along the trail corridor where existing park facilities are farther than ¼ mile in distance. These and other improvements along the trail corridor would generally appear compatible with the rural agricultural landscape within the Watsonville reach.

Given that the project would be located within an existing railroad right-of-way, vegetation removal along the corridor would be minimal. Segments of the proposed trail would be landscaped, which would help to blend the paved pathway into the surrounding vegetation. The landscaping treatment along the proposed MBSST Network would vary with the setting as the trail traverses from one region to another. In areas where the trail is located in and/or adjacent to rural and agricultural lands (as is the case in the Watsonville reach), every effort would be taken to maintain native and indigenous plant species in the planting and restoration efforts.

Overall, the proposed trail, landscaping, and relatively minor structural improvements along the Watsonville reach would be visually compatible with the primarily rural agricultural nature of the project vicinity. Therefore, the proposed MBSST Network project would not substantially degrade the existing character or quality of the Watsonville reach.

Mitigating Design Features. The proposed Master Plan includes design standards to ensure that visual character and quality are maintained throughout the length of the proposed trail alignment. All trail furnishings would reflect an ocean theme through the use of wood, stone, self-weathering (rusted) steel and other rustic materials. Specific design guidelines for trail furnishings are provided in the proposed Master Plan for benches and seating areas, trash receptacles, bike racks, picnic and shade shelters, bollards, and trail fencing. Compliance with these design standards would not only facilitate a unified theme, but help ensure visual quality of the trail corridor itself.

The landscaping treatment along the proposed MBSST Network would also serve to enhance the visual character of the proposed MBSST Network, and would vary with the setting as appropriate. Landscape treatment in intense urbanized areas would include both native and non-native drought tolerant plant palettes. Areas where the trail is located in and/or adjacent to native landscape settings, or rural and agricultural lands, would include native and indigenous

plant species. Plant palettes would be determined as part of the design phase for each segment in coordination with the implementing entity.

A uniform sign design and logo theme would be provided along the trail. Elements such as bollards to prevent unauthorized trail access, mile post markers to identify specific locations along the trail, directional signs to various places of interest and user services, informational and traffic control signs and a trail logo would all provide necessary information and help to unify the design.

Finally, the proposed MBSST establishes a Trail ~~Manager~~ Ranger who would be responsible for the day-to-day maintenance of the trail facility components. The Trail ~~Manager~~ Ranger would be responsible for landscape maintenance, trash clean up and disposal, graffiti removal, and repairs to trail components. The RTC board would work to identify the agency most appropriate to house a Trail Management Program and how to fund a Trail Manager, Trail Ranger, and/or an Adopt-A-Trail Coordinator position. The Trail Manager would ensure that each element described in the operations and maintenance plan is completed. The establishment of a formal trail operations and maintenance plan would help ensure adequate maintenance of the trail corridor and facilities, thereby avoiding unsightly aesthetic conditions.

Mitigation Measures. The proposed trail, landscaping, and relatively minor structural improvements would be visually compatible with the surrounding environment, while trail design guidelines and an established maintenance program would ensure that the trail maintains a high visual quality. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AES-4 The proposed MBSST Network project would introduce new sources of lighting along some segments of the trail. Lighting guidelines in the proposed Master Plan would ensure that impacts related to night lighting would be Class III, *less than significant*.

Northern Reach. Within the northern reach, existing lighting is minimal and limited to residences and businesses in and near Davenport. The proposed MBSST Network project may include lighting fixtures in certain locations, primarily where there is considerable evening pedestrian and bicycle commuter traffic. Given the rural nature of the northern reach, installation of lighting for evening bicycle commuters is not expected. However, because each segment would be implemented separately and because design features such as lighting would be at the discretion of implementing agencies, it is assumed as a worst case scenario that lighting would be included along the entire northern reach. If lighting is not designed in such a way to reduce upward directed light, nighttime lighting associated with the trail would potentially affect nighttime views in the vicinity, and could obscure views of the night sky.

Central Reach. In the central reach, adjacent urban lighting, including from roadways and crossings, illuminates portions of the rail corridor. The proposed MBSST Network project may include lighting fixtures in certain locations, primarily to be provided where there is considerable evening pedestrian and bicycle commuter traffic. Given the urbanized nature of the central reach, it is anticipated that evening commuter traffic would compel the installation

of trail lighting along all segments of the central reach. In addition, the central reach would include numerous roadway or rail crossings, some of which would include new lighted traffic or pedestrian activated warning systems. If lighting is not designed in such a way to reduce upward directed light, nighttime lighting associated with the trail would potentially affect nighttime views in the vicinity, and could obscure views of the night sky.

Watsonville Reach. In the Watsonville reach, existing night lighting is limited to lighting associated with residential areas near Manresa State Beach and within the City of Watsonville. The proposed MBSST Network project may include lighting fixtures in certain locations, primarily where there is considerable evening pedestrian and bicycle commuter traffic. Evening pedestrian and bicycle commuter traffic would be more likely within the City of Watsonville than within the rural agricultural areas of the Watsonville reach. However, as a worst case scenario this analysis assumes that lighting could be included along every segment of the Watsonville reach. If lighting is not designed in such a way to reduce upward directed light, nighttime lighting associated with the trail would potentially affect nighttime views in the vicinity, and could obscure views of the night sky.

Mitigating Design Features. The MBSST Network Master Plan requires the use of dark sky compliant lighting, which projects light downward without releasing lighting upwards into the atmosphere or outward past the intended projected path, to illuminate the trail. Such lighting would reduce the potential for nighttime lighting to obscure views of the night sky or otherwise affect nighttime views in the trail vicinity. In addition, although it is conservatively assumed that lighting would be provided along every segment of the proposed trail, lighting would more likely be concentrated in dense urban areas, where considerable nighttime pedestrian and bicycle commuter traffic would be expected. Substantial nighttime lighting already exists in these urban areas, thus minimizing the perceptibility of the additional trail lighting.

Mitigation Measures. No mitigation is required beyond the Master Plan requirement that all lighting be dark sky compliant.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Additional development resulting from buildout of Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville would allow currently undeveloped areas adjacent to the corridor to be developed. This adjacent, cumulative development may include the conversion of some open space areas along the corridor. If this occurs, the visual quality along the trail corridor would be altered by an increasingly urbanized condition. This could have a potentially significant impact on trail users. However, if the currently proposed design features for the MBSST Network project are implemented, the proposed trail and associated amenities would not have a substantial negative effect on the aesthetic character and scenic value of the corridor. Consequently, the proposed MBSST Network project's contribution to cumulative adverse aesthetic impacts would be less than significant.

4.2 AGRICULTURAL RESOURCES

4.2.1 Setting

a. Overview of Agriculture in Santa Cruz County. Santa Cruz County's gross agricultural production in 2011 totaled $565.7 million (Santa Cruz County Crop Report, 2011). The top ten revenue crops that were produced in the County in 2011 included strawberries, raspberries, indoor cut flowers, field grown flowers, miscellaneous vegetables, blackberries, other plants (including farm stock and Christmas trees), landscape plants, apples, and brussel sprouts (Santa Cruz County Crop Report, 2011). The most common crop types (by acreage) in Santa Cruz County include strawberries, raspberries, apples, and lettuce. According to the California Department of Conservation (DOC), 38,845 acres of land in Santa Cruz County were classified as "agricultural land" in 2010. Of this land, 13,817 acres were classified as "Prime Farmland" and 2,449 acres were classified as "Farmland of Statewide Importance."

Santa Cruz County has a large concentration of organic farms. There are more than 90 organic growers in Santa Cruz County with over 3,500 acres in organic crops. These crops represent approximately 18 percent of total agricultural land and have an estimated value of over $27,000,000 (Santa Cruz County Crop Report, 2011).

b. Agriculture along the MBSST Network. The MBSST Network corridor abuts agricultural uses primarily in the northern and Watsonville reaches. In the northern reach, agriculture is concentrated along segments 3 through 5; in the Watsonville reach, agriculture is concentrated near segments 16 and 17. In total, approximately 22 miles[1] of the MBSST Network would be located near active agricultural areas, with a wide variety of crops are grown along the corridor.

Important Farmlands. The DOC identifies and designates important farmlands throughout the State as part of its Farmland Mapping and Monitoring Program (FMMP). The FMMP rating system classifies farmland according to the following criteria:

- ***Prime Farmland.*** *Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. These are Class I and Class II soils.*
- ***Farmland of Statewide Importance.*** *Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.*
- ***Unique Farmland****. Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climactic zones in California.*
- ***Urban and Built-Up Land****. Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction,*

[1] *Including segments 3, 4, 5, 16, and 17.*

institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- ***Other Land****. Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas, not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.*

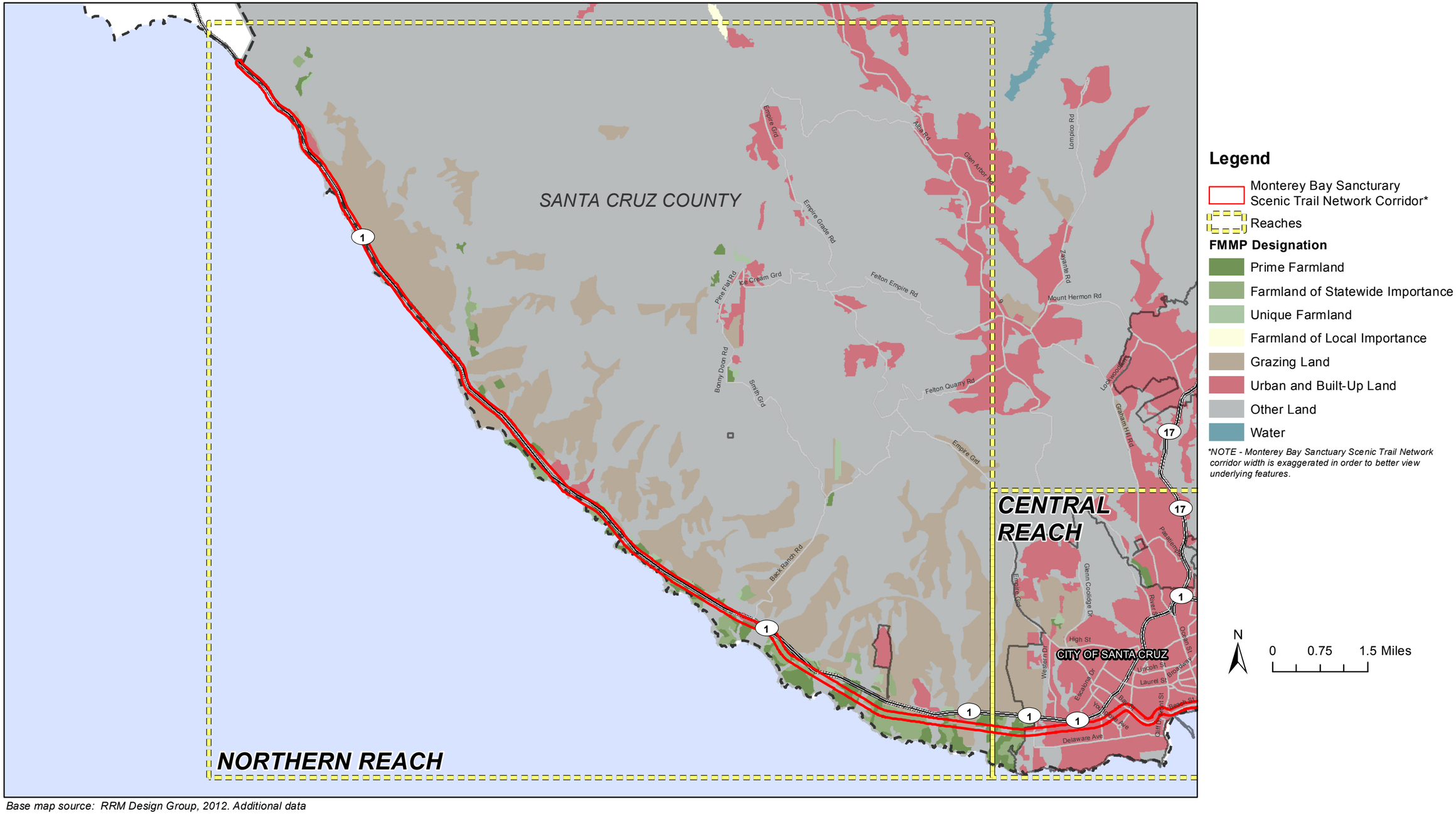
Figures 4.2-1a through 4.2-1c depict FMMP classifications within the northern, central, and Watsonville reaches, respectively. In total, approximately 40.1 acres of Prime Farmland, 23.2 acres of Farmland of Statewide Importance, and 9.1 acres of Unique Farmland occur within the MBSST Network right-of-way. The majority of Prime Farmland is located in the Watsonville reach (27.1 acres); the remaining 13.0 acres are located in the northern reach. All 23.2 acres of Farmland of Statewide Importance are located in the northern reach. The majority of Unique Farmland is located in the northern reach (7.3 acres); the remaining 1.8 acres are located in the Watsonville reach. The central reach entirely comprises Urban and Build-Up Land.

c. Regulatory Framework.

State of California.

Farmland Mapping and Monitoring Program. The DOC's FMMP monitors the conversion of the State's farmland to and from agricultural use. County-level data is collected and a series of maps are prepared that identify eight classifications and uses based on a minimum mapping unit size of 10 acres. The program also produces a biennial report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates the Important Farmland Series Maps every two years. The FMMP is an informational service only and does not constitute state regulation of local land use decisions. Agricultural land is rated according to several variables, including soil quality and irrigation status with Prime Farmland being considered the most optimal for farming practices. Other FMMP designations include Farmland of Local Importance, Grazing Land, and Water. For further detail see Section 4.2.1(b) (Agriculture along the MBSST Network).

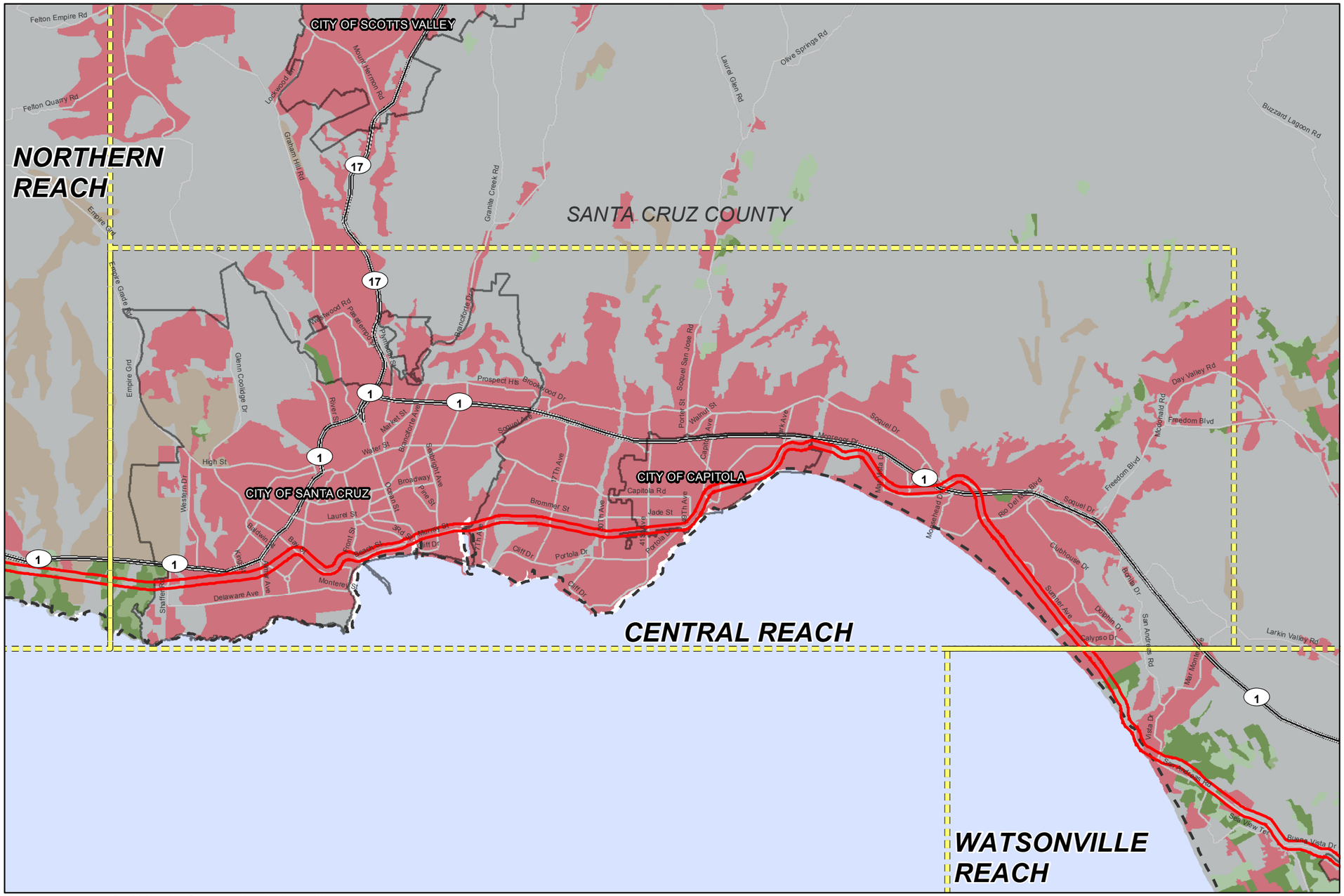
California Land Conservation Act of 1965 (Williamson Act). The California Land Conservation Act of 1965—commonly referred to as the Williamson Act—enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the State via the Open Space Subvention Act of 1971. Participation in this program is voluntary, requiring 100 contiguous acres of agricultural land under one or more ownerships to file an application for agricultural preserve status. After an agricultural preserve has been established, the land within the preserve is automatically restricted to agricultural and agriculturally compatible uses and the landowners may enter into a Williamson Act land use contract. The land may also be subject to agricultural rezoning.



Base map source: RRM Design Group, 2012. Additional data provided by the California Department of Conservation, 2010 and the County of Santa Cruz 2012.

Farmland Mapping and Monitoring Program Map: Northern Reach

Figure 4.2-1a



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches

FMMP Designation

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Urban and Built-Up Land
- Other Land

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

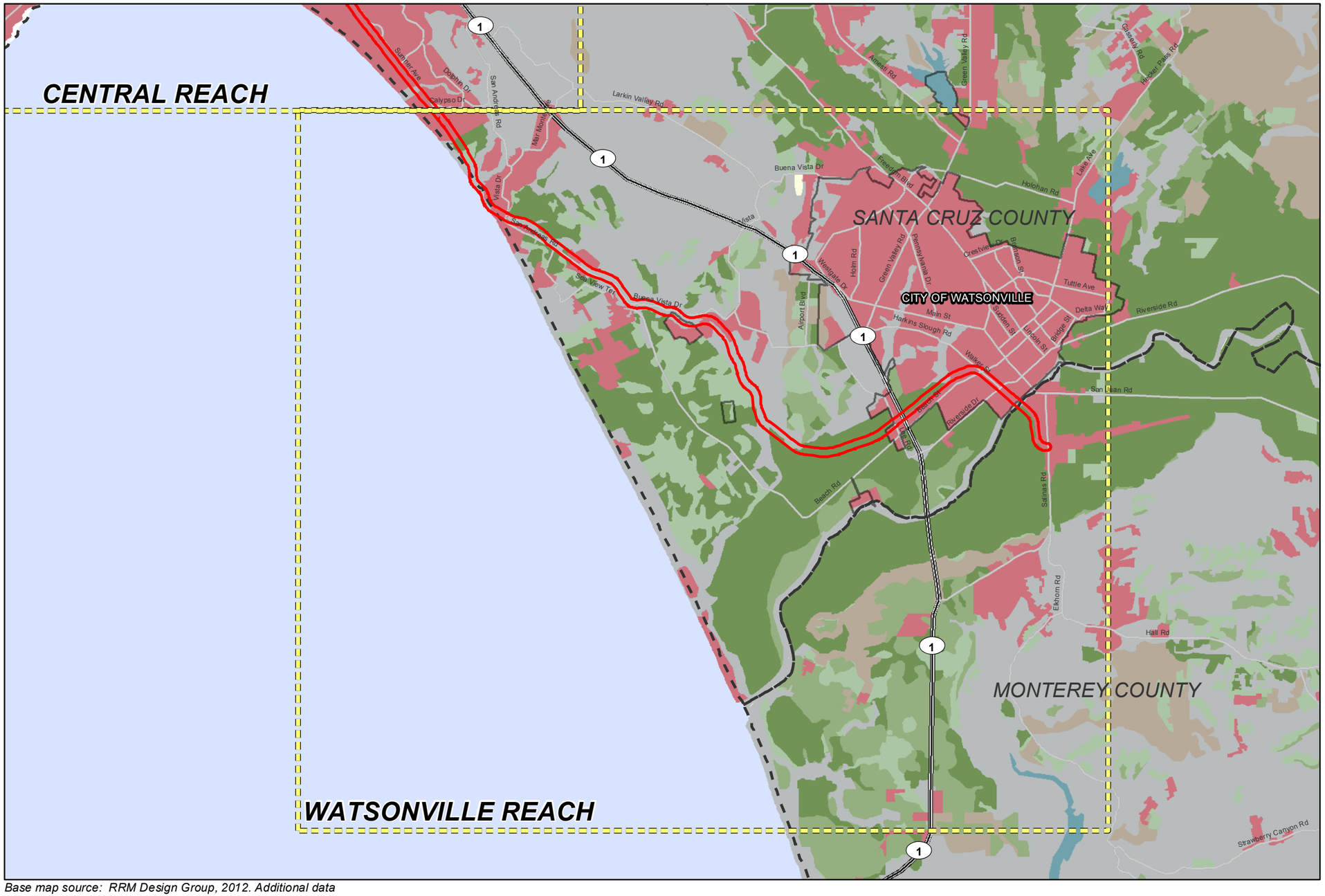
N

0 0.6 1.2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the California Department of Conservation, 2010 and the County of Santa Cruz 2012.

Farmland Mapping and Monitoring Program Map: Central Reach

Figure 4.2-1b



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches

FMMP Designation

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Urban and Built-Up Land
- Other Land
- Water

**NOTE - Monterey Bay Sanctuary Scenic Trial Network corridor width is exaggerated in order to better view underlying features.*

N

0 0.6 1.2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the California Department of Conservation, 2010 and the County of Santa Cruz.

Farmland Mapping and Monitoring Program Map: Watsonville Reach

Figure 4.2-1c

After a contract has expired, the landowners may remove the subject property from an agricultural preserve. Prior to the expiration of a contract, a landowner also has the option to petition for the cancellation of the contract. Contract cancellation will require the landowner to pay a substantial fee as outlined in the California Government Code §§ 51280-51287.

As shown in Figure 4.2-2, most of the agricultural land adjacent to the northern and Watsonville reaches is currently under Williamson Act contract.

Santa Cruz County.

Santa Cruz County General Plan. The Conservation and Open Space Element of the Santa Cruz County General Plan includes objectives and policies to protect agricultural resources. The objectives and policies applicable to this project are discussed below.

Objective 5.13 *Commercial Agriculture. To maintain for exclusive agricultural use those lands identified on the County Agricultural Resources Map as best suited to the commercial production of food, fiber and ornamental crops and livestock and to prevent conversion of commercial agricultural land to non-agricultural use. To recognize that agriculture is a priority land use and to resolve policy conflicts in favor of preserving and promoting agriculture on designated commercial agricultural lands.*

Policy 5.13.20 *Conversion of Commercial Agricultural Lands. Consider development of commercial agricultural lands to non-agricultural uses only under the following circumstances:*

(a) It is determined that the land is not viable for agriculture and that it is not likely to become viable in the near future (See Policy 5.13.21);
(b) Findings are made that new information has been presented to demonstrate that the conditions on the land in question do not meet the criteria for commercial agricultural land; and
(c) The conversion of such land will not impair the viability of, or create potential conflicts with, other commercial agricultural lands in the area.

Policy 5.13.21 *Determining Agricultural Viability. Require a viability study conducted in response to an application which proposes to convert agricultural land to non-agricultural land to include, but not be limited to, an economic feasibility evaluation which contains at least:*

(a) An analysis of the grow revenue from the agricultural products grown in the area for the five years immediately preceding the date of filing the application.
(b) An analysis of the operational expenses, excluding the cost of land, associated with the production of agricultural products grown in the area for the five years immediately preceding the date of filing the application.
(c) An identification of the geographic area used in the analyses. The area shall be of sufficient size to provide an accurate evaluation of the economic feasibility of agricultural uses for the land stated in the application.

Recommendations regarding viability shall be made by the Agricultural Policy Advisory Commission based on evaluation of the viability study and the following criteria: parcel size, sizes of adjacent parcels, degree of non-agricultural development in the area, inclusion of the parcel in utility assessment districts, soil capabilities and topography, water availability and quality, and proximity to other agricultural use.

Policy 5.13.22 *Conversion to Non-Agricultural Uses Near Urban Areas. Prohibit the conversion of agricultural lands (changing the land use designation from Agriculture to non-agricultural use) around the periphery of urban areas except where it can be demonstrated that the viability of existing agricultural use is already severely limited by conflicts with the urban uses, where the conversion of land would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development and where the conversion of such land would not impair the viability of other agricultural lands in the area. Within the Sphere of Influence of the City of Watsonville, no conversion of agricultural land is allowed which would adversely affect the city's General Plan affordable housing goals, unless determined to be of an overriding public benefit. (See policy 2.1.5)*

Policy 5.13.23 *Agricultural Buffers Required. Require a 200 foot buffer area between commercial agricultural and non-agricultural land uses to prevent or minimize potential land use conflicts, between either existing or future commercial agricultural and non-agricultural land uses.*

Policy 5.13.27 *Siting to Minimize Conflicts. Structures shall be sited to minimize possible conflicts with agriculture in the area. Where structures are located on agricultural land, the structures shall be sited in such a manner to remove as little land as possible from production.*

Objective 5.14 *Non-Commercial Agricultural Land. To encourage and provide for limited agricultural uses, such as small-scale agriculture and community gardens, on the limited amount of agricultural land remaining in the County which is not designated as commercially viable, in order to maintain a diversity of farm operations and to maintain productive open space and rural character.*

Santa Cruz County Municipal Code. Chapter 16.50 (Agricultural Land Preservation and Protection) of the Santa Cruz County Municipal Code (commonly referred to as the Right-to-Farm Ordinance) is intended to support and encourage continued agricultural operations in the County and to forewarn prospective purchasers and residents of property adjacent to agricultural operations of the necessary sounds, odors, dust and hazardous chemicals that may accompany agricultural operations. Accordingly, no agricultural activity, operation, or facility or appurtenances thereof shall be or become a nuisance, public or private, if it has been conducted and maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards as established and followed by similar agricultural operations, and in a manner consistent with all applicable Federal, State and local laws, regulations, permits and approvals, and the conditions thereof, after it has been in operation for more than three years if it was not a nuisance when it began.

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2007 and 2012.

Williamson Act Lands

Figure 4.2-2

Section 16.50.059 additionally defines agricultural buffer setbacks, as described below:

(B) All development for habitable uses within 200 feet of the property line of any parcel containing Type 1, Type 2, or Type 3 commercial agricultural land shall:

(1) Provide and maintain a 200-foot buffer setback between Type 1, Type 2 or Type 3 commercial agricultural land and nonagricultural uses involving habitable spaces, including dwellings, habitable accessory structures and additions thereto; and commercial, industrial, recreational, or institutional structures, and their outdoor areas designed for public parking and intensive human use, except that if an existing legal dwelling already encroaches within the 200-foot buffer setback, proposed additions thereto, habitable accessory structures or private recreational facilities, none exceeding 1,000 square feet in size, shall be exempt from this subsection so long as they encroach no further than the existing dwelling into the buffer setback and an appropriate vegetative and/or other physical barrier for all existing and proposed development, as determined necessary, either exists or is provided and maintained. For the purposes of this section, outdoor areas designed for intensive human use shall be defined as surfaced ground areas or uncovered structures designed for a level of human use similar to that of a habitable structure. Examples are dining patios adjacent to restaurant buildings and private swimming pools. The 200-foot agricultural buffer setback shall incorporate vegetative or other physical barriers as determined necessary to minimize potential land use conflicts.

(2) Provide and maintain a buffer setback distance of at least 200 feet where the subdivision of land results in residential development at net densities of one or more dwelling units per acre adjacent to Type 1, Type 2, Type 3 commercial agricultural land, with vegetative screening or other physical barriers as appropriate.

(3) Comply with SCCC 16.50.090(C) and/or 14.01.407.5 pertaining to recording deed notices of adjacent agricultural use. Such deed notice shall contain a statement acknowledging the required permanent provision and maintenance of the agricultural buffer setbacks and any required barriers (e.g., fencing or vegetative screening).

City of Santa Cruz.

City of Santa Cruz General Plan 2030. Although there are no agricultural lands within the Santa Cruz City limits, the Land Use chapter of the City of Santa Cruz General Plan 2030 includes several policies and actions to prevent loss of prime farmland, preserve agricultural land at the City's edge, and support County efforts to protect agricultural lands along the coast north of Santa Cruz. Action HZ4.1.6 seeks to emphasize the City's role as an organic agricultural center and work with appropriate agencies to develop demonstration projects on non-chemical pest control. These policies and actions are listed below.

Policy LU1.2 *Ensure that growth and development does not lead to the overdraft of any water source, the creation of unacceptable levels of air pollution, or the loss of prime agricultural land.*

Action LU1.2.1 *Environmental review for specific projects shall be accompanied by sufficient technical data and reviewed by appropriate departments.*

Policy LU2.3 *Preserve open space and agricultural land uses at the edge of the city.*

Policy LU3.5 *Encourage a mix of uses, including public facilities, along Lower Pacific Avenue, linking Downtown with the Wharf.*

Action HZ4.1.6 *Emphasize the city's role as an organic agricultural center and work with appropriate agencies to develop demonstration projects on non-chemical pest control and soil management practices.*

Santa Cruz City Code. All habitable uses in the City of Santa Cruz are required to comply with Section 16.50.095 of the Santa Cruz County Code, which requires agricultural buffers of 200 feet for non-agricultural uses adjacent to specified agricultural lands within the County.

City of Capitola.

City of Capitola General Plan. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. As there are no agricultural lands within the City of Capitola, the 1989 General Plan does not contain any policies related to agricultural resources.

Capitola Municipal Code. The Capitola Municipal Code does not contain policies related to agricultural resources, although agriculture is an allowed use in the Single-Family Residence (R-1) and Industrial Park (IP) zoning districts.

City of Watsonville.

City of Watsonville General Plan. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, notes that the agricultural heritage of Watsonville and the Pajaro Valley is an important aspect of Watsonville's character. None of the lands within the City limits are designated for agricultural use, although agriculturally designated and utilized lands virtually surround the City. The goals, policies, and implementation measures applicable to this project are discussed below.

Goal 3.3 *Agricultural Land Use. Foster the continuation of agriculture in the Pajaro Valley.*

Policy 3.F *Agricultural Land Conservation. The City shall plan for the preservation and enhancement of important agricultural soils by encouraging the County and LAFCO to prohibit continued urbanization of lands beyond the Urban Limit Line and by encouraging the retention of land beyond the Urban Limit Line for long term agricultural purposes.*

Impl. 3.F31 *Urban Limit Line. In order to preserve agricultural uses outside the urbanized area, the City shall not support annexation or increased urbanization by the City outside the Urban Limit Line as identified in the Watsonville 2005 Land Use Diagram.*

Impl. 3.F.2	*Retention of Agriculture. The City shall encourage retention of agricultural uses on those lands beyond the Urban Limit Line by restricting the extension of urban services to those areas.*
Impl. 3.F.3	*Williamson Act. The City shall encourage landowners outside the Urban Limit Line to maintain agricultural production through the use of Williamson Act contracts.*
Goal 9.7	*Agricultural Soils. Limit the urbanization of productive agricultural soils to only those parcels contiguous with existing urban use, best suited for urban development, and within the urban limit line.*
Impl. 9.E.6	*Agricultural Land Conservation. The City shall encourage retention of agricultural land beyond its urban limit line.*

Watsonville Municipal Code. The Watsonville Zoning Ordinance includes two zoning districts for agricultural purposes: Exclusive Agriculture (EM-A-1), which is intended to protect and foster agriculture, to permit all normal uses related to agriculture, and to prohibit those that would be in conflict, and Interim Agriculture (EM-A-2), which is intended to preserve land in interim agricultural use and protect against premature urban development, which is presently unneeded, and for which it may be uneconomic to provide urban services.

Chapter 14-33 of the Watsonville Municipal Code, commonly known as the Right-to-Farm Ordinance, was adopted to preserve and protect agricultural operations and agricultural land in the vicinity of Watsonville by: (a) limiting the effects of land use conflicts created by the proximity of urban development to agricultural operations located in and immediately adjacent to the city; and (b) providing notice to purchasers, property owners and tenants of non-agricultural uses adjacent to agricultural land and operations and the City's support for the preservation of agricultural land operations.

In addition to these regulations, the City cooperates with Santa Cruz and Monterey Counties in programs to create agricultural and open space buffers between urban development and agricultural uses. As of October 26, 2004, the City revised its policy relating to buffer zones between adjacent urban residential developments and agricultural land uses to be consistent with the Santa Cruz County Agriculture Buffer Policy including the exception provisions (Resolution No. 274-04). This policy establishes a 200-foot buffer between Santa Cruz County agriculture land uses and residential land uses. This buffer is located entirely within the urban area, and would not utilize any portion of the Santa Cruz County designated agriculture lands.

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.2.2 Impact Analysis and Mitigation Measures

a. Methodology and Significance Thresholds.

Evaluation Criteria. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed MBSST Network would result in any of the following:

1) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;*
2) *Conflict with existing zoning for agricultural use, or a Williamson Act contract; and/or*
3) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use.*

It should be noted that the proposed MBSST Network project would not conflict with designated forestry or timberland resources, as construction and operation of trail features facilitated by the proposed Master Plan would primarily occur within the railroad and roadway rights-of-way and would therefore avoid any adjacent forestry or timberland resources. As a result, the checklist items related to this condition were excluded from the above list. Additional discussion can be found in the Initial Study (Appendix A of this document).

Potential health and safety impacts resulting from pesticide drift and other pesticide applications are discussed in Section 4.8, *Hazards and Hazardous Materials*.

b. Project Impacts and Mitigation Measures.

Impact AG-1 Development of the proposed MBSST Network would ~~may~~ impact land designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Impacts would be Class II, *significant but mitigable*.

Northern Reach. As shown in Figure 4.2-1a, the northern reach of the MBSST Network contains Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. As stated in Section 4.2.1(b) above, approximately 13.0 acres designated as Prime Farmland, 23.2 acres of Farmland of Statewide Importance, and 7.3 acres of Unique Farmland fall within the MBSST Network right-of-way. It should be noted, however, that these figures represent the maximum right-of-way widths for each individual segment. In the northern reach, the right-of-way varies from 25 to 100 feet. The actual disturbance area would be narrower and is assumed to be an average of 25 feet. In addition, although the proposed MBSST Network would impact Prime Farmland, many of these areas are composed of disturbed dirt paths within or adjacent to the existing rail corridor right-of-way, and are not directly used for agricultural production, i.e. growing crops. Further, improvements within segments 1 through 3 consist primarily of on-road improvements, which would not disturb unpaved areas.

Although the estimates provided above represent a worst case scenario, construction of the northern reach of the MBSST Network would impact Prime Farmland, Farmland of Statewide

Importance, and Unique Farmland. Therefore, in accordance with the thresholds identified in Section 4.2.2(a), impacts are considered potentially significant.

Central Reach. The central reach begins at the northern boundary of the City of Santa Cruz and extends southeast to just south of Aptos. This reach of the MBSST Network corridor traverses through densely populated coastal urban areas, and does not travel through or near agricultural areas. As shown in Figure 4.2-1b, the central reach of the MBSST Network does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[2] Therefore, impacts related to conversion of these resources would be less than significant.

Watsonville Reach. As shown in Figure 4.2-1c, the Watsonville reach of the MBSST Network contains Prime Farmland and Unique Farmland. As stated in Section 4.2.1(b) above, approximately 27.1 acres designated as Prime Farmland and 1.8 acres of Unique Farmland fall within the Watsonville reach right-of-way. It should be noted, however, that these figures represent the maximum right-of-way widths for each individual segment. In the Watsonville reach, the right-of-way varies from 62 feet to 148 feet. The actual disturbance area would be narrower and is assumed to be an average of 25 feet. In addition, although the proposed MBSST Network would impact Prime Farmland and Unique Farmland along this reach, many of these areas are composed of disturbed dirt paths within or adjacent to the existing rail corridor right-of-way, and are not used for agricultural production.

Although the estimates provided above represent a worst case scenario, construction of the Watsonville reach of the MBSST Network would impact Prime Farmland and Unique Farmland. Therefore, in accordance with the thresholds identified in Section 4.2.2(a), impacts are considered potentially significant.

Mitigation Measures. Because impacts would be potentially significant for the northern and Watsonville reaches, the following mitigation measures are required for those areas:

AG-1(a) **Placement of Fencing**. Placement of fencing shall be located in a manner which minimizes impacts related to accessibility to farmland and use of farming equipment (e.g., allowing turning radius area for farm equipment).

Significance After Mitigation. Although the proposed MBSST Network project would impact Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, these areas are currently composed of disturbed dirt paths. With implementation of the above mitigation, the MBSST Network project would not convert a substantial area to non-agricultural use. Impacts would therefore be reduced to a less than significant level.

Impact AG-2 **Some segments of the proposed MBSST Network would be adjacent to areas zoned for agriculture and/or adjacent to areas with existing Williamson Act contracts. However, as trail segments would generally be confined to existing right-of-**

[2] *Although a small portion of land west of the Santa Cruz city limits is shown as being within the central reach on Figure 4.2-1b, this area is included in the northern reach, as the boundary is delineated in Section 2.0, Project Description, as the city limit boundary. Thus, the Prime Farmland and Farmland of Statewide Importance shown in the westernmost portion of Figure 4.2-1b is located in the northern reach.*

ways, impacts related to conflicts with existing zoning or Williamson Act contracts would be Class III, *less than significant*.

The proposed MBSST Network corridor travels adjacent to land zoned Commercial Agriculture (CA) and Agriculture (A) in the northern and Watsonville reaches. However, the trail right-of-way itself is designated either Special Use (SU) (in the northernmost portion of the northern reach, where the trail would abut Highway 1) or Public and Community Facilities (PF) (where the corridor corresponds with the Santa Cruz Branch Rail Line right-of-way). The MBSST Network right-of-way is not itself used for agriculture, nor zoned for agriculture. Thus, a proposed multi-use recreation trail along these rights-of-way would not conflict with existing zoning for agricultural use.

As shown in Figure 4.2-2, most of the agricultural land adjacent to the northern and Watsonville reaches is currently under Williamson Act contract. However, because the trail corridor itself is not under contract nor is it currently used for agricultural production, construction and operation of the proposed MBSST Network project would not conflict with Williamson Act contracts for adjacent land in agricultural production.

Based on the discussions above, impacts related to agricultural zoning and Williamson Act contracts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AG-3 Operation of the proposed MBSST Network may result in direct and indirect impacts on agricultural productivity from land use conflicts between trail users and agriculture. This is a Class II, *significant but mitigable* impact.

The interface of trail users and agricultural operations could result in several types of land use conflicts, affecting both agricultural resources and trail users. Anticipated conflicts are described below.

Impacts to Agricultural Uses. Development adjacent to farmland can induce a range of adverse impacts on continued farm operations. Direct physical impacts would include vandalism to farm equipment or fencing, and theft of products. Trespassing by trail users could occur, particularly on isolated stretches of the MBSST Network corridor where security may be minimal. Such trespassing may be by trail users who become fatigued and find the shade of adjacent property to be an attractive place to rest. In some areas, fruit orchards or row crops may also present informal shortcuts to major roadways from the trail alignment. In addition to the potential for vandalism and theft, direct impacts from trespassers could include soil compaction and contamination, which can damage crop potential. Direct impacts may also include littering on farmland, particularly where there are insufficient numbers of trash receptacles along the trail. Unintentional littering could also occur if litter deposited by trail users in trash receptacles is carried by winds onto nearby farmland.

Indirect impacts to agriculture from the proximity of trail users can also affect the long-term viability of such operations. Increased regulations and liability insurance to protect the farmer from adjacent uses may cost time and money. As a result of increased public access, some farmers may voluntarily avoid cultivating or spraying the portions of their property closest to the trail, in effect establishing formal or informal buffer zones on their own. This has the effect of incrementally lowering the crop yield of the agricultural operation. Additionally, use of ornamental landscaping along the trail could bring pests into the agricultural areas, which could adversely affect agricultural production.

Impacts to Trail Users. Adjacent agricultural operations could create health-related and nuisance conflicts with trail users, including from closure of segments of the trail to accommodate agricultural activities. In particular, the use of pesticides on adjacent row crops and the suspension of dust from operation of farm equipment could present adverse health concerns.

The Santa Cruz County Agricultural Commissioner's office is responsible for issuing pesticide spraying permits and regulating the use of pesticides and other agricultural chemicals. As the regulating and enforcement entity for the County, the Agricultural Commissioner's office would not place additional restrictions upon the agricultural operators as a result of the proposed MBSST Network as long as pesticides and other agricultural chemicals are applied in compliance with the label, worker safety requirements, weather conditions, drift restrictions, and all other safety requirements as required by federal, state and local laws. Nor would the Agricultural Commissioner's office require specific agricultural or pesticide buffers from the proposed trail. Rather, pesticide spray restrictions listed on the pesticide label would be enforced. These buffers are greatest for fumigants, which have a greater potential for drifting into the trail area.

Regardless of whether agricultural operators follow all restrictions on the pesticide label, the potential exists for trail users to trespass onto adjacent agricultural property after pesticides have been applied, thereby becoming exposed to potentially dangerous chemicals. The health effects of pesticide exposure are further discussed in Section 4.8, *Hazards and Hazardous Materials.*

It should be noted that while ongoing agricultural operations could impact trail users, these impacts are not unique to this project. Agricultural operations in the region often result in nuisance impacts to adjacent urban development, and such impacts are typically of a greater magnitude than expected with regard to trail users. Homeowners typically note conflicts with adjacent agricultural operations more frequently than do transitory trail users, who voluntarily enter and leave agricultural areas of their own accord, and therefore are more likely to accept short-term odor and noise nuisances. Nevertheless, given the potentially large number of trail users, impacts are considered potentially significant.

Mitigating Design Features. The proposed MBSST Network project contains several design features intended to limit potential conflicts between agricultural operations and trail users. This includes the installation of continuous fencing between the trail and most adjacent agricultural properties, which would discourage access to neighboring lands. In addition, notices would be posted at entrances to the trail of on-going agricultural activities, stating that the trail user agrees to use of the trail at his/her own risk. Implementing entities would require pet waste removal

and provide dog waste bag dispensers at trailheads. Rural areas may include a simple regulation sign requiring pet owners to collect their pet waste, and dogs may also be restricted in trail sections that are adjacent to agricultural lands where sensitivity relating to contamination exists. Trail users would additionally be advised that agricultural operations will be occurring and may include pesticide spraying, agricultural dust and debris, and burning activities in accordance with State and local laws and ordinances. Finally, notices would state that the trail may be subject to closure without notice to accommodate such activities.

The trail would be designed with the ability for its physical closure (of isolated segments) in the event it becomes necessary to facilitate permitted spraying. The Trail Manager would work to establish a plan for receiving notices of impending spraying activity and follow-up actions, as appropriate, and the Trail Ranger would be responsible for ensuring that temporary trail closure gates are open or closed, should they be needed.

Twenty-two existing trail access and staging areas are located in close proximity to the trail alignment, and include features such as parking for vehicles and bicycles, drinking water, trash receptacles, kiosks with traveler information, and other amenities. These areas would provide trail users with a place to rest, thereby reducing the potential for trespassing by trail users who become fatigued and find the shade of adjacent fruit orchards to be an attractive place to rest.

Finally, the proposed MBSST establishes a Trail ~~Manager~~ Ranger who would be responsible for the day-to-day maintenance of the trail facility components, including trash clean up and disposal, graffiti removal, and repairs to trail components. The Trail Manager would ensure that each element described in the operations and maintenance plan is completed. The establishment of a formal trail operations and maintenance plan would help ensure adequate maintenance of the trail corridor and facilities, thereby reducing litter-related conflicts.

Despite the above design features, mitigation is required to reduce impacts to a less than significant level.

Mitigation Measures. The following mitigation measures are required to reduce the potential impacts from agricultural land use conflicts to a less than significant level:

AG-3(a) **Notice of Agricultural Activities.** The following information shall be added to the proposed notices on on-going agricultural activities:

- Trail users are advised to stay on the trail and be alert to operating machinery and equipment near the trail.
- Trail users are required to use restroom facilities in consideration of food hygiene issues on adjacent agricultural lands.
- Where dogs are not prohibited, trail users are required to clean up after their dogs and prevent trespass by dogs on adjacent agricultural properties in consideration of food hygiene issues on adjacent agricultural lands.
- The legal ramifications for trespassing on adjacent properties.

- The legal ramifications for trespassing or being on the trail after it is closed.

AG-3(b) **Landscaping Coordination.** For segments adjacent to agricultural operations in the northern and Watsonville reaches, any ornamental plant material used along the trail shall be comprised of native and indigenous species. The selected plant palate shall be reviewed by the Agricultural Commissioner's office prior to approval of landscape plans. Any plant material which may host pests destructive to agriculture shall be prohibited.

AG-3(c) **Chemical Spraying Impact Reduction Options.** On a case-by-case basis, the RTC and/or the implementing entity for segments adjacent to agricultural operations shall work with the Agricultural Commissioner's office and adjacent farmers to reduce impacts to trail users from agricultural spraying, including pesticides. Non-buffer options shall be considered, including the use of alternative methods of pest and weed control and/or an agreement that farmers notify the Agricultural Commissioner's office or Trail Manager in advance of proposed agricultural spraying within 100 feet of the trail. This would allow the Agricultural Commissioner's office, in accordance with existing requirements, to inform the RTC and/or implementing or managing entity of all spraying within 100 feet of the trail so that appropriate action can be taken (e.g., posting notices or closure of that segment of the trail).

Significance After Mitigation. Proposed design features and implementation of the above mitigation measures would reduce impacts to a less than significant level.

d. Cumulative Impacts. The proposed MBSST Network project would impact Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, as discussed in Impact AG-1. As a result, it would contribute to the cumulative loss of agriculture within the County arising from continuing urbanization. The project may also contribute to increasing conflicts between agricultural and non-agricultural uses. Long-term agricultural viability within the County could be adversely affected by such conflicts. The County of Santa Cruz and City of Watsonville's Right-to-Farm Ordinances are regulatory mechanisms intended to ensure the viability of agriculture within the County, and would provide some degree of mitigation for this impact. It should be noted that the viability of agriculture involves more than merely prohibiting development in areas designated for agriculture. For agriculture to remain viable as an industry in the County, farmers must be able to farm, which necessitates the use of pesticides and equipment, with associated nuisance effects. Project design features and mitigation measures required herein would address these impacts, and it is therefore anticipated that the project's contribution to cumulative impacts would be less than significant.

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4.3 AIR QUALITY

4.3.1 Setting

a. Climate and Topography. The proposed MBSST Network would be located within the North Central Coast Air Basin (NCCAB). The NCCAB is composed of Monterey, Santa Cruz and San Benito counties and covers an area of more than 5,100 square miles. With Monterey County covering over 3,320 square miles and Santa Cruz County covering only 445 square miles, the air basin consists of one of the largest and one of the smallest counties in the state. The air basin features varied vegetation, climate and geography and includes portions of several mountain ranges: the Santa Lucia and Gabilan Ranges in Monterey and San Benito Counties, the southern portion of the Santa Cruz Mountains in Santa Cruz County, and the Diablo Range in the eastern half of San Benito County. The coastal terraces in the Santa Cruz area, the flat plains surrounding Watsonville, Salinas, and King City, and the southern Santa Clara Valley are sharply defined by the various mountain ranges.

A semi-permanent high pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends from the Pacific High, forming a stable temperature inversion of warm air over a cooler coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid that inhibits vertical air movement and allows air pollutants to concentrate in the lower level.

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

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

During the winter, the Pacific High migrates southward and so has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. The general absence of deep, persistent inversions and occasional storm systems usually result in good air quality for the basin as a whole in winter and early spring.

b. Air Pollutants of Primary Concern. The state and federal Clean Air Acts mandate the control and reduction of certain air pollutants. Under these Acts, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for certain "criteria" pollutants. Ambient air pollutant concentrations are affected by the rates and distributions of corresponding air pollutant

emissions, as well as by the climactic and topographic influences discussed above. The primary determinant of concentrations of non-reactive pollutants (such as CO and PM_{10}) is proximity to major sources. Ambient CO levels in particular usually closely follow the spatial and temporal distributions of vehicular traffic. A discussion of primary criteria pollutants is provided below.

Ozone. Ozone is a colorless gas with a pungent odor. Most ozone in the atmosphere is formed as a result of the interaction of ultraviolet light, reactive organic gases (ROG), and oxides of nitrogen (NO_x). ROG (the organic compound fraction relevant to ozone formation, and sufficiently equivalent for the purposes of this analysis to volatile organic compounds, or VOC[1]) is composed of non-methane hydrocarbons (with some specific exclusions), and NO_x is made of different chemical combinations of nitrogen and oxygen, mainly NO and NO_2. A highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO_x levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant.

Carbon Monoxide. Carbon monoxide (CO) is an odorless, colorless, gas. CO causes a number of health problems including fatigue, headache, confusion, and dizziness. The incomplete combustion of petroleum fuels in on-road vehicles and at power plants is a major cause of CO. CO is also produced during the winter from wood stoves and fireplaces. CO tends to dissipate rapidly into the atmosphere; consequently, violations of the state CO standard are generally associated with major roadway intersections during peak hour traffic conditions.

Localized carbon monoxide "hotspots" can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal Ambient Air Quality Standards (AAQS) of 35.0 parts per million (ppm) or the state AAQS of 20.0 ppm.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

Particulate Matter. Suspended particulate matter (airborne dust) consists of particles small enough to remain suspended in the air for long periods. Fine particulate matter includes particles small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, with resultant health effects. Particulate matter can include materials such as sulfates and nitrates, which are particularly damaging to the lungs. Health effects studies resulted in revision of the Total Suspended Particulate (TSP) standard in 1987 to focus on particulates that are small enough to be considered "inhalable," i.e. 10 microns or less in size (PM_{10}). In July of

[1] *ROG is equivalent to volatile organic compounds (VOC) per MBUAPCD Rule 101, 2.32*

1997, a further revision of the federal standard added criteria for $PM_{2.5}$, reflecting recent studies that suggested that particulates less than 2.5 microns in diameter are of particular concern.

Federal and state standards have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and fine particulates (PM_{10} and $PM_{2.5}$). Table 4.3-1 summarizes the current federal and state standards for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except for lead and the eight-hour average for CO. Depending on whether the standards are met or exceeded, the local air basin is classified as in "attainment" or "nonattainment."

Table 4.3-1
Current Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	---	0.09 ppm
	8-Hour	0.075 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9 ppm	9.0 ppm
	1-Hour	35 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.1 ppm	0.18 ppm
Sulfur Dioxide	24-Hour	0.14 ppm	0.04 ppm
	3-Hour	0.5 ppm	---
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	---	20 $\mu g/m^3$
	24-Hour	150 $\mu g/m^3$	50 $\mu g/m^3$
$PM_{2.5}$	Annual	15 $\mu g/m^3$	12 $\mu g/m^3$
	24-Hour	35 $\mu g/m^3$	---
Lead	30-Day Average	---	1.5 $\mu g/m^3$
	3-Month Average	0.15 $\mu g/m^3$	---

ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
Source: CARB, June 7, 2012

c. Current Ambient Air Quality. Ambient air quality is monitored at seven Monterey Bay Unified Air Pollution Control District (MBUAPCD) operated monitoring stations located in Salinas, Hollister, Carmel Valley, Santa Cruz, Scotts Valley, Watsonville, and Davenport. In addition, the National Park Service operates a station at the Pinnacles National Monument and an industry consortium operates a station in King City. The MBUAPCD monitors air pollutant levels to assure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. As indicated above, depending on whether or not the standards are met or exceeded, the air basin is classified as being in "attainment" or as "non-attainment." Table 4.3-2 summarizes the State and Federal attainment status for criteria pollutants.

Table 4.3-2
Attainment Status of the North Central Coast Air Basin

Pollutant	State Standard	Federal Standard
Ozone (O_3)	**Nonattainment** [1]	Attainment [2]
Inhalable Particulates (PM_{10})	**Nonattainment**	Unclassifiable/Attainment
Fine Particulates ($PM_{2.5}$)	Attainment	Unclassifiable/Attainment [3]
Carbon Monoxide (CO)	Monterey County – Attainment San Benito County – Unclassified Santa Cruz County-Unclassified	Attainment
Nitrogen Dioxide (NO_X)	Attainment	Unclassifiable
Sulfur Dioxide (SO_X)	Attainment	Unclassifiable

[1] Effective July 26, 2007, the ARB designated the NCCAB a nonattainment area for the State ozone standard, which was revised in 2006 to include an 8-hour standard of 0.070 ppm.

[2] On March 12, 2008, U.S. EPA adopted a new 8-hour ozone standard of 0.075 ppm, while temporarily retaining the existing 8-hour standard of 0.08 ppm.

[3] In 2006, the Federal 24-hour standard for $PM_{2.5}$ was revised from 65 to 35 µg/m^3. Although final designations have yet to be made, it is expected that the NCCAB will remain designated unclassified/attainment.

*Note: Nonattainment pollutants are highlighted in **Bold**.*

As shown in Table 4.3-2, although the NCCAB is in attainment or unclassifiable of all federal ambient air quality standards (AAQS), it is designated as nonattainment with respect to the more stringent state PM_{10} AAQS and is designated as nonattainment with respect to the state's eight-hour ozone AAQS.

Table 4.3-3 summarizes the annual air quality data for the NCCAB over the past three years. The Soquel Avenue monitoring site, located at 2544 Soquel Avenue in the City of Santa Cruz, was chosen as representative of the ambient air conditions of the site vicinity because it is the monitoring station closest to the middle segments of the proposed MBSST Network. However, carbon monoxide and nitrogen dioxide are not monitored at the Soquel Avenue station. These pollutants are monitored at the Davenport station, located at Marine View and Center Avenue in the City of Davenport. The data collected at the MBUAPCD-operated stations, shown below in Table 4.3-3, is considered to be generally representative of the baseline air quality experienced in the project vicinity.

Table 4.3-3
Ambient Air Quality Data

Pollutant	2009	2010	2011
Ozone, ppm - Worst Hour	0.073	0.077	0.071
Number of days of State exceedances (>0.09 ppm)	0	0	0
Ozone, ppm – Worst 8 Hour Average	0.061	0.059	0.065
Number of days of State exceedances (>0.07 ppm)	0	0	0
Number of days of Federal exceedances (>0.075 ppm)	0	0	0
Particulate Matter <10 microns, µg/m^3 Worst 24 Hours	36.0	31.0	22.0
Number of samples of State exceedances (>50 µg/m^3)[a]	0	0	0
Number of samples of Federal exceedances (>150 µg/m^3)	0	0	0
Particulate Matter <2.5 microns, µg/m^3 Worst 24 Hours	24.5	32.8	17.2
Number of days Federal exceedances[a]	0	0	0
Nitrogen Dioxide, ppm – Worst Hour[b]	0.020	0.028	*
Number of days of State exceedances (>0.18 ppm)	0	0	-

Table 4.3-3
Ambient Air Quality Data

Pollutant	2009	2010	2011
Carbon Monoxide, ppm – Worst 8 hour [b]	5.24	0.64	*
Number of days State/Federal exceedances (>9.0 ppm)	0	0	-

Source: California Air Resources Board. Top 4 Summary. Accessed November 2012. Air Quality Monitoring Station: 2544 Soquel Avenue
[a] Particulate Matter sampling does not occur daily; the number of days over the State 24-Hour PM_{10} standard provides the estimated number of days in the year that the standard would have been exceeded had sampling occurred every day of the year.
[b] Carbon Monoxide and Nitrogen Dioxide were not measured at the Soquel Avenue station; therefore, measurement data was taken from the Davenport station.
**There was insufficient data to determine a value.*

Given that the NCCAB is designated as nonattainment for ozone and PM_{10}, these are the primary pollutants of concern for the NCCAB. As indicated in Table 4.3-3, there were no Federal or State ozone exceedances in 2009, 2010, or 2011. The State and Federal standards for PM_{10} and the Federal standards for $PM_{2.5}$ were also not exceeded in 2009, 2010, or 2011.

d. Regulatory Setting.

Federal and State. The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (U.S. EPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the state equivalent in California. Local control in air quality management is provided by CARB through county-level or regional (multi-county) air pollution control districts (APCDs). CARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 14 air basins statewide.

Regional. The MBUAPCD regulates air quality in the NCCAB, and is responsible for attainment planning related to criteria air pollutants, and for district rule development and enforcement. It also reviews air quality analyses prepared for CEQA assessments, and has published the *CEQA Air Quality Guidelines* document (last revised February 2008) for use in evaluation of air quality impacts. The purpose of the *Guidelines* is to assist in the review and evaluation of air quality impacts from projects which are subject to CEQA. Its guidance applies to the North Central Coast Air Basin (NCCAB), which is comprised of Monterey, Santa Cruz, and San Benito counties. The *Guidelines* are an advisory document intended to provide lead agencies, consultants, and project proponents with uniform procedures for assessing potential air quality impacts and preparing the air quality section of environmental documents. The *Guidelines* are also intended to help these entities anticipate areas of concern from the MBUAPCD in its role as a lead, commenting and/or responsible agency for air quality.

Air Quality Management Plan. In accordance with the California Clean Air Act, the MBUAPCD has developed the *2008 Air Quality Management Plan for the Monterey Bay Region* (2008 AQMP). The 2008 AQMP is a transitional plan shifting focus of MBUAPCD's efforts from achieving the 1- hour component of the state ozone AAQS to achieving the new 8-hour ozone requirement. The plan includes an updated air quality trends analysis, which reflects both the 1-

and 8-hour standards, as well as an updated emission inventory, which includes the latest information on stationary, area and mobile emission sources.

Santa Cruz County. The Conservation and Open Space Element of the Santa Cruz County General Plan and Local Coastal Program provides a list of policies and programs intended to improve the air quality of the NCCAB. The programs and policies applicable to the MBSST Network project are provided below.

Policy 5.18.1	*Ensure new development projects are consistent at a minimum with the Monterey Bay Unified Air Pollution Control District Air Quality Management Plan and review such projects for potential impact on air quality.*
Policy 5.18.7	*Emphasize, bicycles and pedestrian modes of transportation rather than automobiles.*
Program E	*Encourage lesser polluting transportation alternatives through the construction of bikeways and the provisions of public transit.*

City of Santa Cruz. The Hazards, Safety, and Noise chapter of the City of Santa Cruz General Plan 2030 includes a policy related to air quality, established to guide development within the City. The policy applicable to the MBSST Network project is described below.

Policy HZ2.2.1	*Require future development projects to implement applicable Monterey Bay Unified Air Pollution Control District control measure and/or air quality mitigations in the design of new projects as set forth in the District's "CEQA Guidelines."*

City of Capitola. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. The City of Capitola General Plan (1989) established goals and policies for the regulation of air quality impacts through the Conservation Element. However, the Conservation Element does not contain specific policies related to air quality that are applicable to the MBSST Network project.

City of Watsonville. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, addresses air quality through the Environmental Resource Management Element. The goals and policies in the Environmental Resources Management Element address State mandates for natural resource conservation, including air quality. The goal applicable to this project is provided below.

Goal 9.4	*Maintain or improve the present air quality level within the Pajaro Valley.*

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the

Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

e. Sensitive Receptors. Certain population groups are more sensitive to air pollution than others, in particular, children, the elderly, and acutely ill and chronically ill persons, especially those with cardio-respiratory diseases. As described in the MBUAPCD's *2008 CEQA Guidelines*, a sensitive receptor is defined as: any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. Sensitive receptors in the MBSST Network project area include residences, places of worship, and schools located adjacent to the proposed trail corridor. As an active transportation corridor, the proposed MBSST Network is not itself considered a sensitive receptor.

Sensitive receptors near each of the three reaches are described below.

Northern Reach. The nearest sensitive receptors to the northern reach of the proposed trail corridor include residences near the City of Davenport, located along Cement Plant Road approximately 150 feet north of segment 4; and Pacific Elementary School, located approximately 300 feet north of segment 5.1. The St. Vincent de Paul Church is located approximately 700 feet north of segment 5.1.

Central Reach. Due to the dense urban nature of the central reach, the majority of sensitive receptors that would be affected by the proposed MBSST Network project are located along the central reach. The closest sensitive receptors to the central reach include residential communities, with existing residences as close as 50 feet from the proposed trail corridor. Several churches are also located within several hundred feet of the central reach.

Watsonville Reach. The closest sensitive receptors to the Watsonville reach include a large residential community, adjacent to La Selva State Beach, approximately 50 feet east of segment 15, as well as Renaissance High School, which is located approximately 50 feet east of segment 16. The West Presbyterian Church is located approximately 650 feet east of segment 19.

4.3.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of the project's air quality impacts follows the guidance and methodologies recommended in the MBUAPCD *CEQA Air Quality Guidelines* (February 2008) as well as Appendix G of the *State CEQA Guidelines*.

Appendix G of the *CEQA Guidelines* contains the following checklist of effects that may be deemed potentially significant:

1) *Conflict with or obstruct implementation of the applicable air quality plan;*
2) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
3) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality*

standard (including releasing emissions which exceed qualitative thresholds for ozone precursors);
4) *Expose sensitive receptors to substantial pollutant concentrations; or*
5) *Create objectionable odors affecting a substantial number of people.*

The MBUAPCD has issued criteria for determining the level of significance for project specific impacts within its jurisdiction in accordance with the above thresholds. Based on criteria applied in or adapted from the MBUAPCD *Guidelines*, the proposed MBSST Network project's impacts on criteria air pollution would be significant if the project would:

- *Be inconsistent with the adopted AQMP.*
- *During construction, cause a violation of PM_{10} AAQS at nearby or upwind of sensitive receptors, based on whether the project would:*
    - *Emit greater than 82 lb/day of PM_{10} if located nearby or upwind of sensitive receptors (note: projects which require minimal earthmoving on 8.1 or more acres per day or grading and excavation on 2.2 or more acres per day are likely to exceed this threshold); or*
    - *Use equipment that is not "typical construction equipment" as specified in Section 5.3 of the MBUAPCD CEQA Guidelines.*
- *During operations:*
    - *Generate direct (area source or stationary) plus indirect (operational or mobile) emissions of either ROG or NO_X that exceed 137 lbs/day;*
    - *Generate on-site emissions of PM_{10} exceeding 82 lbs/day;*
    - *Generate direct emissions of CO exceeding 550 lbs/day; or*
    - *Generate direct emissions of SO_X exceeding 150 lbs/day.*
- *Cause or substantially contribute to a violation of a CO standard.*

The MBUAPCD's *Guidelines* indicate that the following traffic effects should be assumed to generate a significant CO impact, unless CO dispersion modeling demonstrates otherwise*:*

- *Intersections or road segments that currently operate at LOS D or better would operate at LOS E or F with addition of the project's traffic.*

The MBSST Network project's potential to create odor impacts was identified as less than significant in the Initial Study (see Appendix A to this document) and will not be discussed further in this section of the EIR.

Air Quality Management Plan Consistency. A project would conflict with or obstruct implementation of the *2008 Air Quality Management Plan* (AQMP) for the Monterey Bay Region (MBUAPCD, August 2008) if it is inconsistent with the growth assumptions, in terms of population, employment, or regional growth in vehicle miles traveled. These population forecasts were developed, in part, using data obtained from local jurisdictions on projected land uses and population projections identified in community plans. Projects that result in an increase in population that is inconsistent with local community plans would be considered inconsistent with the AQMP.

Construction Emissions. The California Emissions Estimator Model (CalEEMod) 2011 Version 2011.1.1 was used to estimate construction emissions for the proposed MBSST Network

and is based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment use during construction. Although the trail right-of-way varies from 25 feet up to a maximum width of 148 feet (along segment 17), 25 feet represents an average expected disturbance area for trail components (multi-use paved path, unpaved [decomposed granite] path, landscaping, trail furnishings, and signage). Therefore, for the purposes of estimating emissions, it was assumed that the area of disturbance for the entire length of the proposed MBSST Network would be 25 feet wide. Based on this width and a total trail length of 49.6 miles, the total area of disturbance would be approximately 150.4 acres. This is considered a conservative estimate, as this trail length includes 10.4 miles of paved and un-paved coastal spur trails (which would be a maximum width of six feet) and 7.5 miles of on-shoulder improvements adjacent to Highway 1 (which may not include any ground disturbance).

Construction duration was determined using the phasing plan outlined in the proposed Master Plan and based on the default number of days assigned by CalEEMod. As discussed in Section 2.0, *Project Description*, construction of the entire MBSST Network would occur in three phases. The precise order of construction would depend on funding. According to the proposed Master Plan, the trail segments identified as candidates for Phase I design and implementation are considered the most feasible for implementing within a short time frame. Segments 5, 8, and 9 would be included in Phase I and would take approximately one to five years to construct. Phase II, which would include segments 1, 2, 6, 7, 10, 11, 16, 18, and 19, would be constructed over five to ten years. Phase III would be constructed over ten to 15 years and would include the following segments: 3, 4, 12, 13, 14, 15, 17, and 20.

The MBSST Network is divided into 20 segments, ranging in length from 0.65 miles to 10.66 miles. As a reasonable worst-case scenario, construction of the longest segment (segment 5) was modeled to represent the largest area of disturbance throughout construction of the proposed MBSST Network. Based on this segment's length of 10.66 miles and the average expected disturbance area for trail components (25 feet), the estimated disturbance area of segment 5 is 32.3 acres, or 21.5 percent of the total trail disturbance area (150.3 acres). Using the default number of construction days[2] in CalEEMod, construction of 32.3 acres of trail would take an estimated 135 days (approximately seven months) to construct. This default construction length is considered conservative, as actual construction of segment 5 may take over seven months.[3]

It should be noted that, depending on funding availability and other local factors, more than one segment of the trail could be constructed at one time. Therefore, the potential for multiple segments to be constructed at once is also considered.

Operational Emissions. A limitation on the quantitative analysis of operational impacts is that emission models, such as CalEEMod, evaluate aggregate emissions, meaning that all vehicle trips and related emissions assigned to a project are assumed to be new trips and emissions generated by the project itself. Such models do not demonstrate, with respect to a regional air quality impact, what proportion of these emissions are actually "new" emissions, specifically attributable to the project in question. For most projects, a primary contributor to regional air quality emissions is from motor vehicles; however, the quantity of vehicle trips

[2] *The default number of construction days assumes construction would occur five days per week.*
[3] *A shorter construction length would result in a larger area being disturbed at one time, which would increase daily emissions. Thus, shorter construction periods result in higher daily construction emissions.*

appropriately characterized as "new" is usually uncertain as traffic associated with a project may be relocated trips from other locales. This is the case with the proposed MBSST Network, as recreation is a land use with inherent demand. In other words, many of the vehicle trips associated with the proposed MBSST Network would be relocated from other existing recreational opportunities as people begin to use the MBSST Network instead. Therefore, because the incremental increase in trips estimated in Section 4.11, *Transportation/Traffic,* would not be perceptible, and because the proportion of "new" trips is unknown, a qualitative discussion of operational emissions is provided herein.

CO Hotspot Analysis. MBUAPCD's *2008 CEQA Air Quality Guidelines* note that localized impacts from programmatic projects, such as Master Plans, should be assessed by identifying whether build-out would create or substantially contribute to carbon monoxide "hotspots" where federal or state AAQS are exceeded. According to MBUAPCD's *CEQA Air Quality Guidelines*, a significant CO impact would occur if project-generated traffic would degrade LOS operations at County roadways or intersections, such that those roadways or intersections would operate at LOS E or F with the addition of project-generated traffic.

b. Project Impacts and Mitigation Measures.

Impact AQ-1 **The proposed MBSST Network project would not contribute to population growth, and would therefore be consistent with the growth assumptions in the *Air Quality Management Plan* (AQMP). Furthermore, the project directly implements a transportation control measure in the AQMP. Thus, the MBSST Network would be consistent with and would also help to implement the AQMP. Impacts would be Class IV, *beneficial.***

As noted in Section 4.3.2(a) (Methodology and Significance Thresholds), a project would conflict with or obstruct implementation of the AQMP for the Monterey Bay Region if it is inconsistent with the growth assumptions included in the AQMP, in terms of population, employment, or regional growth in vehicle miles traveled (VMT) (MBUAPCD, August 2008). The proposed MBSST Network does not contain a residential component and would therefore not increase the residential population of the area. In addition, as noted in Section 5.0, *Long-Term Impacts,* no direct growth inducement is expected to result from MBSST Network project implementation. Therefore, the MBSST Network project would not exceed growth assumptions in the AQMP directly (through population growth) or indirectly (through employment or regional growth in VMT).

The AQMP additionally outlines a number of transportation control measures (TCMs) intended to reduce the rate of increase in passenger vehicle trips and miles traveled per trip. One of these TCMs is "new and improved bicycle facilities". The AQMP lists 15 bicycle facility projects within the MBUAPCD region, including the proposed MBSST Network project. Thus, the project directly implements a TCM identified in the AQMP.

As the proposed MBSST Network project would be consistent with AQMP growth assumptions and would directly implement a TCM identified therein, impacts related to AQMP consistency would be beneficial.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be beneficial.

Impact AQ-2 Construction of the proposed MBSST Network would result in the temporary generation of air pollutants, which would affect local air quality. However, construction emissions would not exceed MBUAPCD thresholds. Impacts would therefore be Class III, *less than significant*.

Construction of the proposed MBSST Network would result in the temporary generation of air pollutants. Construction of the MBSST Network would be anticipated to involve the following construction activities: site preparation, grading, paving, and architectural coating (i.e. trail striping). The use of equipment that is not "typical construction equipment" as specified in Section 5.3 of the MBUAPCD *Guidelines* is not expected. The ozone precursors NO_x and ROG would be emitted by the operation of construction equipment, while PM_{10} would be emitted by activities that disturb the soil, such as grading and excavation. Emissions would also be generated by construction employees traveling to and from the construction sites, as well as trucks hauling materials to and from the sites. Construction-related emissions could result in adverse health risks to nearby sensitive receptors if emission thresholds are exceeded.

As a reasonable worst-case scenario, construction of the longest segment (segment 5) was modeled to represent the largest probable area of disturbance during construction of the proposed MBSST Network. Based on this segment's length of 10.66 miles and the average expected disturbance area for trail components (25 feet), the estimated disturbance area of segment 5 is 32.3 acres, or 21.5 percent of the total trail disturbance area (150.3 acres). Using the default number of construction days[4] in CalEEMod, construction of 32.3 acres of trail would take an estimated 135 days (approximately seven months) to construct. This default construction length is considered conservative, as actual construction of segment 5 may take over seven months.[5]

The MBUAPCD uses a threshold of 82 pounds per day of PM_{10} for determining significance of construction related emissions (MBUAPCD *CEQA Air Quality Guidelines*, 2008). Table 4.3-4 illustrates the estimated maximum daily PM_{10} emissions during construction of segment 5.

Table 4.3-4
Estimated Construction Emissions
Segment 5

Year	Maximum Daily PM_{10} Emissions (lbs/day)
Year 1	21.92

Source: CalEEMod version 2011.1. See Appendix B for calculations.
Note: construction presumed to occur over seven months, or less than one year.

[4] *The default number of construction days assumes construction would occur five days per week.*
[5] *A shorter construction length would result in a larger area being disturbed at one time, which would increase daily emissions. Thus, shorter construction periods result in higher daily construction emissions.*

As shown in Table 4.3-4, construction of segment 5 would result in a maximum of 21.92 lbs/day of PM_{10}, which is well below the MBUAPCD significance threshold of 82 lbs/day of PM_{10}. Therefore, impacts during construction of the longest trail segment would be less than significant.

It should be noted that, depending on funding availability and other local factors, more than one segment of the trail could be constructed at one time. Overlapping construction would increase the lbs/day of PM_{10} being emitted across the MBSST Network, particularly if multiple segments are being graded concurrently (which is the primary source of PM_{10} during construction activities). Table 4.3-4 depicts the maximum emissions from the longest segment of the trail (segment 5), which extends for 10.66 miles (or 21.5 percent of the total trail length). As shown, construction of this segment would result in 21.92 lbs/day of PM_{10}; therefore, construction of this segment would result in approximately 2.06 lbs/day of PM_{10} per mile of construction activity.[6] Using this factor as a proxy for the remainder of the trail, up to 39.8 miles (or 80 percent) of the MBSST Network could be constructed at one time without exceeding the MBUAPCD's threshold of 82 lbs/day of PM_{10}.[7] Given funding and infrastructure constraints, concurrent construction of approximately 40 miles of the trail corridor at any one time is highly unlikely. Therefore, air quality impacts from construction would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-3 **The proposed MBSST Network would incrementally increase the number of vehicles traveling to staging areas, which would contribute to operational air quality emissions. However, local trips would be balanced by a reduction in trips on cross County arterial corridors and elsewhere due to changes in travel modes by providing an active (non-vehicle) transportation option. Regionally, the proposed MBSST Network project would not generate a substantial amount of new vehicle trips, and resulting operational air quality impacts would be Class III, *less than significant*.**

The proposed MBSST Network would result in the construction of new facilities for active modes of transportation in Santa Cruz County, including bicycle, pedestrian, and equestrian paths. As noted in Section 4.11, *Transportation/Traffic*, the proposed MBSST Network would incrementally increase the number of vehicles travelling to staging areas from recreational users, commuters and for general maintenance purposes. On an individual basis for each staging area, the peak hour increase in trips would not be perceptible. Further, the minimal increase in localized trips may be balanced regionally by the potential reduction in vehicle trips on cross County arterial corridors. This reduction would occur due to the change in travel modes (from vehicles to bicycles) and also because many of the trips may be relocated from other recreational opportunities, and thus do not constitute "new" trips.

[6] *21.92 lbs/day PM_{10} ÷ 10.66 miles = 2.06 lbs/day PM_{10} per mile*
[7] *82 lbs/day PM_{10} ÷ 2.06 lbs/day PM_{10} per mile = 39.8 miles*

Because vehicle trips to the proposed MBSST Network would be minimal, and many would be relocated trips rather than "new" trips, from a regional perspective, the proposed MBSST Network would not be expected to generate measurable operational emissions from vehicles. As such, the project would not be expected to exceed the daily emissions thresholds established by the MPUAPCD,[8] and impacts would therefore be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact AQ-4 The MBSST Network project would not contribute to an exceedance of any level of service (LOS) standard. Impacts related to CO hotspots would therefore be Class III, *less than significant.*

As noted in Section 4.3.2(a) (Methodology and Significance Thresholds), a significant CO impact would occur if project-generated traffic would degrade LOS operations at County roadways or intersections, such that those roadways or intersections would operate at LOS E or F with the addition of project-generated traffic. As noted in Section 4.11, *Transportation/Traffic,* the proposed MBSST Network project would not contribute to an exceedance of any level of service standard. Because the MBSST Network project would not cause operations at County roadways or intersections to degrade from LOS D or better to LOS E or F, impacts related to CO hotspots would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

d. Cumulative Impacts. The MBUAPCD *2008 CEQA Air Quality Guidelines* includes guidelines on analyzing cumulative impacts pertaining to ozone and localized pollutants. As described therein, inconsistency with the AQMP is considered a cumulative adverse air quality impact. As discussed in Impact AQ-1, the proposed MBSST Network project would be consistent with, and in fact would help to implement, the AQMP. Therefore, based on the *2008 CEQA Air Quality Guidelines,* the MBSST Network project would not result in a cumulative adverse air quality impact.

As noted in the *2008 CEQA Air Quality Guidelines,* consistency with the AQMP does not necessarily mean that a project will not have a project-specific adverse air quality impact. As described in Impacts AQ-2 and AQ-3 above, impacts related to construction and operational emissions would be less than significant. In addition, as indicated in Impact AQ-4, the MBSST Network project would not cause operations at County roadways or intersections to degrade to LOS E or F, and thus would not result in impacts related to CO hotspots. Therefore, project-specific air quality impacts from the MBSST Network project would also be less than significant.

Because the MBSST Network project would be consistent with the AQMP and would result in less than significant impacts pertaining to ozone and localized pollutants, the project's contribution to cumulative air quality impacts would be less than significant.

[8] *137 lbs/day of ROG or NO_X, 82 lbs/day of PM_{10}, 550 lbs/day of CO, or 150 lbs/day of SO_X.*

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4.4 BIOLOGICAL RESOURCES

This section addresses biological resources issues related to the proposed MBSST Network project described in Section 2.0, *Project Description*. A variety of terrestrial and aquatic habitats are present along the three distinct trail reaches (northern, central and Watsonville reaches) of the proposed MBSST Network. The proposed MBSST Network ranges in elevation from sea level to approximately 30 to 40 feet above sea level throughout the corridor. Portions of the proposed project are located within the Coastal Zone of Santa Cruz County.

Rincon Consultants, Inc. biologists visited the site on December 3, 11, and 12, 2012 and conducted reconnaissance-level floral and wildlife surveys along the proposed MBSST Network. To support the field investigation, data on biological resources were collected from numerous sources, including relevant literature, maps of natural resources, and data on special-status species and sensitive habitat information obtained from the California Department of Fish and Wildlife (CDFW, formerly the California Department of Fish and Game), California Natural Diversity Data Base (CNDDB) (2003; queried August 2012), the California Native Plant Society online *Inventory of Rare, Threatened, and Endangered Plants of California* (2012), and the United States Fish and Wildlife Service (USFWS) Information, Planning and Conservation System (IPaC) (2012b). The USFWS Critical Habitat Mapper (2012a) and National Wetlands Inventory (NWI; 2012c) were also queried.

4.4.1 Setting

a. Habitats. The proposed MBSST Network contains 12 habitats mapped by the CDFW California Wildlife Habitat Relationships (CWHR) habitat classification system (Table 4.4-1). A general description of the habitat composition of each reach is provided, followed by a description of each of the habitats adapted from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer, 1988). It should be noted that these habitat are generalized and that site-specific variation is present. Also note that the CWHR system maps habitats from a broad perspective and that in many areas it is expected that two or more habitats may blend with one another. Habitats which occur within populated areas such as those found in the central reach can also show variation because of a greater exposure to anthropogenic influences, including the introduction of exotic plant species.

Table 4.4-1
California Wildlife Habitat Relationship Habitat Classification Acreages Found in Each Reach of the MBSST Network Right-of-Way*

CWHR Classification	Northern Reach	Central Reach	Watsonville Reach
Tree Dominated Habitats			
Closed-cone pine-cypress	0.76	5.27	2.52
Coastal oak woodland	<0.01	6.15	27.84
Eucalyptus	0.39	1.93	8.64
Valley foothill riparian	1.20	2.48	5.38
Shrub Dominated Habitats			
Coastal scrub	45.37	1.27	12.82
Herbaceous Dominated Habitats			
Annual Grassland	4.86	0.23	2.58

Table 4.4-1
California Wildlife Habitat Relationship Habitat Classification Acreages Found in Each Reach of the MBSST Network Right-of-Way*

CWHR Classification	Northern Reach	Central Reach	Watsonville Reach
Aquatic Habitats			
Lacustrine	0.00	1.62	1.82
Developed/Non-vegetated Habitats			
Barren	6.09	4.92	1.16
Cropland	52.85	0.31	22.95
Urban	23.91	71.50	44.83

**Represents the maximum right-of-way widths for each individual segment, which varies from 25 to 148 feet.*

Tree Dominated Habitats.

Closed-Cone Pine-Cypress Forest. This habitat type is typically dominated by a single species of closed-cone pines (*Pinus* sp.) or cypress (*Cupressus* sp.) and is considered fire climax or fire-dependent vegetation types. Closed-cone pine-cypress habitats are typically found within rocky and infertile soils. These areas within the MBSST Network are primarily dominated by Monterey pine (*Pinus radiata*).

Coastal Oak Woodland. This habitat type can be extremely variable. The over story consists of deciduous and evergreen hardwoods (mostly oaks) mixed with scattered conifers. Within the proposed MBSST Network this habitat is dominated by coast live oak (*Quercus agrifolia*). Herbaceous species such as California blackberry (*Rubus ursinus*) and poison oak (*Toxicodendron diversilobum*) typically dominated the understory.

Eucalyptus Forest. This habitat type ranges from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy. Blue gum eucalyptus (*Eucalyptus globulus*) dominated stands are present within the proposed MBSST Network. The understory of most of these areas is comprised of mainly leaf litter and small patches of non-native annual grasses.

Valley Foothill Riparian. This habitat type is associated with drainages, particularly those with low velocity flows, flood plains, and gentle topography. This habitat is generally comprised of a sub-canopy tree layer and an understory shrub layer. Within the proposed MBSST Network this habitat type is associated with the drainages. Arroyo willows (*Salix lasiolepis*) were the most commonly observed dominant tree, with white alder (*Alnus rhombifolia*) occasionally observed as a co-dominant. Arroyo willow dominated areas form impenetrable stands with little understory vegetation, while areas with white alders maybe have a more open understory. Common understory plant species present include poison oak and coffeeberry (*Frangula californica*). Where valley foothill riparian habitat is in close proximity to disturbed habitats, particularly urban habitats, a wide variety of non-native invasive species may be present such as blue gum, English ivy (*Hedera helix*), and various ornamental species.

Shrub Dominated Habitats.

Coastal Scrub. This habitat type is typically dominated by shrubs species with mesophytic leaves and shallow root systems. This habitat type differs in composition within the proposed

MBSST Network depending upon proximity to the coastline. In areas where the proposed MBSST Network occurs closer to the coast line, this habitat is more characteristic of coast bluff scrub and is dominated by shrub species such as coast buckwheat (*Eriogonum latifolium*), bush lupine (*Lupinus arboreus*) and coastal seaside golden yarrow (*Eriophyllum staechadifolium*), with understory species such as seafig (*Carprobrotus chilensis*) and common plantain (*Plantago major*) present. Coastal scrub habitat occurring further inland is dominated shrub species such as by California sagebrush (*Artemisia californica*), coyote bush (*Baccharis pilularis*) and bush lupine with understory species such as bromes (*Bromus* sp.) and field mustard (*Hirschfeldia* sp.) present in the understory.

Herbaceous Dominated Habitats.

Annual Grasslands. This habitat type is composed primarily of annual herbs and forbs and typically lack shrub or tree cover. Annual grassland areas within the proposed MBSST Network are typically grazed and are dominated by grass species such as rip-gut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), and red brome (*Bromus madritensis*). Non-native herbaceous species such as narrow-leafed plantain (*Plantago lanceolata*), and Italian thistle (*Carduus pycnocephalus*) are also common within this habitat.

Developed/Non-vegetated Habitats.

Cropland. This habitat type is characterized by areas in active agriculture and is an entirely artificially created habitat. The structure of vegetation can vary in size, shape, and growing pattern. Within the proposed MBSST Network, row crops are most common and include brussel sprouts, strawberries, and artichokes.

Urban. This habitat type is a completely man-made habitat comprising residential, commercial, and industrial developed areas. Plant species within urban habitats are typically comprised of ornamental and other non-native invasive plant species, with large developed areas lacking vegetation. Within the proposed MBSST Network, native species such as coast live oak and Monterey pine may be planted as ornamentals within urban areas.

Barren. This habitat type is defined by the absence of vegetation. Any habitat with less than 2 percent total vegetation cover and less than 10 percent cover by tree or shrub species is defined as barren. Structure and composition of the substrate is largely determined by the region of the state and surrounding environment. Within the proposed MBSST Network, these areas occur along beaches and steep cliff sides.

Lacustrine. This habitat type includes permanently flooded lakes and reservoirs, intermittent lakes and ponds (including vernal pools). Within the proposed MBSST Network, lacustrine habitats are associated with some of the drainages and sloughs found along the alignment. Emergent and surface vegetation often occur in association with lacustrine habitats.

b. Drainages and Wetlands.

Drainages. The proposed MBSST Network intersects nearly every major watershed within the County, including numerous intermittent and perennial drainages and swales (Table 4.4-2), all of which ultimately drain into the Pacific Ocean. Drainage crossings are more

numerous in the northern reach, with the number of drainage crossings decreasing as the trail continues southward. The drainages within these watersheds are of biological importance considering they are utilized by species such as steelhead – central California coast distinct population segment (DPS) and south-central California coast DPS (*Oncorhynchus mykiss*), coho Salmon – central California coast evolutionarily significant unit (ESU) (*Oncorhynchus kisutch*) and California red-legged frogs (*Rana draytonii*). The following is a regional summary of the watersheds that occur within the proposed MBSST Network. Drainages that are accessible to or within the distribution of salmonid species are also noted (Santa Cruz County, 2004).

Table 4.4-2
Number of Drainages
Along the Proposed MBSST Network

Reach	Intermittent	Perennial	Swale
Northern	7	10	10
Central	4	8	6
Watsonville	2	3	0

Waddell. The Waddell Creek watershed is located in the northern reach and drains an area of approximately 27 square miles and is comprised of Last Chance Creek, the two major tributaries of Waddell Creek, East Waddell and West Waddell, and numerous unnamed tributaries (Santa Cruz County, 2012). Waddell Creek is within the current distribution of both steelhead – central California coast DPS and coho salmon – central California coast ESU.

Swanton Bluffs. Swanton Bluffs is a small watershed in the northern reach that follows the coast line between the Scotts Creek and Waddell Creek watersheds. The watershed is approximately five square miles, and is comprised of two unnamed streams (Santa Cruz County, 2012).

Scott Creek. Scott Creek drains a 39-square mile watershed in the northern reach. Big Creek and Little Creek are the major tributaries to Scott Creek. Smaller tributaries include Queseria Creek, Berry Creek, Boyer Creek, Deadman Gulch, Winter Creek, Mill Creek, Archibald Creek, and numerous unnamed streams and creeks (Santa Cruz County, 2012). Scott Creek is accessible to both steelhead – central California coast DPS and coho salmon – central California coast ESU.

Davenport. Davenport watershed is located between Scott Creek and San Vicente Creek and drains an area of approximately eight square miles in the northern reach. Molino Creek, Davenport Landing/Ferrari Creek, and several unnamed creeks comprise this watershed. The town of Davenport is located within this watershed (Santa Cruz County, 2012). Davenport Landing/Ferrari Creek is inhabited by resident rainbow trout. Molino Creek is accessible to steelhead – central California coast DPS under adequate flow conditions.

San Vicente Creek. The San Vicente Creek watershed drains an area of approximately 14 square miles in the northern reach and is comprised of San Vicente Creek fed by Mill Creek and several unnamed tributaries (Santa Cruz County, 2012). San Vicente Creek is within the current distribution of both coho salmon and steelhead – central California coast DPS.

Liddell Creek. The Liddell Creek watershed drains an area of approximately eight square miles in the northern reach and is comprised of Liddell Creek, West Liddell Creek, East Liddell Creek, and Yellow Bank Creek (Santa Cruz County, 2012). Liddell Creek, West Liddell Creek and East Liddell Creek are considered accessible to steelhead under adequate flow conditions. Trout populations inhabiting Yellow Bank Creek are considered to be resident rainbow trout.

Laguna Creek. The Laguna Creek watershed drains an area of approximately eight square miles in the northern reach and is comprised of Laguna Creek, Reggiardo Creek, and several unnamed streams (Santa Cruz County, 2012). Laguna Creek is within the current distribution of steelhead – central California coast DPS.

Majors Creek. The Majors Creek watershed is located between the Laguna Creek and Baldwin Wilder watersheds in the northern reach. It drains an area of approximately five square miles and comprises Majors Creek and three unnamed tributaries (Santa Cruz County, 2012). Majors Creek is within the current distribution of steelhead – central California coast DPS.

Baldwin Wilder. The Baldwin Wilder watershed is located just south of and adjacent to Majors Creek watershed and the San Lorenzo River watershed in the northern reach. It drains an area of approximately 20 square miles and is comprised of Baldwin Creek, Lombardi Gulch, Sandy Flat Gulch, Old Dairy Gulch, Wilder Creek (Peasley Gulch, Adams Creek, and Cave Gulch), and Moore Creek (Santa Cruz County, 2012). Wilder Creek and Baldwin Creek are within the current distribution of steelhead – central California coast DPS.

San Lorenzo River. The San Lorenzo River drains a 138 square mile watershed located in the central reach. It is the largest watershed lying completely within Santa Cruz County. Originating in the Santa Cruz Mountains, the watershed consists of a 25-mile long main stem and nine principal tributaries that include the following: Branciforte, Carbonera, Zayante, Bean, Fall, Newell, Bear, Boulder, and Kings Creeks. Smaller creeks and waterways include Powder Mill Creek, Eagle Creek, Gold Gulch, Shingle Mill Creek, Bull Creek, Bennett Creek, Mason Creek, Love Creek, Hubbard Gulch, Alba Creek, Clear Creek, Malosky Creek, Spring Creek Gulch, Two Bar Creek, Spring Creek, and numerous unnamed streams and creeks. The watershed includes the cities and communities of Santa Cruz, Scotts Valley, Felton, Ben Lomond, and Boulder Creek (Santa Cruz County, 2012). The San Lorenzo River is within the current distribution of both steelhead – central California coast DPS and coho salmon – central California coast ESU.

Arana Gulch-Rodeo. The Arana Gulch-Rodeo watershed drains a 3.5 square-mile area at the outer (eastern) edges of the City of Santa Cruz, within the central reach. Major waterways and water bodies in this watershed include Arana Gulch, Leona Creek, Schwann Lake, Rodeo Creek Gulch, and several unnamed waterways. High sediment loads threaten the quality of habitat for the steelhead and other aquatic species in Arana Gulch (Santa Cruz County, 2012). Arana Gulch is within the current distribution of steelhead – central California coast DPS.

Soquel Creek. Located between the cities of Santa Cruz and Watsonville in the central reach, the Soquel Creek watershed drains an area of 42 square miles. Major tributaries include the West Branch (Burns, Laurel, Hester Creek, Amaya Creek, Fern Gulch, Ashbury Gulch,

Hinkley Creek, and numerous unnamed waterways) and the Main Branch (fed by Moore's Gulch, Grover Gulch, Love Creek and Bate's Creek). Smaller tributaries include Noble Gulch, Porter Gulch, Tannery Gulch and Borregas Creek (Santa Cruz County, 2012). Soquel Creek is within the current distribution of both steelhead – central California coast DPS and coho salmon – central California coast ESU.

Aptos Creek. The Aptos Creek watershed drains an area of approximately 25 square miles in southern Santa Cruz County, within the central reach. Aptos Creek and Valencia Creek are the principal tributaries in the watershed. Aptos Creek converges with Valencia Creek approximately one mile inland of Monterey Bay. Bridge Creek and Mangels Gulch empty into the Aptos Creek portion of the watershed and Trout Gulch empties into Valencia Creek (Santa Cruz County, 2012). Aptos creek is considered within the current distribution of steelhead trout. Valencia Creek is considered accessible to steelhead – central California coast DPS during adequate flows.

Pajaro River. The Pajaro River watershed drains an area of approximately 1,300 square miles of land in Santa Cruz, San Benito, Santa Clara, and Monterey counties. Approximately fifteen percent, or 200 square miles, of the Pajaro River Basin lies within Santa Cruz County and the Watsonville reach. The Pajaro River watershed is comprised of the Watsonville Slough System (fed by Gallighan Slough, Harkins Slough, and Struve Slough), Corralitos Creek (fed by Rider Creek, Eureka Gulch, Diablo Gulch, Redwood Creek, Browns Creek, and Ramsey Creek), and Salsipuedes Creek (fed by College Creek, Green Valley Creek, Hughes Creek, Pinto Lake, Casserly Creek, and Gaffey Creek) (Santa Cruz County, 2012). The Pajaro River is within the current distribution of steelhead – south-central California coast DPS.

Watsonville Slough. Watsonville Slough drains 14 square miles from the hills of southern Santa Cruz County into the Pajaro River and Monterey Bay, within the Watsonville reach. The Watsonville Slough system is comprised of six individual sloughs including Watsonville Slough, Harkins Slough, Gallighan Slough, Hanson Slough, the main branch of the Struve Slough, and the western branch of Struve Slough (Santa Cruz County, 2012).

San Andreas. The San Andreas watershed is bordered on the north and east by the Pajaro River watershed and to the west by the Aptos Creek watershed within the Watsonville reach. San Andreas drains an area of approximately 15 square miles and is comprised of Bush Gulch and two unnamed streams (Santa Cruz County, 2012).

Wetlands. In addition to the drainages described above, several areas within the proposed MBSST Network contain wetlands mapped by the NWI (Table 4.4-3). A general description of each of the classifications is provided below.

Table 4.4-3
National Wetlands Inventory Classification Acreages
Found in Each Reach of the MBSST Network Right-of-Way*

Wetland Type	Northern Reach	Central Reach	Watsonville Reach
Estuarine and Marine Deep-water	0.00	0.37	0.00
Estuarine and Marine	1.39	<0.01	0.00
Freshwater emergent	0.22	<0.01	0.00
Freshwater forested/shrub	0.12	0.31	0.33

Table 4.4-3
National Wetlands Inventory Classification Acreages
Found in Each Reach of the MBSST Network Right-of-Way*

Wetland Type	Northern Reach	Central Reach	Watsonville Reach
Freshwater pond	0.10	0.36	0.00
Lake	0.12	0.21	0.00
Riverine	0.46	0.16	0.00

** Represents the maximum right-of-way widths for each individual segment, which varies from 25 to 148 feet.*

Estuarine and Marine Deep-Water. Estuarine and marine deep-water wetlands are an estuarine system composed of deep water tidal habitats and adjacent tidal wetlands that are influenced by water runoff from and often semi-enclosed by land. They are located along low-energy coastlines and have variable salinity. Continuously submerged wetlands and deep water areas of this classification contain substrates with at least 25 percent of particles smaller than stones. Vegetative cover is also generally less than 30 percent.

Estuarine and Marine. These wetlands are a marine system found in open ocean and high energy coast lines with salinities exceeding 30 parts per thousand (ppt) with little to no dilution. These areas are intertidal and have unconsolidated substrates with less than 75 percent cover of stones as well as boulders or bedrock. These areas also generally contain less than 30 percent vegetative cover. Beaches, bars and flats are also included in this class.

Freshwater Emergent. Freshwater emergent wetlands are a palustrine system which includes all non-tidal waters dominated by trees, shrubs, emergent plant species, mosses or lichens. Wetlands of this type are also low in salinity and any ocean derived salts are less than 0.5 ppt. Wetlands which lack vegetation can be included in this class if they are less than 20 acres, do not have an active wave-formed or bedrock shoreline feature, have a low water depth less than 6.6 feet and have salinities less than 0.5 ppt. The vegetation that occurs in freshwater emergent wetlands includes generally erect, rooted, perennial herbaceous hydrophytes.

Freshwater Forested/Shrub. These wetlands are a palustrine system which includes all non-tidal waters which are dominated by trees, shrubs, emergent, mosses or lichens. Wetlands of this type are also low in salinity and any ocean derived salts are less than 0.5 ppt. Wetlands which lack vegetation can be included in this class if they are less than 20 acres, do not have an active wave-formed or bedrock shoreline feature, have a low water depth less than 6.6 feet and have salinities less than 0.5 ppt. The vegetation found in freshwater forested/shrub wetlands are generally dominated by woody vegetation such as shrubs and trees that are less than 20 feet tall.

Freshwater Ponds. Freshwater ponds are a palustrine system which includes all non-tidal waters which are dominated by trees, shrubs, emergent, mosses or lichens. Wetlands of this type are also low in salinity and any ocean derived salts are less than 0.5 ppt. Wetlands which lack vegetation can be included in this class if they are less than 20 acres, do not have an active wave-formed or bedrock shoreline feature, have a low water depth less than 6.6 feet and have salinities less than 0.5 ppt. These wetlands and deep water habitats are dominated by plants that grow on or below the surface of the water.

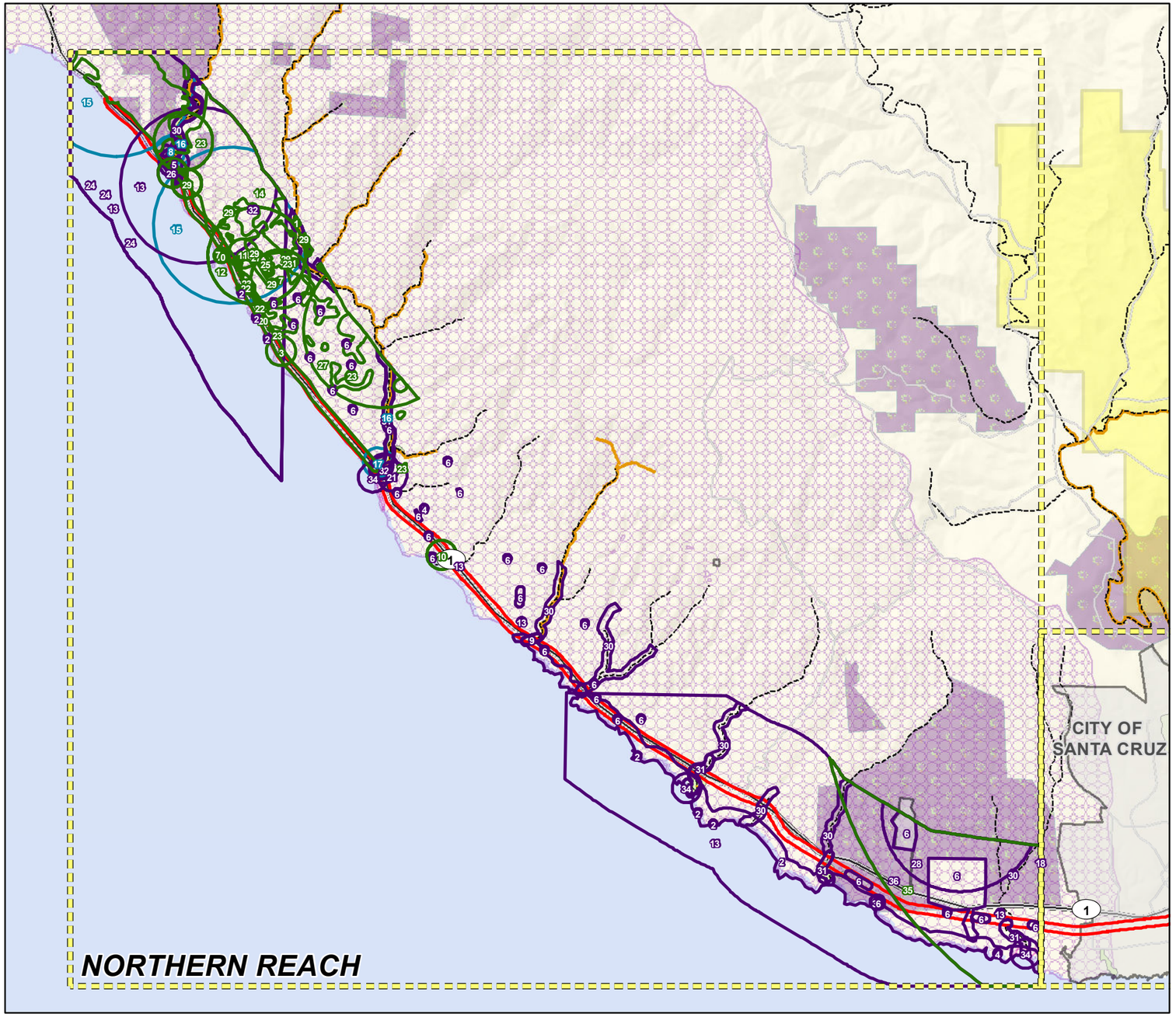
Lakes. Lakes are a lacustrine system which includes wetlands and deep water habitats that are located in a topographic depression or dammed river channel. These areas tend to be greater than 20 acres. Vegetation cover within this habitat is generally less than 30 percent and substrates are composed of at least 25 percent cover of particles smaller than stones.

Riverine. Riverine habitats are a riverine system which includes all wetlands and deep water habitats contained in natural or artificial channels that contain periodically or continuously flowing water. This system may also form a connecting link between two bodies of standing water. Substrates generally consist of rock, cobble, gravel or sand.

c. Special Status Species. For the purpose of this EIR, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the federal Endangered Species Act; those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants with a California Rare Plant Rank (CRPR) of 1, 2, 3, and 4, which are defined as:

- *List 1A = Plants presumed extinct in California;*
- *List 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat);*
- *List 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80 percent occurrences threatened);*
- *List 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20 percent of occurrences threatened or no current threats known);*
- *List 2 = Rare, threatened or endangered in California, but more common elsewhere;*
- *List 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA);*
- *List 4.1 = Plants of limited distribution (watch list),seriously endangered in California;*
- *List 4.2 = Plants of limited distribution (watch list),fairly endangered in California (20-80 percent occurrences threatened); and*
- *List 4.3= Plants of limited distribution (watch list),not very endangered in California.*

Sensitive Communities and Critical Habitat. Seven communities considered sensitive by the CDFW as well as federally designated critical habitat for 10 special status plant and animal species are mapped within a one-mile search radius centered on the proposed MBSST Network right-of-way (Figures 4.4-1a through c). These sensitive communities and critical habitats are listed in Table 4.4-4.



Legend

1 - bent-flowered fiddleneck
2 - black swift
3 - Blasdale's bent grass
4 - burrowing owl
5 - California black rail
6 - California red-legged frog
7 - Choris' popcornflower
8 - Coastal Brackish Marsh
9 - coho salmon - central California coast ESU
10 - elongate copper moss
11 - Kellogg's horkelia
12 - marsh microseris
13 - monarch butterfly
14 - Monterey pine
15 - Monterey Pine Forest
16 - North Central Coast Short-Run Coho Stream
17 - Northern Coastal Salt Marsh
18 - Ohlone tiger beetle
19 - pine rose
20 - Point Reyes horkelia
21 - saltmarsh common yellowthroat
22 - San Francisco campion
23 - San Francisco collinsia
24 - San Francisco garter snake
25 - San Francisco popcornflower
26 - sandy beach tiger beetle
27 - Santa Cruz clover
28 - Santa Cruz kangaroo rat
29 - Santa Cruz microseris
30 - steelhead - central California coast DPS
31 - tidewater goby
32 - tricolored blackbird
33 - western pond turtle
34 - western snowy plover
35 - white-rayed pentachaeta
36 - Zayante band-winged grasshopper

Monterey Bay Sanctuary Scenic Trail Network Corridor*
Reaches

CNDDB
Animals
Plants
Natural Communities

Critical Habitats
Central California Coast Steelhead FCH
Central California Coast Coho ESU FCH
Zayante Band Winged Grasshopper FCH
Tidewater Goby revised PCH
CA Red-legged Frog FCH
Marbeled Murrelet FCH
Western Snowy Plover FCH
Robust Spineflower FCH

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*
PCH - Proposed Critical Habitat
FCH - Final Critical Habitat

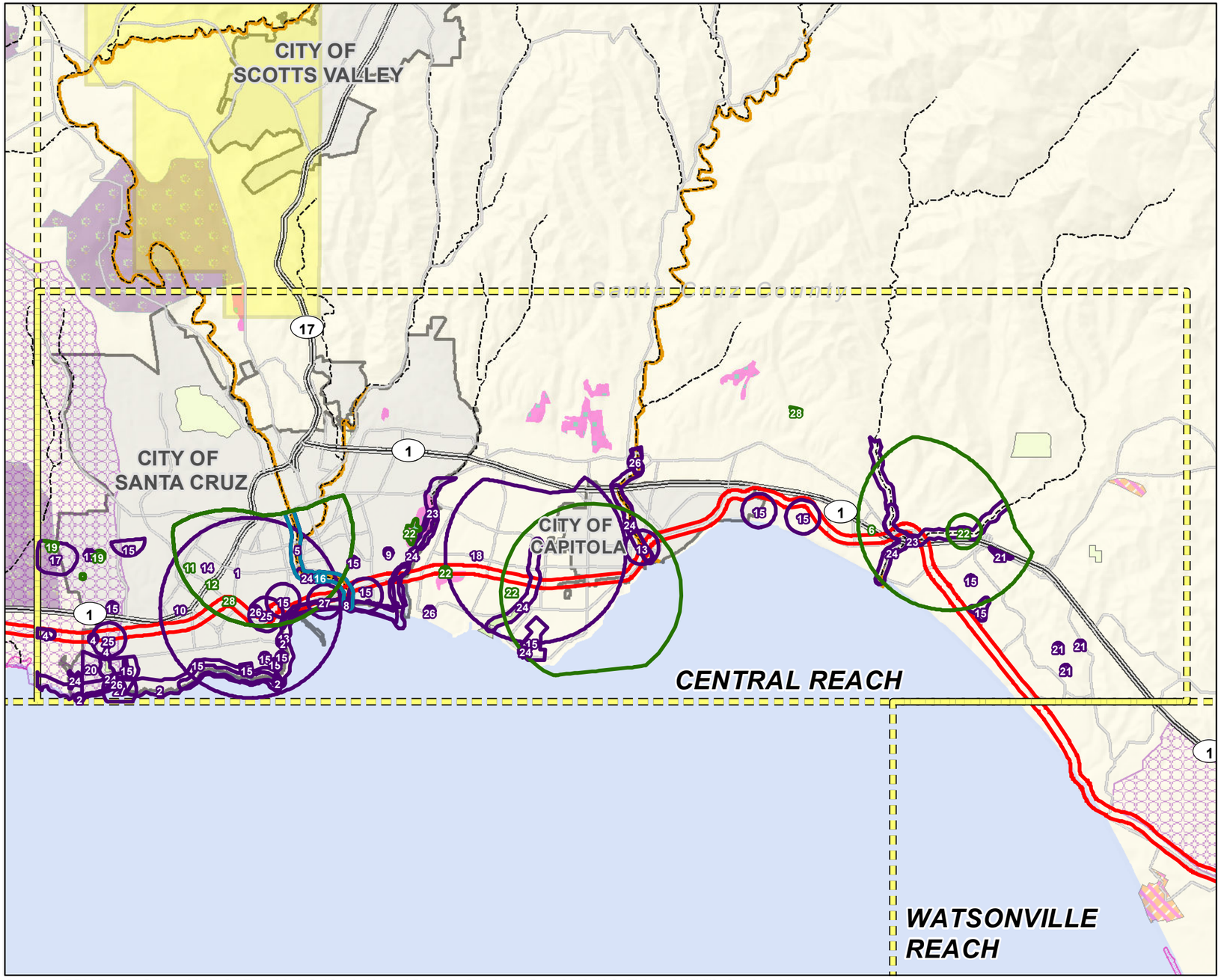
N

0 0.75 1.5 Miles

Sources: RRM Design Group, 2012, CalFish, 2012 California Natural Diversity Database, Dec, 2012, U.S. Fish and Wildlife Service, 2012. Additional suppressed records reported by the CNNDB known to occur or potentially occur within this search radius include: Monarch Butterfly and San Francisco Garter Snake

Sensitive Elements Reported by the California Natural Diversity Database Within 1 Mile and Federally Designated Critical Habitat: Northern Reach

Figure 4.4-1a



Legend

1 - bank swallow
2 - black swift
3 - California linderiella
4 - California red-legged frog
5 - coho salmon - central California coast ESU
6 - Dudley's lousewort
7 - foothill yellow-legged frog
8 - globose dune beetle
9 - great blue heron
10 - hoary bat
11 - Loma Prieta hoita
12 - maple-leaved checkerbloom
13 - mimic tryonia (California brackishwater snail)
14 - moestan blister beetle
15 - monarch butterfly
16 - North Central Coast Drainage Sacramento Sucker/Roach River
17 - Ohlone tiger beetle
18 - pallid bat
19 - San Francisco popcornflower
20 - sandy beach tiger beetle
21 - Santa Cruz long-toed salamander
22 - Santa Cruz tarplant
23 - steelhead - central California coast DPS
24 - tidewater goby
25 - tricolored blackbird
26 - western pond turtle
27 - western snowy plover
28 - woodland woollythreads

Monterey Bay Sancturary Scenic Trail Network Corridor*
Reaches

CNDDB
Animals
Plants
Natural Communities

Critical Habitats
Central California Coast Steelhead FCH
Central California Coast Coho ESU FCH
Zayante Band Winged Grasshopper FCH
Tidewater Goby revised PCH
CA Red-legged Frog FCH
Marbeled Murrelet FCH
Western Snowy Plover FCH
Monterey Spineflower FCH
Robust Spineflower FCH
Santa Cruz Tarplant FCH

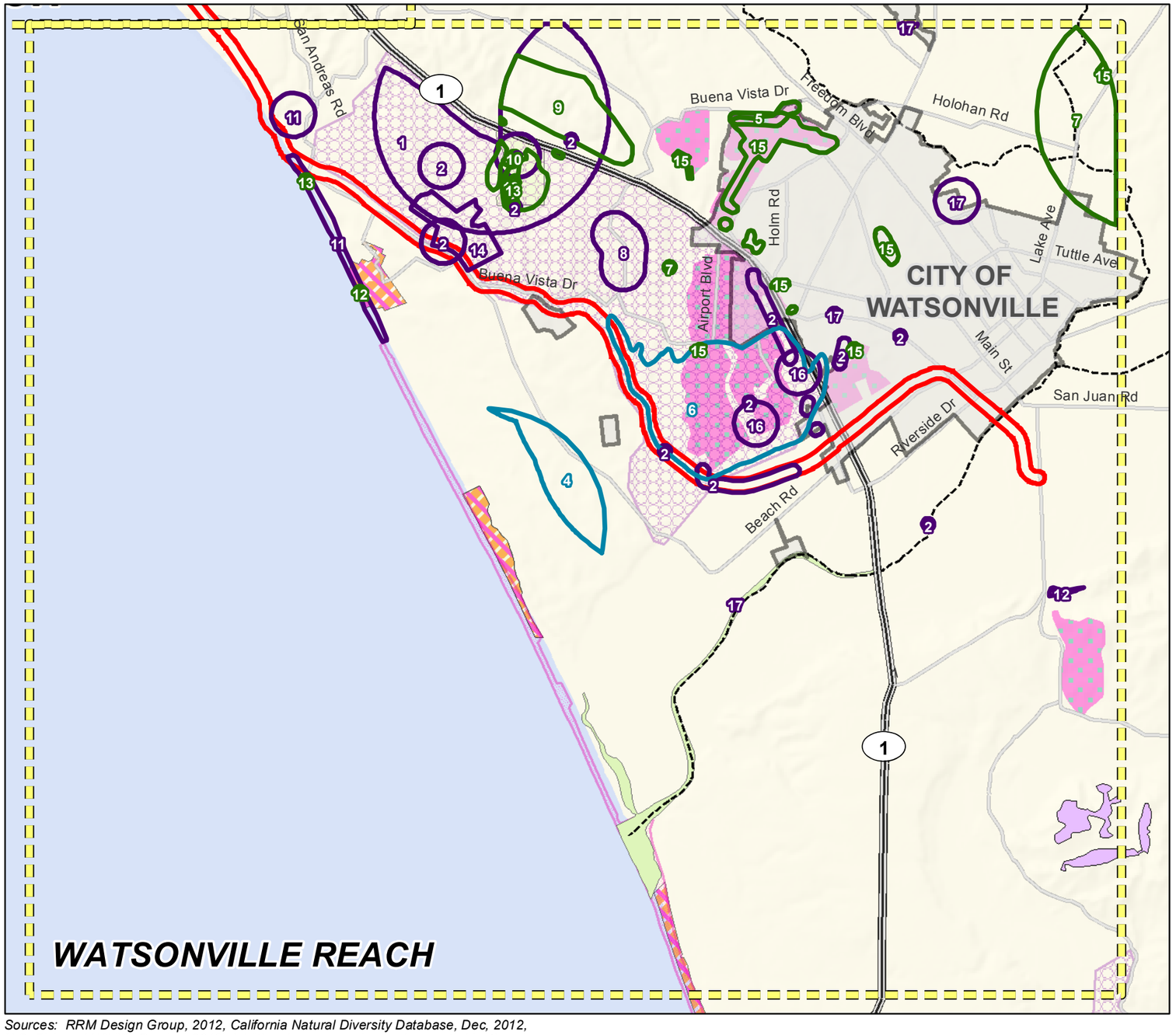
**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*
PCH - Proposed Critical Habitat
FCH - Final Critical Habitat

N
0 0.625 1.25 Miles

Sources: RRM Design Group, 2012, CalFish, 2012 California Natural Diversity Database, Dec, 2012, U.S. Fish and Wildlife Service, 2012.
Additional suppressed records reported by the CNNDB known to occur or potentially occur within this search radius include:
Monarch Butterfly, Zayante Band-Winged Grasshopper, White-Rayed Pentachaeta, and Black Legless Lizard

Sensitive Elements Reported by the California Natural Diversity Database Within 1 Mile and Federally Designated Critical Habitat: Central Reach

Figure 4.4-1b



Legend

1 - American badger
2 - California red-legged frog
3 - California tiger salamander
4 - Central Dune Scrub
5 - Choris' popcornflower
6 - Coastal and Valley Freshwater Marsh
7 - Congdon's tarplant
8 - foothill yellow-legged frog
9 - Hooker's manzanita
10 - Kellogg's horkelia
11 - monarch butterfly
12 - Monterey spineflower
13 - robust spineflower
14 - Santa Cruz long-toed salamander
15 - Santa Cruz tarplant
16 - tricolored blackbird
17 - western pond turtle

Monterey Bay Sancturary Scenic Trail Network Corridor*
Reaches

CNDDB
Animals
Plants
Natural Communities

Critical Habitats
South-central California Coast Steelhead FCH
Tidewater Goby revised PCH
CA Red-legged Frog FCH
Western Snowy Plover FCH
Monterey Spineflower FCH
Robust Spineflower FCH
Santa Cruz Tarplant FCH
Yadon's Piperia PCH

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*
PCH - Proposed Critical Habitat
FCH - Final Critical Habitat

N
0 0.5 1 Miles

Sensitive Elements Reported by the California Natural Diversity Database Within 1 Mile and Federally Designated Critical Habitat: Watsonville Reach

Sources: RRM Design Group, 2012, California Natural Diversity Database, Dec, 2012, U.S. Fish and Wildlife Service, 2012. Additional suppressed records reported by the CNNDB known to occur or potentially occur within this search radius include: Monarch Butterfly and Black Legless Lizard

Figure 4.4-1c

Table 4.4-4
Sensitive Communities and Critical Habitat Within One Mile of the MBSST Network Right-of-Way*

Sensitive Community	Northern Reach	Central Reach	Watsonville Reach
Central Dune Scrub			X
Coastal and Valley Freshwater Marsh			X
North Central Coast Short-Run Coho Stream	X		
Coastal Brackish Marsh	X		
Monterey Pine Forest	X		
North Central Coast Drainage Sacramento Sucker/ Roach River		X	
Northern Coastal Salt Marsh	X		X
Critical Habitat			
California red-legged frog (*Rana draytonii*)	X	X	X
Marbeled murrelet (*Brachyramphus marmoratus*)	X	X	
Monterey spineflower (*Chorizanthe pungens* var. *pungens*)			X
robust spineflower (*Chorizanthe robusta* var. *robusta*)		X	X
Santa Cruz tarplant (*Holocarpha macradenia*)		X	X
Steelhead (*Oncorhynchus mykiss irideus*)	X	X	X
Tidewater goby (*Eucyclogobius newberryi*)	X	X	X
Western snowy plover (*Charadrius alexandrinus nivosus*)	X		
Yardon's piperia (*Piperia yadonii*)			X
Zayante band winged grasshopper (*Trimerotropis infantillis*)	X	X	

**Sources: California Natural Diversity Database; USFWS Information, Planning, and Conservation System.*

Special Status Plants and Animals. Twenty eight special status plant species and 43 special status animal species have been observed or have the potential to occur within one mile of the proposed MBSST Network (Figures 4.4-1a through c). Table 4.4-5 provides the status, habitat requirements, and the reach with potential for occurrence for each species. Comments regarding observations are also provided.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Plants				
Agrostis blasdalei Blasdale's bent grass	--/--/1B.2	Blooms May – July; occurs in coastal bluff scrub, coastal dunes and coastal prairie; sandy or gravelly soil close to rocks; often in nutrient poor soil with sparse vegetation. Elevations: 16-492 feet.	N, W	Most likely to occur in coastal scrub present in northern portion of northern reach. Possible in limited areas of Watsonville reach where coastal scrub habitat occurs close to the ocean.
Amsinkia lunaris bent-flowered fiddelneck	--/--/1B.2	Blooms March – June; occurs in coastal bluff scrub, cismontane woodland and valley and foothill grassland. Elevation: 9-1640 feet.	N, W	Most likely to occur in the northern reach. Possible in limited areas of Watsonville reach where suitable habitat is present.
Arctostaphylos ohloneana Ohlone manzanita	--/--/1B.1	Blooms February – March; occurs in siliceous shale within closed-cone conifer forest and coastal scrub; on Monterey Shale. Elevations: 1476-1738 feet.	N	No manzanitas were observed in accessible areas. Low potential to occur in the northern reach.
Arenaria paludicola marsh microseris	FE/SE/1B.1	Blooms May – August; occurs on sandy substrates within openings in freshwater or brackish marshes and swamps; growing up through dense mats of *Typha, Juncus, Scirpus*, etc. Elevations: 9-557 feet.	N, W	Wetland habitats present in northern reach and in Watsonville reach (primarily associated with the sloughs).
Chorizanthe pungens var. *pungens* Monterey spineflower	FT/--/1B.2	Blooms April – August; occurs in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland; sandy soils in coastal dunes or more inland within chaparral or other habitats. Elevations: 9-1476 feet.	N, W	Potential to occur within the northern reach and Watsonville reach.
Chorizanthe robusta var. *robusta* robust spineflower	FE/--/1B.1	Blooms April – September; occurs on sandy or gravelly substrates within maritime chaparral, openings within cismontane woodland, coastal dunes, and coastal scrub; sandy terraces and bluffs or in loose sand. Elevations: 9-984 meters.	N, W	Known to occur in the Laguna Creek watershed north of Wilder Ranch State Park (ENTRIX, 2005). Potential to occur also in Watsonville reach where the project occurs in suitable habitat close to the ocean.
Collinsia multicolor San Francisco collinsia	--/--/1B.2	Blooms March – May; occurs in closed-cone conifer forest and coastal scrub, occasionally found on serpentine substrates; on decomposed shale (mudstone) mixed with humus. Elevations: 98-820 feet.	N	Potential to occur in the northern reach.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Corethrogyne leucophylla branching beach aster	--/--/3.2	Blooms May – December; occurs in closed-cone conifer forest and coastal dunes. Elevations: 9-196 feet.	N	Potential to occur in the northern reach where the project occurs close to the ocean.
Erysimum ammophilum coast wall flower	--/--/1B.2	Blooms February – June; occurs on sandy substrates and in openings within maritime chaparral, coastal dunes, and coastal scrub. Elevations: 0-196 feet.	N	Usually closer to ocean and, therefore, potential to occur in northern reach.
Gilia tenuiflora ssp. *arenaria* sand gilia	FE/ST/1B.2	Blooms April – June; occurs on sandy substrates and in openings within maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub; bare, wind-sheltered areas often near dune summit or in the hind dunes. Elevations: 0-148 feet.	N	Potential to occur in northern reach, particularly in the northern extent where the project is closer to the ocean.
Hoita strobilina Loma Prieta psoralea	--/--/1B.1	Blooms May – October; usually occurs in serpentine, mesic soils within chaparral, cismontane woodland and riparian woodland. Elevations: 98-2821 feet.	C	Found at Nisene Marks State Park, but project does not occur near this park, and habitat within project area likely not suitable.
Holocarpha macradenia Santa Cruz tarplant	FT/SE/1B.1	Blooms June – October; often occurs on clay or sandy substrates within coastal prairie, coastal scrub, and valley and foothill grassland; often with nonnatives. Elevations: 32-722 feet.	N, C, W	Occurs in Arana Gulch near the yacht harbor and in other drainages in central reach (ENTRIX, 2005) and associated with other drainages. Documented in Watsonville reach primarily around the sloughs and other drainages. Possible in grazed areas in the northern reach.
Horkelia cuneata var. *sericea* Kellogg's horkelia	--/--/1B.1	Blooms April – September; occurs in closed-cone conifer forest, maritime chaparral, and coastal scrub on sandy or gravelly soils, often in open areas; old dunes, coastal dunes. Elevations: 33-656 feet	N, W	Potential to occur in northern reach where suitable habitat is present and less disturbed. Possible in Watsonville reach in limited areas where suitable habitat is present.
Horkelia marinensis Point Reyes horkelia	--/--/1B.2	Blooms May – September; occurs in sandy soils within coastal dunes, coastal prairie, and coastal scrub; sandy flats and dunes near coast. Elevations: 16-1148 feet.	N	Most likely in northern portion of northern reach where project occurs close to coast.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Microseris paludosa marsh scorzonella	--/--/1B.2	Blooms April – July; occurs in closed-cone conifer forest, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevations: 16-984 feet.	N, W	Potential primarily in northern reach; possible in Watsonville reach where suitable habitat is relatively intact.
Mielichhoferia elongata elongate copper moss	--/--/2.2	N/A (moss): occurs within cismontane woodland on very acidic, metamorphic rock or substrate; usually in higher portions of fens. Elevations: 1640-4265 feet.	N, C, W	Potential to occur in well-vegetated drainages that often carry slow-moving water.
Monolopia gracilens woodland wollythreads	--/--/1B.2	Blooms February – July; occurs in broad-leafed upland forest, north coast conifer forest, and chaparral, and within cismontane woodland, and valley and foothill grassland; grassy sites, in openings; sandy to rocky soils; often seen on serpentine after burns, but affinity maybe weak. Elevations: 328-3937 feet.	C	Several historic records (1950s or earlier) in the central reach which are likely no longer present.
Pedicularis dudleyi Dudley's lousewort	--/SR/1B.2	Blooms April – June; occurs in chaparral (maritime), cismontane woodland, north coast conifer forest, and valley and foothill grassland; deep shady woods of older coast redwood forests. Elevations: 196-2952 feet.	C	One historic CNNDB record from 1884 in central reach. Likely extirpated.
Pentachaeta bellidiflora white-rayed pentachaeta	FE/SE/1B.1	Blooms March – May; occurs in cismontane woodland and valley and foothill grassland often in serpentine soils; open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. Elevations: 114-2034 feet.	N	Two historic records in the northern reach, in the Wilder Ranch State Park area on beach cliffs.
Pinus radiata Monterey pine	--/--/1B.1	N/A (perennial evergreen tree); occurs on sandy substrates within coastal bluff scrub, closed-cone conifer forest, and maritime chaparral. Elevations: 32-1673 feet.	N, C, W	Naturally occurring stands at the northern extent of the northern reach. Planted specimens may be present elsewhere but only naturally occurring stands are considered sensitive.
Piperia yadonii Yadon’s piperia	FE/--/1B.1	Blooms February – August; closed-cone conifer forest, chaparral, coastal bluff scrub; on sandstone and sandy soil, but poorly drained and often dry. Elevations: 32 to 1360 feet.	W	No CNDDB records in the search radius, but critical habitat in the Watsonville reach near the southern end of the project. Not expected to occur north of the Watsonville reach.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Plagiobothrys chorisianus var. *chorisianus* Choris' popcorn-flower	--/--/1B.2	Blooms March – June; occurs in chaparral, coastal prairie and coastal scrub; mesic sites. Elevations: 49-524 feet.	N, C, W	Documented in northern and Watsonville reach search radius. Not documented in central reach search radius, but could co-occur with San Francisco popcorn flower.
Plagiobothrys diffusus San Francisco popcorn flower	--/SE/1B.1	Blooms March – June; occurs in coastal prairie and valley and foothill grassland; historically from grassy slopes with marine influence. Elevations: 196-1181 feet.	N, C, W	Documented occurrences in northern and central reaches search radius. Not documented in Watsonville reach, but could co-occur with Chori's popcorn flower.
Rosa pinetorum pine rose	--/--/1B.2	Blooms May – July; occurs in closed-cone conifer forest. Elevations: 6-984 feet.	N, W	Documented in the northern reach search radius. Possible suitable habitat in the Watsonville reach as well.
Sidalcea malachroides maple-leaved checkerbloom	--/--/4.2	Blooms March – August; occurs in broad-leafed upland forest, coastal prairie, coastal scrub, north coast conifer forest, and riparian woodland; woodlands and clearings near coast; often in disturbed areas. Elevations: 0-2395 feet.	N, C, W	Riparian woodlands in several drainages in each reach.
Silene verecunda ssp. *verecunda* San Francisco campion	--/--/1B.2	Blooms March – August; occurs in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland; often on mudstone or shale; one site on serpentine. Elevations: 98-2116 feet.	N, W	Most likely to occur in the northern extent of the northern reach. Possible limited areas of suitable habitat in the Watsonville reach.
Stebbinsoseris decipiens Santa Cruz microseris	--/--/1B.2	Blooms April – May; occurs in broadleaf upland forest, closed-cone conifer forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland; open areas in loose or disturbed soil; usually derived from sandstone, shale or serpentine; on seaward slopes. Elevations: 32-1640 feet.	N, W	Most likely to occur in the northern extent of the northern reach. May be suitable habitat in the Watsonville reach.
Trifolium buckwestiorum Santa Cruz clover	--/--/1B.1	Blooms April – October; occurs on gravelly substrates and margins within broadleaf upland forest, cismontane woodland, and coastal prairie; mesic, alkaline sites. Elevations: 344-2001 feet.	None	Most likely to occur in the northern extent of the northern reach. May be suitable habitat in the Watsonville reach.
Birds				

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Agelaius tricolor tricolored blackbird	--/SSC/--	Requires open water, protected nesting substrate, and foraging area with insect prey within a few miles of the colony.	N, W	Breeding and foraging habitat is present in the vicinity of the right-of-way in sloughs, marshes at creek mouths and lagoons. The CNDDB has a record indicating breeding habitat in the marsh at the mouth of Scott Creek.
Aquila chrysaetos golden eagle	--/WL, FP/--	Uncommon resident of mountainous and valley-foothill areas; nests on cliff ledges and overhangs or in large trees; forages in open terrain where small rodent prey is seen while soaring high above ground.	N	May forage over the project area, but not expected to breed.
Ardea herodias Great blue heron	--/--/--	Colonial nester in tall trees, cliffsides, and sequestered spots in marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tidal flats, rivers and streams, wet meadows.	C, W	Rookery documented in a tributary to the Arana gulch close to the proposed MBSST Network in the central reach. Suitable rookery sites in the sloughs in the Watsonville reach.
Athene cunicularia burrowing owl	--/SSC/--	Burrow sites in open dry annual or perennial grasslands, deserts and scrublands characterized by low growing vegetation. Also inhabits anthropogenic habitats such as campuses, golf courses, cemeteries, airports, and grazed pastures.	N, W	Suitable habitat, especially grazed grasslands and open scrublands in northern reach. Few open habitats in central reach and most of Watsonville reach is unsuitable due to agriculture. Can live along railroad corridors if burrows are present. Have been observed at Wilder Ranch (ENTRIX, 2005)
Brachyramphus marmoratus marbled murrelet	FT/SE/--	Occurs in marine subtidal and pelagic habitats throughout northern California south to Santa Barbara County. Breeding populations are known from Del Norte and Humboldt counties and San Mateo and Santa Cruz counties. Requires coastal coniferous forests with dense stands of redwoods and Douglas firs. Forages close to the shore in shallow waters and nearby inland habitats.	None	This species breeds in old growth coniferous forests, and spends the non-breeding season off-shore. Not expected to occur within any of the reaches.
Charadrius alexandrinus nivosus western snowy plover	FT/SSC/--	Sandy beaches, salt pond levees or shores of large alkali lakes. Sandy, gravelly or friable soils required for nesting.	N, C	Documented occurrences in the northern and central reaches; however, CNDDB records indicate that these areas have become unsuitable due to anthropogenic disturbance.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Circus cyaneus northern harrier	--/SSC/--	Occurs in open areas, particularly in grasslands, wet meadows and marshes; requires larges areas over which to forage.	N, W	Suitable habitat is present in the northern and Watsonville reaches. central reach unsuitable due to development. Observed in the northern reach during the site visit.
Cypseloides niger black swift	--/SSC/--	Summer resident throughout most of California. Breeds only in a few isolated regions including Siskiyou, Shasta, and Trinity counties, intermittently along the east side of the Sierras, coastal sites within San Mateo and Santa Cruz counties, and southeastern San Bernardino and Riverside counties and eastern Los Angeles County.; Nests behind or beside waterfalls, in sea caves, and on perpendicular cliffs near water.	N	Adults have been observed in Wilder Ranch State Park, though nesting has not been confirmed (ENTRIX, 2005). Perpendicular cliffs near water are present within the vicinity of the northern reach. The CNDDB also has records for this species near Yellow Bank Creek Marsh, near Davenport, Younger lagoon, and in the vicinities of the mouths of Major and Laguna Creeks.
Elanus leucurus white-tailed kite	--/FP/--	Occurs throughout most of California's coastal and valley regions excluding the Cascade, Sierra Nevada, Mojave Desert, and Peninsular Ranges. Grasslands, dry farmed agricultural fields, savannahs and relatively open oak woodlands, and other relatively open lowland scrublands.	N, C, W	Habitat is present in all three reaches. Numerous observations of foraging kites in the northern reach. Suitable nesting habitat in many locations.
Empidonax trallii extimus southwestern willow flycatcher	FE/SE/--	Requires dense riparian habitats associated with rivers, swamps, and lakes. Wintering habitat is not well known, but is considered to be brushy savannah edges, second growth, shrubby clearings and pastures, and woodlands near water.	None	USFWS includes Santa Cruz County in this species distribution; however, this species is not known to breed along the coast north of Santa Barbara County.
Falco peregrinus anatum American peregrine falcon	D/D, FP/--	Near wetlands, lakes, rivers, or other waters; on cliffs, banks, dunes, mounds, also human-made structures. Nest consists of scrape or depression or ledge in an open site.	N	Known to breed in the region and has been documented in Majors Creek watershed (ENTRIX, 2005).
Geothlypis trichas sinuosa saltmarsh common yellowthroat	--/SSC/--	Resident of the San Francisco bay region, in fresh and salt water marshes. Requires thick, continuous cover down to the water surface for foraging. Requires tall grasses, tule patches and willows for nesting.	N	The range of this subspecies extends south to the northern most edge of coastal Santa Cruz County. Suitable habitat present in the northern extent of the northern reach.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Gymnogyps californianus California condor	FE/SE,FP/--	Forages in open foothill grasslands and oak savannahs. Roosts in large trees, dead snags, and on large cliffs. Breeds in remote mountainous areas of pine forest or chaparral with cliffs and large rock outcrops and caves.	None	Marginal foraging habitat in the northern reach, but no suitable nesting habitat.
Laterallus jamaicensis coturniculus California black rail	--/ST,FP/--	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about one inch that does not fluctuate during the year and dense vegetation for nesting habitat.	N, W	Suitable habitat is present within the vicinity of the northern and Watsonville reaches. The CNDDB also has a record for California black rail located at Waddell Creek lagoon in the northern reach.
Riparia riparia bank swallow	--/ST/--	Colonial nester. Nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	N, C	Documented in the central reach. Several suitable vertical banks/cliffs in the northern reach as well, particularly associated with drainages.
Sterna antillarum browni California Least tern	FE/SE, FP/--	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates including sand beaches, alkali flats, landfills, or paved areas.	N, C	Suitable nesting habitat in same areas where snowy plover can nest; historically nested in the mouth of the Pajaro River; current nesting status in the region unclear.
Vireo bellii pusillus least Bell's vireo	FE/SE/--	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms below 2000 feet. Nests are built along margins of bushes or on twigs projecting into pathways.	None	USFWS includes Santa Cruz County in this species distribution; however, this species is not known to breed north of Santa Barbara County.
Amphibians				
Ambystoma californiense California tiger salamander – Central California DPS	FT/ST/--	Vernal and seasonal pools and associated grasslands, oak savanna, woodland, and coastal scrub. Needs underground refuges (i.e., small mammal burrows, pipes) in upland areas such as grassland and scrub habitats.	W	Grassland habitat occurs in the vicinity of the right-of-way. One CNDDB record for California tiger salamander occurs within the Santa Cruz long-toed salamander ecological reserve at Ellicott Pond.
Ambystoma macrodactylum croceum Santa Cruz long-toed salamander	FE/SE,FP/--	Wet meadows near sea level in a few restricted locales in Santa Cruz and Monterey counties. Aquatic larvae prefer shallow water, using clumps of vegetation or debris for cover. Adults utilize mammal burrows.	C, W	Suitable habitat is present in the vicinity of the right-of-way. One CNDDB record indicates a large population being supported by Ellicott Pond in the Santa Cruz long-toed salamander ecological reserve.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Rana boylii foothill yellow-legged frog	--/ST/--	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	N, C, W	Documented in Watsonville reach search area. Would be associated with drainages and other wet areas.
Rana draytonii California red-legged frog	FT/SSC/--	Semi-permanent or permanent water at least 2 feet deep, bordered by emergent or riparian vegetation, and upland grassland, forest or scrub habitats for estivation and dispersal.	N, C, W	Known to occur in the project region; suitable habitat is present associated with drainages within all reaches; observed in the northern reach within Wilder Ranch State Park in a wetted area along the existing railroad tracks.
Reptiles				
Emys marmorata western pond turtle	--/SSC/--	Rivers, ponds, freshwater marshes; nests in upland areas (sandy banks or grassy open fields) up to 1,640 feet from water.	N, C, W	Suitable habitat in all three reaches in drainages, sloughs and lagoons.
Anniella pulchra nigra black legless lizard	--/SSC/--	Occurs in dune scrub, coastal scrub, chaparral, pine-oak woodland, oak woodland, and riparian woodland. Requires loose soil for burrowing, moisture, warmth, and plant cover. Burrows in washes, dune sand, loose soil near bases of slopes, and near permanent or temporary streams.	N, C, W	Suitable habitat is present in the vicinity of all three reaches. The CNDDB has records of this species within 1 mile of right-of-way.
Phrynosoma blainvillii coast horned lizard	--/SSC/--	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial and abundant supply of ants and other insects.	W	CDFW range map indicates potential for occurrence in the central and Watsonville reaches; range map shows this species further inland and away from the project in the northern reach. Not expected to occur in the central reach due to development.
Thamnophis sirtalis tetrataenia San Francisco garter snake	FE/SE,FP/--	Found in the vicinity of freshwater marshes, ponds, and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Also utilizes upland areas near water.	N	Suitable habitat is present in the northern portion of the northern reach associated with the drainages and marshes as well as upland areas in the vicinity of the right-of-way.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Fish				
Eucyclogobius newberryi tidewater goby	FE/SSC/--	Brackish water habitats along the California coast from San Diego county to Del Norte county.	N, C, W	Suitable habitat is present within the vicinity of the right-of-way. The CNDDB has records for tidewater goby at the mouths of these drainages: Scott Creek, Waddell Creek, Laguna Creek, Baldwin Creek, Moore Creek, Woods Lagoon, Rodeo Gulch, Aptos Creek, Pajaro River, Wilder Creek Lagoon, and Soquel Creek, Lombardi, Younger Lagoon and the San Lorenzo River.
Oncorhynchus kisutch coho salmon - central California coast ESU	FE/SE/--	Comprised of populations between Punta Gorda and south to the San Lorenzo River (federal listing). Populations south of Punta Gorda comprise the state listing. Requires beds of loose, silt free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	N, C	Suitable habitat is present in the vicinity of the right-of-way in the northern and central reach. Drainages accessible to coho salmon include Waddell Creek, Scott Creek, San Vicente Creek, the San Lorenzo River, Soquel Creek, and Aptos Creek (Santa Cruz County 2004).
Oncorhynchus mykiss irideus steelhead - central California coast DPS	FT/--/--	Fresh water, fast flowing, highly oxygenated, clear, cool stream where riffles tend to predominate pools; small streams with high elevation headwaters close to the ocean that have no impassible barriers; spawning: high elevation headwaters.	N, C	Suitable habitat is present in the vicinity of the right-of-way in the northern and central reach. Many of the drainages that cross the right-of way are accessible to steelhead (Santa Cruz County, 2004).
Oncorhynchus mykiss irideus steelhead – south-central California coast DPS	FT/--/--	Fresh water, fast flowing, highly oxygenated, clear, cool stream where riffles tend to predominate pools; small streams with high elevation headwaters close to the ocean that have no impassible barriers; spawning: high elevation headwaters.	W	Suitable habitat is present in the Pajaro River, which has connectivity to the ocean.
Mammals				
Antrozous pallidus pallid bat	--/SSC/--	Deserts, grasslands, shrublands, woodlands, and forest. Most common in open, dry, habitats with rocky area for roosting. Roost must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	N, C, W	Suitable foraging habitat is present for this species. The larger railroad bridges may also provide suitable roosting sites.

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Dipodomys venustus venustus Santa Cruz kangaroo rat	--/--/--	Silverleaf manzanita mixed chaparral in the Zayante Sand Hills ecosystem of the Santa Cruz Mountains. Needs soft, well-drained soils.	N	Documented in the Wilder Ranch State Park area east of Highway 1.
Lasiurus cinereus hoary bat	--/--/--	Roosts in dense foliage of large trees. Requires water. Prefers open habitats or habitat mosaics with access to trees for cover and open areas of habitat edge for feeding.	N, C, W	Suitable foraging habitat and roosting sites are present for this species in the vicinity of the right-of-way.
Neotoma macrotis luciana Monterey dusky-footed woodrat	--/SSC/--	Common to abundant in forest habitats of moderate canopy and moderate to dense understory; can be abundant in chaparral habitats.	N, C, W	Suitable habitat is present in all three reaches especially in forested and riparian areas. This species was observed during the site visit within valley foothill riparian habitat within Wilder Ranch State Park.
Taxidea taxus American badger	--/SSC/--	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food, friable soils, and open uncultivated ground. Cannot live in frequently plowed fields. Preys on burrowing rodents.	N, C	The annual grasslands in the northern reach contains suitable habitat for this species. Documented in central reach.
Invertebrates				
Branchinecta lynchi vernal pool fairy shrimp	FT/--/--	Endemic to the grasslands of the Central Valley, central Coast Mountains, and South Coast Mountains. Inhabits, small clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	N	The annual grasslands in the northern reach contain suitable habitat for this species.
Cicindela hirticollis gravida sandy beach tiger beetle	--/--/--	Inhabits area adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. Occurs in areas with clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	N, C	Suitable habitat occurs in the form of sandy beaches. The CNDDB has records for this species at the mouth of Waddell Creek and Natural Bridges State Beach.
Cincendela ohlone Ohlone tiger beetle	FE/--/--	Remnant native grasslands with California oat grass and purple needle grass in Santa Cruz County. Found on substrates including poorly-drained or sandy clay soil over bedrock of Santa Cruz mudstone. Typically occurs on level or nearly level slopes along trails adjacent to grassland habitat.	N	Have been observed at Wilder Ranch State Park and may occur in Majors Creek (ENTRIX, 2005).

Table 4.4-5
Special Status Species Known or with Potential to Occur within One Mile of the MBSST Network

Scientific Name Common Name	Status # Fed/State/ CRPR	Habitat Requirements	Reach* with Potential for Occurrence	Comments
Coelus globosus globose dune beetle	--/--/--	Inhabitant of Coastal sand dune habitat specifically fore-dunes and sand hammocks. It burrows beneath the sand surface and is most common beneath dune vegetation.	None	This species is known to occur within the vicinity of the right-of-way; however, suitable habitat was not observed.
Danaus plexippus monarch butterfly	--/--/--	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby. Species is known to occur in several locations in Santa Cruz County.	N, C, W	Suitable habitat and roosting sites are present in the vicinity of the right-of-way. The CNDDB indicates roosting sites in the vicinity of the right-of-way.
Lytta moesta moestan blister beetle	--/--/--	Central California. No habitat information available. Associated with flowers but specifics are unknown.	C	Documented in the central reach, but there is no information in the CNDDB about this location. Probably wide-spread.
Linderiella occidentalis California linderiella	--/--/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and TDS.	N, C	Documented in central reach. May be suitable habitat in grassland areas in the northern reach.
Tryonia imitator mimic tryonia (California brackishwater snail)	--/--/--	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types. Able to withstand a wide range of salinities.	N, C	Documented in central reach. Could occur where drainages meet the ocean.
Trimerotropis infantilis Zayante band-winged grasshopper	FE/--/--	Isolated sandstone deposits in the Santa Cruz Mountains (Zayante sandhills ecosystem). Occurs mostly on sand parkland habitat, but also in areas with well-developed ground cover and in sparse chaparral with grass.	None	Not expected to occur. No Zayante sandhills habitat occurs within the MBSST network.

**N – northern reach, C – central reach, W – Watsonville reach.*
#Status Definitions:
FE = Federally Endangered FT = Federally Threatened D - Delisted
SE = State Endangered ST = State Threatened SR = State Rare
FP = Fully Protected SSC = Species of Special Concern
CRPR (CNPS California Rare Plant Rank):
1A=Presumed Extinct in California
1B=Rare, Threatened, or Endangered in California and elsewhere
2=Rare, Threatened, or Endangered in California, but more common elsewhere
3=Need more information (a Review List)
4=Plants of Limited Distribution (a Watch List)
CRPR Threat Code Extension:
.1=Seriously endangered in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2=Fairly endangered in California (20-80 percent occurrences threatened)
.3=Not very endangered in California (<20 percent of occurrences threatened)

Wildlife Movement Corridors. Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The CDFW BIOS website and the *California Essential Habitat Connectivity Project: A strategy for conserving a connected California* (Spencer et al., 2010) were reviewed for wildlife movement information. The CDFW BIOS website and the CNDDB were review for documented nursery sites

The proposed MBSST Network project generally follows the Santa Cruz Branch Rail Line railroad right-of-way corridor, an approximately 32-mile corridor that passes through a wide variety of natural, urban, and agricultural habitats. Larger expanses of undeveloped natural habitat are present in the northern reach, while urban and agricultural habitats are more abundant in the central reach and Watsonville reach. As such, wildlife movement within the proposed MBSST Network is more likely to occur in the northern reach. In addition, several riparian corridors which may also facilitate wildlife movement cross the proposed MBSST Network. However, no major wildlife movement corridors are identified along the proposed MBSST Network, and wildlife movement is likely to be negatively influenced by Highway 1, which also occurs generally parallel to the proposed MBSST Network throughout its length.

d. Regulatory Framework.

United States Fish and Wildlife Service. The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the Federal Endangered Species Act (FESA) (16 USC § 153 *et seq.)*. The USFWS generally implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any federally listed threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The

permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

National Marine Fisheries Service. The NMFS is a component of the National Oceanic and Atmospheric Administration (NOAA) and has jurisdiction over projects in which federally-listed marine or anadromous fish may be affected, including coho salmon, steelhead, and tidewater goby.

United States Army Corps of Engineers. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetlands. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any discharge into wetlands or other "waters of the United States" that are hydrologically connected and/or demonstrate a significant nexus to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetlands is met through compensatory mitigation involving creation or enhancement of similar habitats.

California Department of Fish and Wildlife (formerly the California Department of Fish and Game). The CDFW derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 *et. seq.)* prohibits take of state listed threatened, endangered or fully protected species. Take under CESA ~~is restricted to direct mortality of a listed species and~~ is defined according to Fish and Game Code Section 86 as to hunt, pursue, catch, capture, or kill, or to attempt any of these activities, but it does not prohibit indirect harm by way of habitat modification. The CDFW also prohibits take for species designated as Fully Protected under the Code.

California Fish and Game Code sections 3503, 3503.5, and 3511 describe unlawful take, possession, or destruction of birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Species of Special Concern (SSC) is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the Fish and Game Code as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species into special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 *et seq.*). The NPPA requires the CDFW to establish criteria for determining if

a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 et seq. of the Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

Regional Water Quality Control Board. The State Water Resources Control Board (SWRCB) and each of nine local Regional Water Quality Control Boards (RWQCB) have jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Control Act which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The local RWQCB enforces actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the CWA for waters subject to federal jurisdiction.

California Coastal Commission. The mission of the California Coastal Commission (CCC) is to "protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations." CCC policies, as codified under the California Coastal Act of 1976, are implemented through Coastal Development Permits issued under Local Coastal Programs administered by counties and cities that lie within the coastal zone. The California Coastal Act of 1976 contains specific policies aimed and preserving biological resources, such as wetlands, riparian habitat, and marine habitat.

County of Santa Cruz**.** The Conservation and Open Space Element of the Santa Cruz County General Plan includes objectives and policies to protect biological resources which includes biological diversity, riparian corridors and wetlands, and aquatic and marine habitats. The objectives and policies applicable to the MBSST Network project are discussed below.

Objective 5.1 *To maintain the biological diversity of the county through an integrated program of open space acquisition and protection, identification and protection of plant habitat and wildlife corridors and habitats, low-intensity and resource compatible land uses in sensitive habitats and mitigations on projects and resource extraction to reduce impacts on plant and animal life.*

Policy 5.1.2 *Definition of Sensitive Habitat. An area is defined as a sensitive habitat if it meets one or more of the following criteria:*

a) Areas of special biological significance as identified by the State Water Resources Control Board.

b) Areas which provide habitat for locally unique biotic species/communities. Including coastal scrub, maritime chaparral, native rhododendrons and associated Elkgrass, mapped grasslands in the coastal zone and sand parkland; and Special Forests including San Andreas Live Oak woodlands, Valley Oak, Santa Cruz Cypress, indigenous Ponderosa Pine, indigenous Monterey Pine, and ancient forests.

c) Areas adjacent to essential habitat of rare, endangered or threatened species as defined in (e) and (f) below.

d) Areas which provide habitat for Species of Special Concern as listed by the California Department of Fish and Game in the Special Animals list, Natural Diversity Database.

e) Areas which provide for rare or endangered species which meet the definition of Section 15380 if the California Environmental Quality Act guidelines.

f) Areas which provide habitat for rare, endangered or threatened species as designated by the State Fish and Game Commission, United States Fish and Wildlife Service or California Native Plant Society.

g) Nearshore reefs, rocky intertidal areas, seacaves, islets, offshore rocks, kelp beds, marine mammal hauling grounds, sandy beaches, shorebird roosting, resting and nesting area, cliff nesting areas and marine, wildlife or educational/research reserves.

h) Dune plant habitats

i) All lakes, wetlands, wetlands, estuaries, lagoons, streams and rivers.

j) Riparian corridors.

(Appendix B of the General Plan contains a list of the specific habitats and/or species)

Policy 5.1.4 *Sensitive Habitat Protection Ordinance. Implement the protection of sensitive habitats by maintaining the existing Sensitive Habitats Protection ordinance. The ordinance identifies sensitive habitats, determines the uses which are allowed in and adjacent to sensitive habitats, and specifies required performance standards for land in or adjacent to these areas. Any amendments to this ordinance shall require a finding that sensitive habitats shall be afforded equal or greater protection by the amended language.*

Policy 5.1.6 *Development within Sensitive Habitats. Sensitive habitats shall be protected against any significant disruption of habitat values; and any proposed development within or adjacent to these areas must maintain or enhance the functional capacity of the habitat. Reduce in scale, redesign, or, if no other alternative exists, deny any project which cannot sufficiently mitigate significant adverse impacts on sensitive habitats unless approval of a project is legally necessary to allow a reasonable us of the land.*

Policy 5.1.7 *Site Design and Use Regulations. Protect sensitive habitats against any significant disruption or degradation of habitat values in accordance with the Sensitive Habitat Protection ordinance. Utilize the following site design and use*

regulations on parcels containing these resources, excluding existing agricultural operations:

a) Structures shall be placed as far from the habitat as feasible.
b) Delineate development envelopes to specify location of development in minor land divisions and subdivisions.
c) Require easements, deed restrictions, or equivalent measures to protect that portion of a sensitive habitat on a project parcel which is undisturbed by a proposed development activity or to protect sensitive habitats on adjacent parcels.
d) Prohibit domestic animals where they threaten sensitive habitats.
e) Limit removal of native vegetation to the minimum amount necessary for structures, landscaping, driveways, septic systems and gardens;
f) Prohibit landscaping with invasive or exotic species and encourage the use of characteristic native species.

<u>Policy 5.1.8</u> *Chemicals within Sensitive Habitats. Prohibit the use of insecticides, herbicides, or any toxic chemical substance in sensitive habitats, except when an emergency has been declared, when the habitat itself is threatened, when substantial risk to public health and safety exists, including maintenance for flood control by Public Works, or when such use is authorized pursuant to a permit issued by the Agricultural Commissioner.*

<u>Policy 5.1.9</u> *Biotic Assessments. Within the following areas, require a biotic assessment as part of normal project review to determine whether a full biotic report should be prepared by a qualified biologist:*

a) Areas of biotic concern, mapped;
b) Sensitive habitats, mapped & unmapped.

<u>Policy 5.1.12</u> *Habitat Restoration with Development Approval. Require as a condition of development approval, restoration of any area of the subject property which is an identified degraded sensitive habitat, with the magnitude of restoration to be commensurate with the scope of the project. Such conditions may include erosion control measures, removal of non-native or invasive species, planting with characteristic native species, diversion of polluting run-off, water impoundment, and other appropriate means. The object of habitat restoration activities shall be to enhance the functional capacity and biological productivity of the habitat(s) and whenever feasible, to restore them to a condition which can be sustained by natural occurrences, such as tidal flushing of lagoons.*

<u>Policy 5.1.13</u> *Habitats Damaged From Code Violations. In all cases where a sensitive habitat has been damaged as a result of a code violation, require that restoration of damaged areas be undertaken in compliance with all necessary permits and that the size of the restored area be in compliance with Department of Fish and Game requirements. Such restoration shall include monitoring over time to ensure the success of the restoration effort.*

Objective 5.2 *To preserve, protect and restore all riparian corridors and wetlands for the protection of wildlife and aquatic habitat, water quality, erosion control, open space, aesthetics and recreational values and the conveyance and storage of flood waters.*

Policy 5.2.1 *Designation of Riparian Corridors and Wetlands. Designate and define the following areas as Riparian Corridors:*

a) 50' from the top of a distinct channel or physical evidence of high water mark of a perennial stream;
b) 30' from the top of a distinct channel or physical evidence of highwater mark of an intermittent stream as designated on the General Plan maps and through field inspection of undesignated intermittent and ephemeral streams;
c) 100' 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;
e) Wooded arroyos within urban areas.

Designate and define the following areas as Wetlands:

Transitional areas between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water periodically or permanently. Examples of wetlands are saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

The US Army Corps of Engineers, and other federal agencies utilize a "unified methodology" which defines wetlands as "those areas meeting certain criteria for hydrology, vegetation, and soils."

Policy 5.2.2 *Riparian Corridor and Wetland Protection Ordinance. Implement the protection of riparian corridors and wetlands through the Riparian Corridor and Wetland Protection ordinance to ensure no net loss of riparian corridors and riparian wetlands, the ordinance identifies and defines riparian corridors and wetlands, determines the uses which are allowed in and adjacent to these habitats, and specifies required buffer setbacks and performance standards for land in and adjacent to these areas. Any amendments to the ordinance shall require a finding that riparian corridors and wetlands shall be afforded equal or greater protection by the amended language.*

Policy 5.2.3 *Activities within Riparian Corridors and Wetlands. Development activities, land alteration and vegetation disturbance within riparian corridors and wetlands and required buffers shall be prohibited unless exception is granted per the Riparian Corridor and Wetlands Protection ordinance. As a condition of riparian exception, require evidence of approval for development from the US Army Corps of Engineers, California Department of Fish and Game, and other federal or state agencies that may have regulatory authority within riparian corridors and wetlands.*

Policy 5.2.4 *Riparian Corridor Buffer Setback: Require a buffer setback from riparian corridors in addition to the specified distances found in the definition of riparian corridors. This setback shall be identified in the Riparian Corridor and Wetland Protection ordinance and established based on stream characteristics, vegetation and slope. Allow reductions to the buffer setback only upon approval of a riparian exception. Require a 10 foot separation from the edge of the riparian corridor buffer to any structure.*

Policy 5.2.5 *Setbacks from Wetlands. Prohibit development within the 100 foot riparian corridor of all wetlands. Allow exceptions to this setback only where consistent with the Riparian Corridor and Wetlands Protection ordinance, and in all cases, maximize distance between proposed structures and wetlands. Require measures to prevent water quality degradation from adjacent land uses, as outlined in the Water Resources section.*

Policy 5.2.9 *Management Plans for Wetland Protection. Require development in or adjacent to wetlands to incorporate the recommendations of a management plan which evaluates: migratory waterfowl use December 1 to April 30; compatibility of agricultural use and biotic and water quality protection; maintenance of biologic productivity; and the permanent protection of adjoining uplands.*

Policy 5.2.10 *Development in Wetland Drainage Basins. Require development projects in wetland drainage basins to include drainage facilities or Best Management Practices (BMPs) which will maintain surface runoff patterns and water quality, unless a wetland management plan specifies otherwise, and minimize erosion, sedimentation, and introduction of pollutants.*

Objective 5.3 *Aquatic and Marine Habitats. To identify, preserve and restore aquatic and marine habitats; to maximize scientific research and education which emphasizes comprehensive and coordinated management consistent with the mission of the Monterey Bay National Marine Sanctuary; and to facilitate multiple use and recreation opportunities compatible with resource protection.*

Policy 5.3.2 *Protecting Shorebird Nesting Sites. Discourage all activities within 100 feet of shorebird nesting sites during nesting season (March-July). Prohibit dogs form beaches having nesting sites.*

In addition, the County Municipal Code contains several regulations aimed at protecting sensitive resources, as described below.

Coastal Zone (County Code Chapter 13.20). Chapter 13.20 of *Title 13: Planning and Zoning Regulations* establishes the Coastal Zone approval for the purpose of implementing the California Coastal Act of 1976, Division 20 of the California Public Resources Code, as interpreted by and in accordance with the Local Coastal Program (LCP) of Santa Cruz County. The Coastal Zone approval is the primary mechanism for ensuring that all development in the Coastal Zone of Santa Cruz County is consistent with LCP policies and provisions. This chapter establishes the Coastal Zone approval process: where and for what types of development a Coastal Zone approval is required; the application, hearing, notice and appeal procedures; the

required findings; and development standards. The chapter applies to all development projects located within the Coastal Zone of the unincorporated portion of Santa Cruz County as identified by the Coastal Zone Combining District, established pursuant to the County zoning regulations, *Chapter 13.10* of the County Code, and shown on maps on file at the County Planning Department. This chapter of the County Code also describes the exemptions, and exclusion criteria in regards to significant trees, land clearing and grading (*Sections 13.20.050, 13.20.066, 13.20.070 and 13.20.074, 13.20.075, 13.20.077, 13.20.100*). This chapter also describes specific design criteria required for projects located within the Coastal Zone (*Sections 13.20.130-13.20.147*).

Riparian Corridor and Wetland Protection (County Code Chapter 16.30). Chapter 16.30 of *Title 16: Environmental Resource and Protection* is meant to minimize and to eliminate any development activities in the riparian corridor, preserve, protect, and restore riparian corridors. Protection is specifically aimed towards: wildlife habitat, water quality, aquatic habitat, open space, cultural, historical, archaeological and paleontological, aesthetic values, transportation and storage of floodwaters, prevention of erosion, and implementing the policies of the General Plan and the LCP Land Use Plan. This chapter of the County Code also describes the required setbacks from riparian vegetation, exemptions, exceptions as well as inspection and compliance in regards to this chapter (*Sections 16.30.040, 16.30.050, 16.30.060 and 16.30.070*).

*Santa Cruz County Sensitive Habitats Protection (County Code Chapter 16.32)***.** *Chapter 16.30* of *Title 16: Environmental Resource and Protection* is designed to minimize the disturbance of biotic communities which are rare or especially valuable because of their special nature or role in an ecosystem, and which could be easily disturbed or degraded by human activity; to protect and preserve these biotic resources for their genetic, scientific, and educational values; and to implement policies of the General Plan and the LCP Land Use Plan. This chapter defines sensitive habitats within the County, describes rules and regulations for evaluating the impacts of development activities on sensitive habitats, establishes the administrative procedures for determining whether and what type of limitations to development activities are necessary to protect sensitive habitats, and establishes a procedure for dealing with violations of this chapter. This chapter applies to both private and public activities including those of the County and other such government agencies where not exempted therefrom by State or Federal law. (*Sections 16.32.040 - 16.32.140)*

Significant Tree Protection (County Code Chapter – 16.34.). Chapter 16.34 of *Title 16: Environmental Resource and Protection* protects trees and forest communities located within the County's Coastal Zone because they are a valuable resource. Removal of significant trees could reduce scenic beauty and the attractiveness of the area to residents and visitors. This chapter regulates the removal of trees in the Coastal Zone when not included in the provisions of a discretionary permit. This chapter establishes the type of trees to be protected, the circumstances under which they may be removed, and the procedures for obtaining a permit for their removal. This chapter also establishes standards applicable to tree cutting activities of public agencies required to obtain a Coastal Zone permit pursuant to Chapter 13.20 of the County Code (*Sections 16.34.030 - 16.34.140).*

City of Santa Cruz. The Natural Resources and Conservation Element of the City of Santa Cruz General Plan 2030 includes several goals, policies and actions to protect the biological

resources found within the city. The goals, policies and actions applicable to the MBSST Network project are discussed below.

Goal NRC1	*Protected, enhanced, and sustainably managed creek systems, riparian environments, and wetlands.*
NRC1.1	*Protect the city's river and wetland areas while increasing and enhancing public access where appropriate.*
NRC1.1.1	*Require setbacks and implementation of standards and guidelines for development and improvement within the city and adjacent to creeks and wetlands as set forth in the Citywide Creeks and Wetlands Management Plan.*
Goal NRC2	*Protected, enhanced, and sustainable native and natural plant and animal communities and habitats.*
NRC2.1	*Protect, enhance, or restore habitat for special-status plant and animal species. Cf. CD4.3.3, CC3.3.6 and NRC2.2, 2.4, and 6.3.*
NRC2.2	*Protect sensitive habitat areas and important vegetation communities and wildlife habitat, to include riparian, wetland (salt marsh and freshwater wetland), coastal prairie, coastal bird habitat, and habitat that support special status species, as well as, sensitive and edge habitats ("ecotones"). Cf. CD4.3.3, CC3.3.6, and NRC2.1, 2.4, and 6.3.*
NRC2.2.1	*As part of the CEQA review process for development projects, evaluate and mitigate potential impacts to sensitive habitat (including special-status species) for sites located within or adjacent to these areas.*
NRC2.2.4	*Minimize the impact of grading and filling on sensitive habitat areas.*
NRC2.3	*Protect, enhance, and maintain significant dispersal corridors and buffers.*
NRC2.3.1	*Restrict the use of barriers that can hamper wildlife movement through the corridors and buffers.*
Goal NRC5	*An enhanced and sustainable urban forest.*
NRC5.1	*Protect and manage tree resources in the urban environment with emphasis on significant and heritage trees.*
NRC5.1.2	*Maintain and add to the City's urban tree canopy and increase tree diversity within urbanized areas using native and non-invasive tree species.*

In addition, the City of Santa Cruz Municipal Code contains several regulations aimed at protecting sensitive biological resources including, which are described below.

City of Santa Cruz Water Course Development Permit (City Code Chapter 24.08). The City-ide Creeks and Wetlands Management Plan identifies and categorizes all watercourses in the city and establishes a riparian corridor, development setback area, and management area for each

watercourse. A watercourse development permit is required as specified by Section 24.08.2150, except as provided for in Section 24.08.2140, Exemptions. All projects must comply with the watercourse development standards as described in Section 24.08.2180, except for projects that are listed as exempt in Section 24.08.2140, unless approval of a watercourse variance is obtained in accordance with Section 24.08.2210.

Land Use Permits and Findings (City Code Chapter 24.08). Part 3 of this chapter describes the requirements of coastal permits. The purpose of the coastal permit is to ensure that development projects in the Coastal Zone Overlay District are consistent with the Local Coastal Land Use Plan and the Local Coastal Implementation Program. This part of the zoning title is also part of the Local Coastal Implementation Plan. Any permitted, administrative or special uses in the underlying zoning district within the Coastal Zone Overlay District are subject to coastal permit regulations and findings, and may be authorized only by approval of a coastal permit. Exemptions and exclusions are outlined in Sections 24.08.230, 24.08.230.1 and 24.08.230.2. Chapter 24.14 describes the provisions which apply to Wildlife Habitat Areas and Plant Communities identified in Maps EQ-8 and EQ-9 of the Environmental Quality Element of the General Plan and Coastal Land Use Plan or as designated as part of an environmental review process. Except for areas defined by the City-wide Creeks and Wetlands Management Plan, the precise boundaries of areas identified are determined on a case-by-case basis by a biologist with relevant academic training and experience in instances of uncertainty. This chapter also describes the general provisions associated with construction, grading or vegetation removal within these areas.

Preservation of Heritage Trees and Heritage Shrubs (City Code Chapter 09.56). This chapter of *Title 09: Peace, Safety and Morals* is designed to protect trees and shrubs on both public and private properties designated as heritage trees. Under this, no person shall prune, trim, cut off, or perform any work, on a single occasion or cumulatively, over a three-year period, affecting twenty-five percent or more of the crown of any heritage tree or heritage shrub without first obtaining a permit pursuant to this section. No person shall root prune, relocate or remove any heritage tree or heritage shrub without first obtaining a permit pursuant to this section.

City of Capitola. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. The 1989 General Plan contains the following goal and policies related to biological resources.

Goal	*Protect and preserve the natural resources within the Capitola area.*
Policy 8	*It shall be the policy of the City to require the planting of trees in new development and to protect existing trees by allowing removal only in accordance with the City's Tree Ordinance. The City should encourage new development to be designed to preserve significant vegetation*
Impl. 8	*Enforce adopted Capitola Tree Ordinance.*
Policy 10	*It shall be the policy of the City to protect, maintain and, where possible, enhance the environmentally sensitive and locally unique habitats within its coastal zone, including dedication and /or acquisition of scenic conservation easements for protection of the natural environment. All developments approved by the City*

within or adjacent to these areas must be found to be protective of the long-term maintenances of these habitats.

Impl. 10 — *Prepare specific guidelines and regulation for the development along Soquel Creek, Noble Gulch, Escalona Gulch and other environmentally sensitive habitats with specific emphasis on Monarch Butterfly habitats.*

Policy 15 — *The City should coordinate with Santa Cruz County and AMBAG to investigate and implement sound watershed management methods for the lands within Capitola to:*

a) Maintain adequate stream flow for fish, wildlife and riparian vegetation,
b) Control contaminated urban run-off, and
c) Encourage water conservation.

Impl. 15 — *C) Prepare specific guidelines and regulation for development along Soquel Creek, Noble Gulch and Escalona Gulch.*

Policy 17 — *The City shall maintain the habitat values of Noble Gulch where existing riparian corridors exist.*

Impl. 17 — *C) Prepare specific guidelines an regulations for developing along Soquel Creek, Noble Gulch, Escalona Gulch and other environmentally sensitive habitats with specific emphasis on Monarch Butterfly habitats.*

Policy 18 — *It shall be the policy of the City to protect the winter resting sites of the Monarch Butterfly in the eucalyptus groves of Escalona Gulch and Soquel Creek as designated on Map VI-2 by requiring detailed analysis of the impacts of development on the habitat.*

In addition, the City of Capitola Municipal Code contains several regulations related to sensitive biological resources, which are described below.

Coastal Zone Combining District (City Code Chapter 17.46). Chapter 17.46 of *Title 17: Zoning* requires permit procedures for the implementation of Capitola's local coastal program, and to ensure that all private and public development projects within the city's coastal zone are consistent with the city's adopted and certified local coastal land use plan and implementation program. All development undertaken after November 8, 1972, within the coastal zone as defined in the Coastal Initiative of 1972, or after January 1, 1977, within the coastal zone as defined by the Coastal Act of 1976, shall have a valid coastal development permit issued by the California Coastal Commission or by the city pursuant to its LCP. Such requirement pertains to both public and private development, except for the exemptions set forth in Section 17.46.050.

Environmentally Sensitive Habitats (City Code Chapter 17.95). Chapter 17.95 of *Title 17: Zoning* describes the regulations which apply to the environmentally sensitive habitat (ESH) district as shown on the habitat maps included in the City's General Plan and in all other areas identified by qualified professionals as sensitive habitat. Regulated areas where development set backs are described include Soquel Creek and lagoon (*Section 17.95.020)*, Soquel Creek

riparian corridors (*Section 17.95.030*), Noble Gulch (*Section 17.95.040*), and Tannery Gulch (*Section17.95.050*). This municipal code also includes regulations pertaining to development within and adjacent to monarch butterfly habitat located at Soquel-Escolana Gulch (*Sections 17.95.060 and 17.95.061*).

Community Tree and Forest Management (City Code Chapter 12.12). Chapter 12.12 of *Title 12: Streets, Sidewalks and Public Places* describes the regulations relating to the protection, planting, maintenance, removal, and replacement of trees, and to set forth the process for development of a comprehensive plan for the planting and maintenance of a sustained community forest within the city. The Community Tree and Forest Management Chapter and associated ordinances describe the requirements and permit approval process for activities listed above (*Sections 12.12.010, 12.12.020, 12.12.030 and 12.12.040*).

City of Watsonville. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, identifies important biological resources found within Watsonville including marshes, creeks, rivers, lakes, and sloughs. Preservation of these areas was identified as important as they are habitat for endangered or threatened as well as a variety of unlisted species. The network of sloughs and marshes in the area, which makes up the South County Slough System, is designated an Area of Significant Biological Importance by the CDFW. The goals, policies, and implementation measures applicable to this project are discussed below.

Goal 9.3	*Natural resources. Identify and protect the natural resources of the Watsonville Planning Area.*
Goal 9.8	*Preserve and protect the remaining areas of wildlife habitat for their scenic and scientific value.*
Policy9.B	*The City shall designate land necessary for the preservation of natural resources and to avoid conflicts with urban land uses.*
Measure 9.B.1	*Resource Zoning – The city shall designate and zone environmentally sensitive areas as EM-OS (Environmental Management – Open Space) to prohibit development and to preserve natural resources.*
Measure 9.B.2	*Natural Resources Mitigations – The City shall require implementation of environmental mitigations on projects that may destroy or impair the future use or existence of natural resources.*
Measure 9.B.3	*Environmental Constraints – The City shall encourage development on land which has the fewest natural resource impacts and discourage or prohibit development on land having multiple natural resource impacts. An environmental constraint matrix shall be developed for use by the City.*

Measure 9.B.5 *Coastal Zone – the City shall abide by the provisions of the Watsonville Local Coastal Plan and Watsonville Local Coastal Plan Implementation Ordinance in the review of proposed development on Coastal Zone lands.*

Measure 9.B.6 *Environmental Review – The City shall conduct an appropriate environmental review process and require that proposed projects adjacent to surrounding, or containing, wetlands be subject to a site-specific analysis which will determine the appropriate size and configuration of areas to buffer wetlands from urban development.*

Policy 9.F *Wildlife Habitat Protection. The City shall designate for open space and environmental management those areas rich in wildlife species and fragile in ecological make-up. These habitat zones shall be made part of the greenbelt where appropriate.*

Measure 9.F.1 *Habitat Protection – Impacts to important wildlife habitat areas shall be identified as part of the City's development review and environmental review processes, and appropriate mitigations shall be considered. Mitigation measures to be considered include: designation of sensitive areas as open space, restriction of new development on lands that provide important wildlife habitat, setback requirements, habitat conservation plans, and habitat mitigation banking. Lands within the urban limit line that provide important wildlife habitat include, but are not limited to the following:*

a) Riparian corridors
b) Freshwater marshes and sloughs
c) Woodlands and steep slopes.

In addition, the City of Watsonville Municipal Code contains one regulation related to sensitive biological resources, which is described below.

Coastal Zone Implementation Plan (City Code Chapter 5). Chapter 5 of *Title 9: Planning and Zoning* of the City of Watsonville Municipal Code, discusses land use and development within the Coastal Zone. The purpose of this chapter is to protect and foster agriculture; assure that new development occurs near developed areas capable of accommodating it and thereby minimizing energy consumption and vehicle miles traveled; assure that agricultural lands shall not be converted to nonagricultural use until continued or renewed agricultural use is not feasible; protect the coastal visual resources, environmentally sensitive habitat areas, and water resources; and enhance public access to the shoreline and to public recreation facilities. *Article 3* of this Chapter describes the requirements of, general provisions for, and exemptions of Coastal Permits which are required for development within the Coastal Zone.

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.4.2 Impact Analysis

a. Methodology and Significance Thresholds. Data used for this analysis included aerial photographs, topographic maps, the CNDDB database, the CNPS online inventory of rare and endangered plants, accepted scientific texts to identify species, and reconnaissance site surveys conducted on December 3, 11, and 12, 2012 to generally characterize the existing conditions of the candidate sites.

Evaluation Criteria. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed MBSST Network would result in any of the following:

1) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;*
2) *Have a substantial adverse effect on 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 U.S. Fish and Wildlife Service;*
3) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*
4) *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;*
5) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or*
6) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The following section presents a broad discussion of the potential for impacts to sensitive resources along the MBSST Network. The discussion under each impact statement is organized by reach; however, the mitigation measures are applicable to all reaches where sensitive resources are or may be present.

b. Project Impacts and Mitigation Measures.

Impact B-1 Implementation of the proposed MBSST Network project could result in impacts to special status plant and animal species. This impact is Class II, *significant but mitigable*.

Numerous special status plant and animal species may occur within and adjacent to the proposed MBSST Network, primarily in those areas where the trail crosses drainages and sloughs.

Northern Reach. The northern reach has the largest number of special status plant and animal species within the MBSST Network (refer to Table 4.4-6). Most of these species are

associated with either coastal scrub habitat or drainages, though habitat that may support special status species is present at many other locations along the railroad corridor. For most species the potential for impact is low to none likely. The potential for impact will depend on the final design of the proposed MBSST Network and the extent of disturbance of habitat adjacent to Highway 1 and the railroad corridor. Species with a moderate or high potential for impact are discussed below.

White-Tailed Kite (Elanus leucurus). White tailed kites are Fully Protected under the CFGC. Several white-tailed kites were observed foraging throughout the northern reach. Numerous nesting opportunities are available near the proposed MBSST Network. If white-tailed kites are nesting near the railroad corridor, construction of the MBSST Network may be disruptive and cause nest failure due to noise and above-normal human presence. The impact could be substantial if a breeding site were located near the proposed MBSST Network. These impacts would only occur during the nesting season; however, removal of a nest site outside of the nesting season could be significant as white-tailed kites tend to return to the same nest sites during subsequent years. However, it is not anticipated that large numbers of trees in any given area would need to be removed as the majority of the trail would be constructed on an existing railroad corridor or on surface streets. Furthermore, the removal of one nest tree outside of the nest season should be no different than if that tree had been felled by natural means (e.g., rot). White-tailed kites do have the ability to build new nests and the loss of a single nest tree would be less than significant. Impacts to foraging habitat would be less than significant due to the relatively small disturbance area of the proposed MBSST Network project area.

Black Legless Lizard (Anniella pulchra nigra). The black legless lizard is a state Species of Special Concern. Black legless lizards may be found in numerous locations along the proposed MBSST Network in the northern reach, but are likely to be associated with drainages or in the coastal scrub habitat where sandy soils are present in the northern portion of this reach. In several areas, habitat adjacent to the railroad corridor will be disturbed for placement of the MBSST Network trail. Additionally, construction of the drainage crossings will impact the banks and upland habitat where the crossings are placed. Black legless lizards may be impacted during ground disturbance activities associated with construction of the project. However, the number of legless lizards likely to be impacted should be low given the amount of cropland adjacent to the railroad corridor.

California Red-Legged Frog. The California red-legged frog (CRLF) is federally Threatened and a state Species of Special Concern. Critical habitat for the CRLF is mapped throughout the northern reach and it is known to occur in multiple locations. Multiple areas of standing water and well-established wetland vegetation were observed along the railroad corridor, and a CRLF was observed in one of these wetland areas near Wilder Ranch State Park. This species is likely to be present in multiple locations along the proposed MBSST Network.

Tidewater Goby (Eucyclogobius newberryi). The tidewater goby is federally Endangered and a state Species of Special Concern. Within the northern reach, tidewater goby has been documented in Scott Creek, Waddell Creek, Wilder Creek, Moore Creek, Laguna Creek, and Baldwin Creek, and may occur in other creeks that contain brackish water habitats. Conditions at Majors Creek lagoon suggest this may also be suitable for tidewater goby (ENTRIX, 2005). The proposed MBSST Network crosses several areas of suitable habitat. The extent of impacts

will depend on the final design of the drainage crossings. The use of span bridges may result in no impacts. If bridge support structures are necessary then impacts may result during bridge installation. Indirect impacts may also result due to erosion and sedimentation from ground disturbance near suitable habitat.

Coho Salmon. The central California coast ESU of coho salmon is federally and state Endangered. Within the northern reach, Waddell Creek, Scott Creek, and San Vicente Creek are mapped as federal critical habitat. Similar to tidewater goby, the extent of impacts will depend on the final design of the drainage crossings. The use of span bridges may result in no impacts. If bridge support structures are necessary then impacts may result during bridge installation. Indirect impacts may also result due to erosion and sedimentation from ground disturbance near suitable habitat.

Steelhead. The central California coast DPS of steelhead is federally Threatened. There are eight drainages mapped as federal critical habitat in the northern reach. Extensive surveys and habitat assessments for steelhead have been conducted for several creeks in the northern reach. These surveys are summarized below.

- *Liddell Watershed*. Based on multiple surveys, the Liddell Watershed has been determined to contain suitable, albeit limited, rearing habitat for steelhead (ENTRIX, 2005). The Liddell Watershed is subject to severe sedimentation and there are numerous partial and complete barriers which prevent steelhead from the upper reach of the branches and limit the availability of spawning habitat.
- *Laguna Creek Watershed*. Surveys of this watershed identified complete barriers to steelhead within Laguna Creek upstream of a lagoon (ENTRIX, 2005). The anadromous reach provides fair quality spawning habitat. The lagoon and the anadromous reach of Laguna Creek were determined to provide good quality rearing habitat during summer and fall streamflows, and the lagoon-marsh complex appears to provide good quality rearing habitat in normal and above average water years.
- *Majors Watershed*. Recent surveys have indicated that there are no substantial barriers to adult steelhead migration in Majors Creek except for one located approximately 0.71 miles upstream of the mouth (ENTRIX, 2005). Very little spawning habitat was identified in the approximately 0.71 mile anadromous reach, largely due to the lack of spawning gravels. However, the anadromous reach was determined to provide good quality rearing habitat.
- *Baldwin Creek*. Surveys determined that Baldwin Creek does have connectivity with the ocean, but the flows observed were low and a barrier beach may prevent access to the creek (ENTRIX, 2005). Furthermore, passage between the creek and adjacent lagoon may be constrained by impoundments and a culvert. If steelhead can access the upstream portions of the reach, it may provide favorable spawning and rearing habitat.
- *Wilder Creek*. This creek transitions from a beach lagoon to a low-gradient stream and then to a high-gradient, forested stream (ENTRIX, 2005). Steelhead have access to approximately two miles of stream habitat, though fish passage may be difficult in some areas.

Other drainages within the northern reach may be accessible to steelhead, such as Willow Gulch and Waddell Creek. Similar to tidewater goby and coho salmon, the extent of impacts will

depend on the final design of the drainage crossings. The use of span bridges may result in no impacts. If bridge support structures are necessary then impacts may result during bridge installation. Indirect impacts may also result due to erosion and sedimentation from ground disturbance near suitable habitat.

Pallid Bat (Antrozous pallidus). The palled bat is a state Species of Special Concern and commonly roosts under bridges. Several railroad bridge structures could support roosting pallid bats, and these bats could be disturbed during construction of drainage crossings. This impact would be substantially greater if any of these bridges are used as a maternity roost.

Monterey Dusky-Footed Woodrat (Neotoma macrotis luciana). The Monterey dusky-footed woodrat is a state Species of Special Concern that occurs in scrub and woodland habitats, particularly riparian woodland. A woodrat nest was observed in riparian woodland (mostly willows) habitat near Wilder Ranch State Park. This species may be present in any of the drainages on-site as well as in woodland habitat that occurs adjacent to the railroad corridor such as was observed near Wilder Ranch State Park. This species could be impacted during construction of drainage crossings and during ground disturbance of habitat adjacent to the railroad corridor.

Monarch Butterfly (Danaus plexippus). Monarch butterflies do not carry a special status, but the CDFW is tracking their presence through the CNDDB. Monarch butterflies have a unique habit of roosting in wind-protected groves of eucalyptus, Monterey pines, and/or Monterey cypress along the Central Coast during the winter months. Roosts are located near the coast where fog occurs frequently and moisture levels remain moderate to high. Monarch butterflies roost in large colonies and are known to roost in coastal Santa Cruz County. Within the northern reach, monarch butterflies have been documented in the northern portion and near Wilder Ranch State Park. Monarch butterflies could be impacted by the project if construction occurs during the winter when roost sites are occupied as the noise and other construction disturbance may be disruptive to monarchs. Monarchs may also be impacted if trees are removed and/or trimmed resulting in changes to the suitability of the roost area.

Table 4.4-6
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Northern Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
Plant Species			
Blasdale's bent grass	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and if roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.	marsh scorzonella	**Low to None**. Suitable habitat along the railroad corridor is marginal, and in many locations the trail will not require modification of adjacent habitat.
bent-flowered fiddelneck	**Low**. Impacts may occur if species is present adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be present along large sections of the railroad as most of the adjacent habitat is cropland.	elongate copper moss	**Low to None**. Impacts would likely only occur during construction of bridges over drainages.

Table 4.4-6
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Northern Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
Ohlone manzanita	**Low to None**. No manzanitas were observed in easily accessible areas. If manzanitas are present adjacent to the railroad they could be impacted during trail construction.	white-rayed pentachaeta	**None**. The MBSST Network is sufficiently distant from suitable coastal habitat.
marsh microseris	**Low to none**. Wetlands adjacent to the railroad tracks are marginally suitable. If this species is present in these wetlands it may be impacted by trail construction. Otherwise, this species should not be impacted.	Point Reyes horkelia	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.
Monterey spineflower	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.	Monterey pine	**Low to None**. Monterey pines are only protected where they occur as natural stands. Construction can likely avoid them.
robust spineflower	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.	Choris' popcorn-flower	**Low to None**. Suitable habitat along the railroad corridor is marginal, and in many locations the trail will not require modification of adjacent habitat.
San Francisco collinsia	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.	San Francisco popcorn flower	**Low to None**. Suitable habitat along the railroad corridor is marginal, and in many locations the trail will not require modification of adjacent habitat.
branching beach aster	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.	pine rose	**Low to None**. Suitable habitat present at the northern extent of the northern reach, but roadside improvements for the trail are expected to be minimal.
coast wall flower	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.	maple-leaved checkerbloom	**Low**. Impacts may occur if adjacent suitable habitat is affected by trail improvements and during construction of bridges over drainages.
sand gilia	**Low to None**. Impacts would only occur if this species occurs adjacent to Highway 1 and roadside improvements are necessary for the trail. Not expected to be impacted elsewhere.	San Francisco campion	**Low to None**. Suitable habitat at the northern extent of the northern reach, but roadside improvements for the trail are expected to be minimal.

Table 4.4-6
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Northern Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
Santa Cruz tarplant	**Low to None**. Suitable habitat along the railroad corridor is marginal, and in many locations the trail will not require modification of adjacent habitat.	Santa Cruz microseris	**Low to None**. Suitable habitat at the northern extent of the northern reach, but roadside improvements for the trail are expected to be minimal.
Kellogg's horkelia	**Low to None**. Suitable habitat along the railroad corridor is marginal, and in many locations the trail will not require modification of adjacent habitat.		
Animals			
tricolored blackbird	**Low to None**. Impacts may occur if trail construction activities are disruptive to nearby nesting colonies.	golden eagle	**None.** No suitable nesting habitat. May forage in the area, primarily in the grasslands.
burrowing owl	**Low**. Burrows and ground squirrels were not readily apparent within the northern reach. If burrows are present or become established along the railroad corridor they may be used by this species.	western snowy plover	**None**. Suitable breeding habitat is located sufficiently far away from the proposed MBSST Network such that trail construction would not impact nesting plovers.
northern harrier	**Low**. Trail construction may be disruptive to nesting northern harriers; not expected to negatively affect foraging behavior due to the size of potential foraging habitat.	black swift	**Low**. Impacts may occur during trail construction if black swifts are nesting in cliffs of drainages.
white-tailed kite	**Low to Moderate**. Trail construction is not likely to disrupt foraging, but may be disruptive to nesting kites.	saltmarsh common yellowthroat	**None**. Would only occur in the northern extent of the northern reach, and MBSST Network occurs on the road shoulder in this area.
California black rail	**Low to None**. Would likely be associated with drainages. Trail construction may be disruptive if found near railroad corridor.	California Least tern	**None**. Suitable breeding habitat is located sufficiently far away from the proposed MBSST Network such that trail construction would not impact nesting plovers.
bank swallow	**Low**. Construction of drainage crossings may be disruptive to nesting swallows.	black legless lizard	**Low to Moderate**. Suitable habitat present along much of the route, particularly with the drainages and the coastal scrub habitat in the north. May be affected by ground disturbing activities during trail construction.
foothill yellow-legged frog	**Low**. Could be impacted during construction of drainage crossings. Has stricter habitat requirements than California red-legged frog.	California red-legged frog	**Moderate to High**. This species was observed in small wetlands adjacent to the railroad tracks, which are likely to be impacted by construction of the project. There are several other known occurrences and potential breeding areas within the vicinity of the MBSST Network.

Table 4.4-6
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Northern Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
western pond turtle	**Low**. May be found in drainages that cross the MBSST Network and could be affected by construction of crossings.	San Francisco garter snake	**Low**. May be affected by construction of crossings over drainages and ground disturbance of upland areas near drainages.
tidewater goby	**Low to Moderate**. Most drainage crossings are sufficiently far away from the coast that brackish water needed by tidewater goby is not present near the railroad.	coho salmon - central California coast ESU	**Low to Moderate**. May be affected by construction of drainage crossings. Impacts can be avoided if drainages are spanned.
steelhead - central California coast DPS	**Low to Moderate**. May be affected by construction of drainage crossings. Impacts can be avoided if drainages are spanned.	pallid bat	**Low to Moderate**. May use bridges or riparian trees as roost sites, which may be impacted by construction of drainage crossings.
hoary bat	**Low**. May be impacted by construction of drainage crossings if they result in tree removal/trimming.	Monterey dusky-footed woodrat	**Low to Moderate**. May be affected if adjacent suitable habitat is disturbed during ground disturbance and construction of drainage crossings.
American badger	**Low to None**. Suitable grassland habitat is most common in the northern extent of the northern reach, where the trail occurs mostly along Highway 1.	Santa Cruz kangaroo rat	**None**. Found in chaparral habitats in the mountains, but the proposed MBSST Network is largely located on coastal terraces.
sandy beach tiger beetle	**None**. Sand beaches would not be impacted or other suitable habitat.	vernal pool fairy shrimp	**Low to None**. Annual grasslands aren't likely to be disturbed as they are mostly adjacent to the section of the trail that occurs on the shoulder of Highway 1. Very low probably of occurring in roadside ditches.
California linderiella	**Low to None**. Annual grasslands aren't likely to be disturbed as they are mostly adjacent to the section of the trail that occurs on the shoulder of Highway 1.	monarch butterfly	**Low to Moderate**. May be impacted if potential roost sites require tree trimming/removal. Construction activities occurring during the winter roost season adjacent to roost sites may be disruptive.
mimic tryonia (California brackishwater snail)	**None.** Proposed MBSST Network is sufficiently far away from the coast that suitable habitat should not be impacted.	Ohlone tiger beetle	**Low to None.** Documented in Wilder Ranch State Park, but likely not along railroad corridor as it borders agricultural habitats considered unsuitable for this species.

Central Reach. The central reach is the least likely of the three reaches to be occupied by special status plant and animal species due to the presence of extensive urban development. In this reach, natural habitat is largely limited to drainages that course through the cities of Santa Cruz and Capitola and the community of Aptos. Twenty-six special status plant and animal species were determined to have the potential to occur within this reach, but only twelve special status animal species have a moderate potential to be impacted by the project (refer to Table 4.4-7). These species are described below.

White-Tailed Kite. Like the northern reach, several nesting opportunities are available for white-tailed kites in the central reach, particularly in the southern portion of the reach where the proposed MBSST Network transitions from urban developed areas to agriculturally developed areas that provide ample foraging opportunities. Impacts to white-tailed kites might occur during construction if kites are nesting near construction areas and/or trees need to be removed or trimmed. The impact could be substantial if a rookery is located near the proposed MBSST Network. These impacts would only occur during the nesting season; however, removal of a nest site outside of the nesting season could be significant as white-tailed kites tend to return to the same nest sites during subsequent years. However, it is not anticipated that large numbers of trees in any given area would need to be removed as the majority of the trail would be constructed on an existing railroad corridor or on surface streets. Furthermore, the removal of one nest tree outside of the nest season should be no different than if that tree had been felled by natural means (e.g., rot). White-tailed kites do have the ability to build new nests and the loss of a single nest tree would be less than significant. Impacts to foraging habitat would be less than significant due to the relatively small disturbance area of the proposed MBSST Network project area.

Great Blue Heron (Ardea herodias). Great blue herons do not carry any special status; however, the CDFW is tracking the presence of rookery sites in the CNDDB. Great blue herons are also protected under CFGC 3503 which protects all native nesting birds in California. A rookery site has been documented in a tributary to the Arana Gulch near the railroad corridor, and there are other riparian corridors that could support nesting great blue herons. Impacts to nesting great blue herons could result if construction activities occur during the nesting season and in close proximity to a rookery site.

California Red-Legged Frog. Similar to the northern reach, CRLF could occur in any of the drainages that cross the proposed MBSST Network within the central reach. CRLF could be impacted during construction of drainage crossings and with construction in the vicinity of natural habitat at Twin Lakes State Beach and New Brighton State Beach.

Foothill Yellow-Legged Frog (Rana boylii). The foothill yellow-legged frog is state Threatened and occurs in shallow streams that are partially shaded and include riffles. This species occurs in many of the same locations as the CRLF, but has an added habitat requirement of needing cobble-sized substrate for egg-laying. While not all of the drainage may contain the necessary egg-laying substrate, the foothill yellow-legged frog may still travel through the drainages within the central reach. Impacts to the foothill yellow-legged frog may result during construction of drainage crossings.

Western Pond Turtle (Emys marmorata). The western pond turtle is a state Species of Special Concern that prefers pools and slow-moving deep water with vegetation and debris that can serve as basking sites. Those drainages with openings in the canopy and pools of water may be suitable for this species. This species could be impacted during construction of drainage crossings.

Black Legless Lizard. Similar to the northern reach, the black legless lizard is expected to be associated with drainages. Given the developed nature of most of the central reach, most drainages have limited upland areas that could be utilized by this species, but they could occur

in upland areas associated with Twin Lakes State Beach and New Brighton State Beach. Black legless lizards could be impacted during construction of drainage crossings.

Tidewater Goby. Tidewater goby could occur in several drainages in the central reach such as the Moore Creek, Woods Lagoon, Rodeo Gulch, Aptos Creek, Soquel Creek, and the San Lorenzo River. The extent of impacts will depend on the final design of the drainage crossings. The use of span bridges may result in no impacts. If bridge support structures are necessary then impacts may result during bridge installation. Indirect impacts may also result due to erosion and sedimentation from ground disturbance near suitable habitat.

Coho Salmon. Within the central reach, Soquel Creek and the San Lorenzo River are mapped as federal critical habitat. Coho salmon have also been document in Aptos Creek. Occurrences within the San Lorenzo River have historically been influenced by stocking from the 1950s through the mid-1970s (ENTRIX, 2005). Similar to tidewater goby, the extent of impacts will depend on the final design of the drainage crossings. The use of span bridges may result in no impacts. If bridge support structures are necessary then impacts may result during bridge installation. Indirect impacts may also result due to erosion and sedimentation from ground disturbance near suitable habitat.

Steelhead. Four major drainages in the central reach are mapped as federal critical habitat for steelhead. The San Lorenzo River, Soquel Creek, and Aptos Creek are considered accessible to steelhead. Similar to tidewater goby and coho salmon, the extent of impacts will depend on the final design of the drainage crossings. The use of span bridges may result in no impacts. If bridge support structures are necessary then impacts may result during bridge installation. Indirect impacts may also result due to erosion and sedimentation from ground disturbance near suitable habitat.

Pallid Bat. As mentioned in the discussion above, pallid bats commonly roost under bridges. There are numerous railroad bridges in the central reach that could provide suitable roosting habitat for pallid bats. Impacts could occur during construction of drainage crossings, and could be substantial if any of the existing bridges are used as maternity roosts.

Monterey Dusky-Footed Woodrat . Woodrats may be found in the riparian habitat associated with the drainages, Twin Lakes State Beach, and New Brighton State Beach. Woodrats are expected to present in these areas and could be impacted where construction activities affect habitat adjacent to the railroad corridor.

Monarch Butterfly . Monarch butterflies have been documented in approximately 12 different locations within the central reach, including locations close to the proposed MBSST Network at Neary Lagoon, east of the San Lorenzo River, New Brighton State Beach, and the Seascape Golf Club. As discussed above, impacts to monarchs could result if construction activities occur during the winter roost period when monarchs are present. Impacts could also occur if roost site trees are removed and/or trimmed and, thus, the suitability of the roost is reduced.

Table 4.4-7
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Central Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
Plants			
Loma Prieta psoralea	**Low**. May occur in drainages and be affected by construction of crossings/bridges.	Monterey pine	**None**. Monterey pines in the central reach would be associated with landscaping. Only naturally occurring stands are considered sensitive.
elongate copper moss	**Low**. May occur in drainages and be affected by construction of crossings/bridges.	Choris' popcorn-flower	**None**. Suitable habitat is sufficiently far away from proposed MBSST Network that this species would not be impacted.
woodland wollythreads	**Low to None**. Would be limited to woodland areas associated with drainages and natural areas, but likely no longer present in the area.	San Francisco popcorn flower	**None**. Suitable habitat is sufficiently far away from proposed MBSST Network that this species would not be impacted.
Santa Cruz tarplant	**Low.** Found in drainages in the central reach. Impacts could occur during construction of drainage crossings, but otherwise would be avoided.	maple-leaved checkerbloom	**Low**. May occur in drainages and be affected by construction of crossings/bridges.
Dudley's lousewort	**Low to None**. Would be limited to woodland areas associated with drainages and natural areas, but likely no longer present in the area.		
Animals			
western snowy plover	**Low to None**. Suitable nesting habitat may be present in the San Lorenzo River near the railroad crossing, but human trespass likely discourages nesting here. No other nesting areas near the proposed MBSST Network.	white-tailed kite	**Low to Moderate**. Several potential nest trees along proposed MBSST Network, mostly associated with riparian areas. Most likely to occur in the southern portion of the central reach where agricultural lands are nearby for foraging.
bank swallow	**Low.** Construction of drainage crossings may be disruptive to nesting swallows.	California Least tern	**Low to None**. Suitable nesting habitat may be present in the San Lorenzo River near the railroad crossing, but human trespass likely discourages nesting here. No other nesting areas near the proposed MBSST Network.
Great blue heron	**Low to Moderate**. Documented in a tributary to the Arana Gulch near the railroad. Construction of the project could be disruptive to nesting herons.	Santa Cruz long-toed salamander	**Low**. May be found in drainages associated with the long-toed salamander ecological reserve and, therefore, may be impacted during construction of drainage crossings.
California red-legged frog	**Low to Moderate**. Known to occur in the region and would be associated with the drainages. May be impacted during construction of drainage crossings.	foothill yellow-legged frog	**Low to Moderate**. Documented within the central reach. Could be associated with drainages.
western pond turtle	**Low to Moderate**. Would be associated with the drainages and may be impacted during construction of drainage crossings.	black legless lizard	**Low to Moderate**. Would be associated with the drainages and may be impacted during construction of drainage crossings.

Table 4.4-7
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Central Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
coho salmon - central California coast ESU	**Low to Moderate**. May be found in Soquel Creek, Aptos Creek, and the San Lorenzo River in the vicinity of the railroad bridge. May be disturbed by construction of new drainage crossings. Would not be impacted elsewhere.	tidewater goby	**Low to Moderate**. May be found in several drainages in the vicinity of the railroad bridges. May be disturbed by construction of new drainage crossings. Would not be impacted elsewhere.
steelhead - central California coast DPS	**Low to Moderate**. May be found in several drainages in the vicinity of the railroad bridges. May be disturbed by construction of new drainage crossings. Would not be impacted elsewhere.	hoary bat	**Low**. May roost in riparian trees and be impacted by construction of drainage crossings.
pallid bat	**Low to Moderate.** Several bridges present which this species may use as roosts. May be impacted by construction of drainage crossings.	American badger	**Low**. Documented in central reach. Could be impacted during ground disturbance if suitable habitat is located adjacent to the railroad corridor.
Monterey dusky-footed woodrat	**Low to Moderate**. Would be associated with drainages and may be impacted by construction of the proposed MBSST Network, especially if habitat adjacent to the railroad tracks is disturbed.	mimic tryonia (California brackishwater snail)	**None.** Proposed MBSST Network is sufficiently far away from the coast that suitable habitat should not be impacted.
monarch butterfly	**Low to Moderate**. May be impacted if potential roost sites require tree trimming/removal. Construction activities occurring during the winter roost season adjacent to roost sites may be disruptive.	sandy beach tiger beetle	**Low to None**. Would be limited to sandy beach areas, but most of proposed MBSST Network does not encounter such areas.
moestan blister beetle	**None.** Documented in central reach, but very little known about this species. Appears to have a wide distribution.	California linderiella	**Low to None**. Documented in central reach. Annual grasslands aren't likely to be disturbed as they are mostly adjacent to the section of the trail that occurs on the shoulder of Highway 1.

Watsonville Reach. There are several natural areas that could be home to special status plant and animal species in the Watsonville reach, most notably the Gallighan and Watsonville Sloughs, the Santa Cruz Long-toed Salamander Ecological Reserve, the Ellicott Slough National Wildlife Refuge, and the Pajaro River. Sixteen special status plants and sixteen special status animals were evaluated for their potential to fall within this reach (refer to Table 4.4-8). Two special status plants and 12 special status animals were determined to have a moderate to high potential to be impacted. These species are described below.

Marsh Microseris (Arenaria paludicola). Marsh microseris is federally and state Endangered and a CRPR 1B.1 plant species that occurs in freshwater or brackish water marshes and swamps. Within the Watsonville reach, this species would most likely be associated with the sloughs. This species could be impacted during construction of the proposed MBSST Network, particularly where a boardwalk is planned to facilitate avoidance of wetland habitats.

Elegant Copper moss (Mielichhoferia elongata). Elegant copper moss is a CRPR 2.2 plant species and occurs in woodland habitats, usually on rocks or similar substrates. Within the Watsonville reach, this species would occur in the woodland areas associated with the sloughs and other natural areas. This species could be impacted during construction of the proposed MBSST Network where ground disturbance adjacent to the railroad corridor would be necessary.

Tricolored Blackbird (Agelaius tricolor). The tricolored blackbird is a state Species of Special Concern that nests in emergent vegetation in submerged areas. Tricolored blackbirds are colonial nesters, and most colonies are greater than 50 nesting pairs. Within the Watsonville reach, this species is most likely to be found nesting in the sloughs and other natural areas where large areas of wetland vegetation are present. Impacts could result if construction activities occur in or adjacent to nest habitat; however, the potential for impacts would be limited to the nesting season.

Northern Harrier (Circus cyaneus). The northern harrier is a state Species of Special Concern that nests in wet meadows, marshes, and grasslands. This species forages over large areas of similar habitats. Within the Watsonville reach, this species is likely to be associated with the sloughs and other natural areas that are not subject to plowing activities. Impacts would occur if construction activities occur near a nesting northern harrier and cause nest failure. Impacts would only occur during the nesting season.

White-Tailed Kite ~~(Elanus leucurus)~~. Several nesting opportunities are available for white-tailed kites in the Watsonville reach, particularly in the southern portion of the reach where the proposed MBSST Network transitions from urban developed areas to agriculturally developed areas that provide ample foraging opportunities. Impacts to white-tailed kites might occur during construction if kites are nesting near construction areas and/or trees need to be removed or trimmed. The impact could be substantial if a rookery is located near the proposed MBSST Network. These impacts would only occur during the nesting season; however, removal of a nest site outside of the nesting season could be significant as white-tailed kites tend to return to the same nest sites during subsequent years. However, it is not anticipated that large numbers of trees in any given area would need to be removed as the majority of the trail would be constructed on an existing railroad corridor or on surface streets. Furthermore, the removal of one nest tree outside of the nest season should be no different than if that tree had been felled by natural means (e.g., rot). White-tailed kites do have the ability to build new nests and the loss of a single nest tree would be less than significant. Impacts to foraging habitat would be less than significant due to the relatively small disturbance area of the proposed MBSST Network project area.

Great Blue Heron. Numerous riparian woodland areas within the Watsonville reach could support nesting great blue herons. Impacts to nesting great blue herons could result if construction activities occur during the nesting season and in close proximity to a rookery site.

California Black Rail (Laterallus jamaicensis coturniculus). The California black rail is state Threatened and Fully Protected. This species occurs in freshwater marshes, wet meadows and the margins of saltwater marshes. Within the Watsonville reach this species is most likely to be

associated with the sloughs and could be impacted by construction of the proposed MBSST Network, especially if construction occurs near nesting rails.

Santa Cruz Long-Toed Salamander (Ambystoma macrodactylum croceum). The Santa Cruz long-toed salamander (SCLTS) is federally and state Endangered and state Fully Protected. This species typically occurs in wet meadows and is only known from Monterey and Santa Cruz Counties. Within the Watsonville reach this species is present at Ellicott Slough National Wildlife Refuge and the Santa Cruz Long-toed Salamander Ecological Reserve. This species could also occur at the Gallighan and Watsonville Sloughs. Adults of this species use mammal burrows for cover during the non-breeding season. Impacts could occur during construction of the proposed MBSST Network where the project occurs near suitable habitat. The species could be impacted during ground disturbing activities if present in burrows, and it could also be impacted when adults and juveniles are moving through the area during the winter breeding season.

California Tiger Salamander (Ambystoma californiense). The California tiger salamander (CTS) is federally and state Threatened. While CTS can co-occur with the Santa Cruz long-toed salamander, CTS habitat requirements are more narrowly defined. CTS requires vernal and seasonal pools for breeding and upland habitats, such as grasslands and scrub habitats, with small mammal burrows for dispersal and refuge during the non-breeding season. CTS have been documented at Ellicot Pond in the Santa Cruz Long-Toed Salamander Ecological Reserve. Impacts would likely only occur if CTS are found within the construction footprint when dispersing between breeding ponds and upland habitats.

Foothill Yellow-Legged Frog. As mentioned above, this species occurs in many of the same locations as the CRLF, but has an added habitat requirement of needing some cobble-sized substrate for egg-laying. While not all of the drainage may contain the necessary egg-laying substrate, the foothill yellow-legged frog may still travel through the drainages within the Watsonville reach. Impacts to the foothill yellow-legged frog may result during construction of drainage crossings.

Western Pond Turtle. Similar to the central reach, those drainages with openings in the canopy and pools of water may be suitable for this species. This species could be impacted during construction of drainage crossings. This species could also be associated with the sloughs and, therefore, be impacted by construction in/adjacent to these areas.

Steelhead. The south-central California coast DPS of this species is known to occur in the Pajaro River. The extent of impacts will depend on the final design of the drainage crossings. The use of span bridges may result in no impacts. If bridge support structures are necessary then impacts may result during bridge installation. Indirect impacts may also result due to erosion and sedimentation from ground disturbance near suitable habitat.

Pallid Bat. As mentioned in the discussion above, pallid bats commonly roost under bridges. Within the Watsonville reach there is a substantial bridge over the Pajaro River, as well as bridges over drainages associated with the sloughs and other natural areas, which could provide suitable roosting habitat for pallid bats. Impacts could occur during construction of

drainage crossings, and could be substantial if any of the existing bridges are used as maternity roosts.

Monterey Dusky-Footed Woodrat. Woodrats may be found in riparian woodland associated with the drainages, ecological reserve, refuge, and sloughs. Woodrats are expected to be present in these areas and could be impacted where construction activities affect habitat adjacent to the railroad corridor.

Monarch Butterfly. Within the Watsonville reach, monarch butterflies have been documented within the vicinity of La Selva Beach. As discussed above, impacts to monarchs could result if construction activities occur during the winter roost period when monarchs are present. Impacts could also occur if roost site trees are removed and/or trimmed and, thus, the suitability of the roost is reduced.

Table 4.4-8
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Watsonville Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
Plants			
Blasdale's bent grass	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	Monterey pine	**None**. Monterey pines in the Watsonville reach would be associated with landscaping. Only naturally occurring stands are considered sensitive.
bent-flowered fiddelneck	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	Yadon's piperia	**Low to None**. Watsonville reach is in the northern extent of this species range. Very limited areas of suitable habitat near the proposed MBSST Network.
marsh microseris	**Low to Moderate**. Most likely associated with the sloughs. May be impacted during trail construction in these areas.	Choris' popcorn-flower	**Low to None**. Documented near the MBSST Network in this reach. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.
Monterey spineflower	**Low to None**. Documented near the MBSST Network in this reach. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	San Francisco popcorn flower	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.
robust spineflower	**Low to None**. Documented near the MBSST Network in this reach. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	pine rose	**Low to None**. Documented near the MBSST Network in this reach. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.
Santa Cruz tarplant	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	maple-leaved checkerbloom	**Low**. May be impacted during construction of the project in drainages.
Kellogg's horkelia	**Low to None**. Documented near the MBSST Network in this reach. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	San Francisco campion	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.
marsh scorzonella	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	Santa Cruz microseris	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.
elongate copper moss	**Low to Moderate**. May be impacted during construction of the project in drainages and the sloughs.		
Animals			
tricolored blackbird	**Low to Moderate**. May be impacted during construction of the project if nesting colonies are present in the sloughs near the proposed MBSST Network.	burrowing owl	**Low to None**. Could be impacted during construction of the project if burrows are present or become established along the railroad corridor they may be used by this species.

Table 4.4-8
Potential for MBSST Network Impacts to Special Status Plant and Animal Species in the Watsonville Reach

Common Name	Potential for Impact	Common Name	Potential for Impact
northern harrier	**Low to Moderate**. May be impacted during construction of the project if nesting in/near the sloughs near the proposed MBSST Network.	white-tailed kite	**Moderate**. Many potential nest sites associated with drainages and the sloughs, and larges areas of suitable foraging habitat in this reach. Could be impacted during construction of the project if nesting near construction activities and/or if tree removal/trimming is required.
California black rail	**Low to Moderate**. May be impacted during construction of the project if nesting in/near the sloughs near the proposed MBSST Network.	great blue heron	**Moderate**. Potential rookery and foraging habitat in the drainages and sloughs. Could be impacted during construction of the project if nesting nearby.
Santa Cruz long-toed salamander	**Low**. May be present in the sloughs and wet meadows, therefore, be impacted by construction of the project.	California tiger salamander – Central California DPS	**Low to Moderate**. Very few potential breeding ponds in the area. Not likely to be impacted.
foothill yellow-legged frog	**Low to Moderate**. Documented within the Watsonville reach. Could be associated with drainages and sloughs.	California red-legged frog	**Moderate to High**. Known to occur throughout the region and likely associated with drainages and the sloughs. Could be impacted by construction of the project in these areas.
western pond turtle	**Moderate**. May be impacted by construction of the project in drainages and sloughs.	black legless lizard	**Moderate**. May be impacted by construction of the project in drainages and sloughs.
coast horned lizard	**Low to None**. Very limited areas of suitable habitat. Would only be impacted if ground adjacent to the railroad corridor is disturbed.	tidewater goby	**None**. The proposed MBSST Network does not cross through suitable habitat.
steelhead – south-central California coast DPS	**Low to Moderate**. May be found in the Pajaro River in the vicinity of the railroad bridge and disturbed by construction of new crossing. Would not be impacted elsewhere.	pallid bat	**Low to Moderate**. Several bridges present which this species may use as roosts. May be impacted by construction of drainage crossings.
hoary bat	**Low**. May roost in riparian trees and be impacted by construction of drainage crossings.	Monterey dusky-footed woodrat	**Low to Moderate**. Would be associated with drainages and may be impacted by construction of the proposed MBSST Network, especially if habitat adjacent to the railroad tracks is disturbed.
monarch butterfly	**Low to Moderate**. May be impacted if potential roost sites require tree trimming/removal. Construction activities occurring during the winter roost season adjacent to roost sites may be disruptive.		

Mitigating Design Features. Chapter 5 of the proposed MBSST Network Master Plan identifies drainage and erosion control methods that would be implemented during construction and operation of the MBSST Network project, including engineering to prevent an increase of historic runoff onto other properties, channelization, culverts, improved bridge crossings, and minimization of siltation. The implementation of drainage and erosion control strategies would reduce impacts to species that inhabit aquatic/riparian habitats such as tidewater goby, coho

salmon, steelhead, CRLF, and western pond turtle that could result from on- and off-site runoff during construction and operation of the trail.

Mitigation Measures. The following mitigation measures are required:

B-1(a) **Special Status Plant Species Surveys.** Prior to any vegetation removal, grubbing, or other construction activity of each segment (including staging and mobilization), seasonally-timed special status plant surveys shall be conducted by a qualified biologist approved by the implementing entity no more than two years before initial ground disturbance. The purpose of these surveys is to document the location(s) and number(s) of sensitive plant species within construction and mitigation/restoration areas so that mitigation can be accomplished. The surveys shall coincide with the bloom periods for each species listed above in Tables 4.4-6, 4.4-7 and 4.4-8 and all special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and topographic map at a scale of no less than 1"=200'. Surveys shall be conducted in accordance with the County, CDFW, and USFWS protocols (California Department of Fish and Game 2009, United States Fish and Wildlife Service 2000). A report of the survey results shall be submitted to the RTC and/or implementing entity, and the CDFW for review and approval.

B-1(b) **Special Status Plant Species Avoidance, Minimization, and Mitigation.** If state listed, CRPR List 1B species, or naturally occurring stands of Monterey Pine are found during special status plant surveys [pursuant to mitigation measure B-1(a)], the implementing entity shall redesign the segment to avoid impacting these plant species. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent to protect them from harm.

If avoidance is not feasible, seed shall be collected from on-site rare plants prior to removal, and/or from other local populations of plant species to be impacted. Seed shall be distributed in areas not proposed for development that have the appropriate habitat characteristics necessary to support the restoration. Seed collection shall be conducted by a qualified biologist holding a rare plant collection voucher/permit. Topsoil may also be salvaged and distributed over temporarily disturbed areas following completion of construction activities provided it is free of non-native invasive species. For take of any plant species protected under CESA, an incidental take permit shall be obtained authorizing activities resulting in take.

The total number and/or total acreage for each special status plant species that will be impacted shall be determined once the final design of the project is completed and prior to initiation of ground disturbance activities. Impacted species shall be restored on-site at a minimum of a 2:1 ratio (number of acres/individuals restored to number of acres/individuals impacted) for each species as a component of habitat restoration. Prior to start of construction activities, a ~~A~~ restoration plan shall be prepared and submitted to the RTC for approval and/or implementing entity and the CDFW. The restoration plan shall include, at a minimum, the following components:

- *Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);*
- *Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved];*
- *Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values);*
- *Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan);*
- *Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule);*
- *Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports);*
- *Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type;*
- *An adaptive management program and remedial measures to address any shortcomings in meeting success criteria;*
- *Notification of completion of compensatory mitigation and agency confirmation; and*
- *Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).*

The restoration plan shall be implemented for a period of at least five years or until restoration has been deemed complete based on the established success criteria. All restoration/compensatory mitigation areas shall be permanently protected through a

conservation easement or deed restriction.

B-1(c) **Santa Cruz Long-Toed Salamander Habitat Assessment and Protocol Surveys**. Prior to start of construction of each segment, a CDFW- and USFWS-approved biologist shall conduct a habitat assessment to determine if suitable habitat is present within or adjacent to the project site. If suitable habitat is identified, protocol surveys shall be conducted in accordance with *Sampling Procedures for Determining Presence or Absence of the Santa Cruz Long-toed Salamander (Ambystoma macrodactylum croceum)* (1993) developed jointly by the CDFW and the USFWS. The protocol surveys shall be conducted for two consecutive rainy seasons prior to the start of construction. A report of the survey results shall be submitted to the implementing entity, RTC, CDFW, and the USFWS for review and approval.

B-1(d) **California Red-Legged Frog, Santa Cruz Long-toed Salamander and Foothill Yellow-Legged Frog, California Tiger Salamander Avoidance and Minimization.** The following avoidance and minimization measures are adapted from the *Programmatic Formal Endangered Species Act Consultation on Issuance of Permits under Section 404 of the Clean Water Act or Authorizations under the Nationwide Permit Program for Projects that May Affect the California Red-legged Frog* issued on January 1999 by the USFWS. Consultation shall occur with the USFWS to determine that 1) the project is covered under the above programmatic formal consultation through issuance of USACE permits under Section 404 of the Clean Water Act, or 2) that take of federally-protected species is not anticipated through implementation of the measures below as determined through informal consultation with the USFWS if no federal permits are pursued. Consultation shall also occur with the CDFW for state protected species to either obtain a state Incidental Take Permit or establish concurrence that take would not occur.

- *Within two weeks of the initiation of construction activities of each segment (including mobilization and staging), a CDFW/USFWS-approved biologist shall conduct a survey of the construction area for all life stages of CRLF, CTS, foothill yellow-legged frog, and Santa Cruz long-toed Salamander. All areas where these species occur shall be avoided until the approved biologist has determined that these species are no longer present. No life stages of these species shall be relocated without a take authorization from the USFWS and/or CDFW. If relocation is authorized, a suitable relocation site shall be identified prior to initiation of construction activities and shall be located within the same watershed/streamcourse greater than 500 feet from the project site.*

- *Work activities in or adjacent to suitable habitat shall be completed between April 1 and November 1 to the greatest extent feasible.*
- *A CDFW/USFWS-approved biologist shall be present on-site during all ground disturbing activities, including vegetation removal, grading, and exclusion fence installation and removal. Once these activities have been completed, the approved biologist shall conduct periodic inspections of the work site of not less than once per week when construction activities are occurring in/adjacent to suitable habitat. Additional site visits should occur during rain events when special status amphibians are likely to be mobile to ensure that they are not entering work areas.*
- *The implementing entity shall designate a representative who will oversee implementation of all avoidance and minimization measures when the CDFW/USFWS-approved biologist is not present. This representative shall be trained by the CDFW/USFWS-approved biologist in the identification of special status amphibians and in the implementation of all avoidance and minimization measures. This representative shall not have the authority to handle special status species.*
- *Both the implementing entity's representative and the CDFW/USFWS-approved biologist shall have the authority to halt any action which may result in the take of special status species.*
- *Prior to start of construction, exclusion fencing shall be placed along the project boundaries in areas where suitable habitat is present. This fence shall consist of solid silt fencing placed at a minimum of 3 feet above grade and 2 feet below grade and shall be attached to wooden stakes placed at intervals of not more than 5 feet. The fence shall be inspected weekly and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete.*
- *All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.*
- *At the end of each work day, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment.*
- *All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.*
- *The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly.*

- *If any federally and/or state protected species are harmed, the CDFW/USFWS-approved biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid additional harm to these species. Dead or injured special status species shall be disposed of at the discretion of the CDFW and USFWS. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours.*

B-1(e) **Tidewater Goby, Steelhead and Coho Salmon Impact Avoidance and Minimization**. If suitable habitat for tidewater goby, steelhead, and/or coho salmon cannot be avoided, any in-stream portions of each segment (where drainage crossings require in-stream work) shall be dewatered/ diverted. A dewatering/ diversion plan shall be prepared and submitted to the NMFS, the USFWS and the CDFW for review and approval. All dewatering/diversion activities shall be monitored by a qualified fisheries biologist. The fisheries biologist shall be responsible for capture and relocation of fish species out of the work area during dewatering/diversion installation.

A *Programmatic Consultation and Conference for Listed Coastal Species, Ventura, Santa Barbara, San Luis Obispo, Monterey, and Santa Cruz Counties, California (1-8-96-F-11)* was established on August 29, 1991 between the USFWS and the USACE. The following measures are generally adapted from that document. Consultation shall occur with the USFWS to determine that 1) the project is covered under the above programmatic consultation through issuance of USACE permits under Section 404 of the Clean Water Act, or 2) that take of CRLF is not anticipated through implementation of the measures below as determined through informal consultation with the USFWS if no federal permits are pursued.

- *The implementing entity shall designate a representative to monitor on-site compliance of all avoidance and minimization measures. This representative shall be trained by a qualified fisheries biologist in the identification of the target species and the assessment of the potential for take based on the proposed activities. The representative shall consult with the biologist as necessary to ensure compliance. The representative and the biologist shall have the authority to halt any action which may result in the take of listed species.*
- *Only USFWS/NMFS/CDFW-approved biologists shall participate in the capture and handling of listed species.*
- *No equipment shall be permitted to enter wetted portions of any affected drainage channel.*
- *All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment*

and clean up materials shall be located in close proximity for easy access.

- *Work within and adjacent to streams shall not occur between November 1 and May 1. Unless otherwise approved by NMFS and the CDFW.*
- *If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline.*
- *If water is to be pumped around work sites, intakes shall be completely screen with wire mesh not larger than five millimeters to prevent animals from entering the pump system.*
- *If any tidewater goby, steelhead, or coho salmon are harmed during implementation of the project, the project biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid further harm to CRLF.*
- *Water turbidity shall be monitored by a qualified biologist or water quality specialist during all instream work. Water turbidity shall be tested daily at both an upstream location for baseline measurement and downstream to determine if project activities are altering water turbidity. Turbidity measures shall be taken within 50 feet of construction activities to rule out other outside influences. Additional turbidity testing shall occur if visual monitoring indicates an increased in turbidity downstream of the work area. If turbidity levels immediately downstream of the project rise to more than 20 NTUs (Nephelometric Turbidity Units) above the upstream (baseline) turbidity levels, all construction shall be halted and all erosion and sediment control devices shall be thoroughly inspected for proper function, or shall be replaced with new devices to prevent additional sediment discharge into streams.*

B-1(f) ~~**San Francisco Garter Snake and**~~ **Black Legless Lizard Surveys.** Not less than three months prior to the start of construction activities (including staging and mobilization) for each segment, an CDFW~~ and USFWS~~-approved biologist shall place coverboards in areas with suitable habitat for ~~San Francisco garter snake and~~ black legless lizard. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground. The coverboards shall be checked by the biologist once per week for each week after placement up until the start of vegetation removal. All black legless lizards found under the coverboards shall be captured and placed in five-gallon buckets for transportation to relocation sites. All relocation sites shall be approved by the RTC and/or implementing entity and shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by construction of the project. Relocation shall occur on the same day as capture. CNDDB Field Survey

Forms shall be submitted to the CDFW for all special status animal species observed.

~~If a San Francisco garter snake is located during the surveys, the garter snake shall not be captured and relocated. All further survey efforts at the location of the observation shall cease and the CDFW and USFWS shall be consulted.~~

During all initial ground vegetation removal activities for each segment, a qualified biologist shall be on-site to recover any ~~San Francisco garter snakes and~~ black legless lizards that may be excavated/ unearthed. If the animals are in good health, they shall be immediately relocated to the designated release area. If they are injured, the animals shall be released to a CDFW ~~and/or USFWS~~ approved specialist until they are in a condition to be released into the designated release area.

A report of all preconstruction survey efforts and monitoring during initial ground vegetation removal of each segment shall be submitted to the implementing entity within 30 days of completion of the survey effort to document compliance. The report shall include the dates, times, weather conditions, and personnel involved in the surveys and monitoring. The report shall also include for each captured special status animal, the UTM coordinates and habitat descriptions of the capture and release site (in UTM coordinates), the length of time between capture and release, and the general health of the individual(s).

B-1(g) **FESA and CESA Consultation.** To ensure compliance with FESA and CESA, the RTC and/or implementing entity shall obtain either Incidental Take Permits or written concurrence that implementation of the project will not result in take for CRLF, SCLTS, CTS, ~~San Francisco garter snake,~~ steelhead, coho salmon, and tidewater goby.

B-1(h) **Western Pond Turtle Survey, Capture, and Relocation**. Not less than 14 days prior to the start of all construction activities for each segment (including staging and mobilization), an RTC and/ or implementing entity approved biologist shall conduct surveys for western pond turtles within suitable habitat. The biologist shall also oversee installation of exclusion fencing where suitable habitat is present to prevent western pond turtles from entering active work areas. If western pond turtles are identified within the work area they shall be captured and relocated to suitable habitat within the same or nearest drainage. The relocation site shall include a pool surrounded by vegetation for escape cover.

CNDDB Field Survey Forms shall be submitted to the CDFW for all special status animal species observed.

During the rainy season (approximately November 1 to April 15), western pond turtles may actively move through upland habitats outside of drainages. If a turtle is observed by construction personnel within or adjacent to the project area, the turtle's location shall be communicated to the RTC and/ or implementing entity approved biologist. Only the RTC-approved biologist shall capture and relocate the turtle. Construction personnel are not permitted to handle animals.

A report of all preconstruction survey efforts for each segment shall be submitted to the implementing entity within 30 days of completion of the survey effort to document compliance. The report shall include the dates, times, weather conditions, and personnel involved in the surveys and monitoring. The report shall also include for each captured special status animal, the UTM coordinates and habitat descriptions of the capture and release site (in UTM coordinates), the length of time between capture and release, and the general health of the individual(s).

B-1 (i) **Special Status Bat Surveys and Impact Avoidance.** An RTC and/ or implementing entity approved biologist shall conduct presence/absence surveys for special status bats where suitable roosting habitat is present. Bat surveys shall be conducted in consultation with the CDFW. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. Surveys shall be conducted not less than 30 days prior to initiation of construction activities for each segment.

Areas where special status bats are located shall be avoided where feasible. If impacts to bats cannot be avoided, exclusionary devices, such as netting, shall be installed by an RTC and/ or implementing entity approved biologist around the roost(s) after the bats have left the roost in the evening and shall be monitored for a minimum of three days to ensure that no bats return to the roost. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately. Exclusion of bats must commence prior to establishment of maternity colonies, which varies by species. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed. Bat roosts shall be removed after the breeding season has ended but before the onset of winter when temperatures are too cold for bat movement.

If a roost is determined by a qualified biologist to be used by a large number of bats (large hibernaculum), bat boxes near the impacted roost shall be installed to reduce the impact to the bat species present. Bat boxes shall be species-specific in dimensions and should mimic a tree hollow or crevice. Bat boxes shall be installed at a height that is appropriate for the bat species and anti-predator measures, such as small metal spikes on the top, shall be included to protect bats.

A report of survey efforts shall be submitted to the implementing entity within 30 days of completion of the surveys for each segment to document compliance. The report shall include the dates, times, weather conditions, and personnel involved in the surveys. If exclusion devices and/or bat boxes are utilized, the report shall describe how these methods were employed.

B-1(j) **Monterey Dusky-Footed Woodrat Avoidance and Minimization**. Within 14 days prior to start of construction activities, all suitable habitat within and adjacent to the construction disturbance limits shall be surveyed for woodrat middens by a qualified biologist approved by the RTC and/or the implementing entity. If middens are located within the disturbance area, the construction contractor shall under the guidance of the biologist remove the midden using an excavator. The midden shall first be "tapped" or shaken by the excavator bucket to encourage the woodrats to evacuate. The excavator shall then grasp portions of the midden with the bucket and relocate them to the same location outside of the disturbance area. All portions of the same midden shall be relocated to the same area; they shall not be distributed across the adjacent habitat. Once the biologist is satisfied that the midden has been removed, construction may commence.
If a midden is located within 50 feet of the construction disturbance area, bright-orange construction fencing shall be installed along the perimeter of the disturbance area to protect the midden from harm impacts during construction.

B-1(k) **Preconstruction Surveys for Nesting Birds.** For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the CFGC and the MBTA (including, but not limited to, great blue heron, northern harrier, tricolored blackbird, and California black rail) shall be conducted by a qualified biologist no more than 14 days prior to initiation of construction activities for each segment, including construction staging and vegetation removal. The surveys shall include the entire segment disturbance area plus a 200 foot buffer around the site. If active nests are located, all

construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The biologist shall have full discretion for establishing a suitable buffer. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.

B-1(l) **Monarch Butterfly Avoidance and Minimization**. Prior to completion of the final design, a biologist approved by the RTC and/or implementing entity shall review the project for potential to impact monarch butterflies. If known or potential winter roost sites will be impacted, the biologist shall make recommendations to avoid impacts including, but not limited to, relocation/redesign of project features to avoid roost sites, guidance regarding tree removal and trimming at roost sites, and recommendations regarding planting additional roost trees.

Construction shall not occur within 100 feet of known or potential roost sites between November 1 and May 1 as feasible. If construction must occur during this period, the qualified biologist shall survey known and potential roost sites to confirm occupancy by monarch butterflies prior to start of construction within 100 feet. Multiple surveys may be necessary and the closest known roost sites shall be used as voucher sites to confirm the timing of butterfly arrival. If monarch butterflies are determined to be absent from a roost site, construction may commence. If monarch butterflies are found at a roost site, construction shall not occur within 100 feet of the roost site until the biologist has determined that the butterflies have left the area. The biologist shall visit the voucher sites to confirm that butterflies have left the region.

B-1(m) **Worker Environmental Awareness Program (WEAP)**. Prior to initiation of construction activities for each segment (including staging and mobilization), all personnel associated with the segment construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and careful review of the limits of construction and mitigation measures required to

reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them. The form shall be submitted to the RTC and/or implementing entity to document compliance.

B-1(n) **San Francisco Garter Snake Avoidance and Minimization.** The following measures shall be implemented in the Northern Reach in consultation with the CDFW and USFWS:

- All portions of the proposed project within the range of the San Francisco garter snake shall be designed to avoid impacts to aquatic habitat and to avoid or minimize impacts to adjacent upland habitat.
- Construction activities in the Northern Reach shall be avoided within 200 feet of suitable aquatic habitat to the greatest extent feasible.
- Construction equipment, personnel, and materials shall be confined to roadways and existing disturbed areas so as to minimize habitat disturbance. If work must occur within 200 feet of suitable aquatic habitat, exclusion fencing shall be installed at the discretion of a qualified biologist to prevent San Francisco garter snakes from entering the work site.
- Construction shall occur between May 1 and October 1 when San Francisco garter snake is most active and would be expected to move and avoid danger. If construction must occur between October 2 and April 30, the USFWS and CDFW shall be consulted to determine if additional minimization measures are necessary.
- Impacts to suitable upland habitat shall be the minimum necessary to complete construction of the project. The limits of construction shall be delineated clearly with highly visible flagging or construction fencing.
- Not more than 24 hours prior to initiation of construction activities at the project site, including mobilization and staging, a qualified biologist shall conduct a survey of suitable habitat for San Francisco garter snake. If a San Francisco garter snake is observed within the disturbance footprint, construction activities shall be postponed until the CDFW and USFWS has been consulted for guidance.
- Trash shall be fully contained at all times and shall be removed from the site daily.
- A qualified biologist shall be present during all construction activities occurring within and adjacent to suitable habitat to

ensure avoidance and minimization measures are implemented and effective.

Significance After Mitigation. With implementation of the above mitigation measures, potential impacts to sensitive plant and animal species would be reduced to a less than significant level.

Impact B-2 Implementation of the proposed MBSST Network project could result in impacts to riparian and other habitats considered sensitive by local, state, and/or federal agencies, including federally protected wetlands. This impact would be Class II, *significant but mitigable*.

Several drainages and wetland habitats are mapped within the proposed MBSST Network, as outlined in Tables 4.4-2 and 4.4-3. In addition, several habitats considered sensitive by the CDFW may also be present within each of the reaches.

Northern Reach. The northern reach has more drainages and National Wetland Inventory (NWI) mapped wetlands along the proposed MBSST Network than any other reach, as shown in Tables 4.4-2 and 4.4-3. The mapped drainages include relatively large creeks such as Waddle Creek, Scott Creek, and San Vicente Creek, as well as several smaller drainages. Each of these drainages connects with the Pacific Ocean. Wetland habitats are varied and are generally associated with the drainages; however, there are several areas of fresh-water emergent wetland along the railroad corridor that are not likely mapped by the NWI. While these wetlands are likely an artifact of the construction of the railroad corridor, they are expected to fall under the jurisdiction of the CCC and RWQCB, and may fall under the jurisdiction of the USACE if connectivity to a Traditional Navigable Water is identified. In addition to wetlands, several sensitive habitats are present within the vicinity of the northern reach including: Monterey Pine Forest, North Central Coast Short-Run Coho Stream (mapped at Scott Creek and Waddell Creek), Coastal Brackish Marsh (identified near the mouth of Waddell Creek and possible at other drainages), and Northern Coastal Salt Marsh (mouth of Scott Creek).

Impacts to these riparian and other sensitive habitats may include loss of habitat through construction of project features, such as trails and drainage crossings. Habitat degradation may also result from introduction of invasive species incidentally from construction equipment and through selection of invasive landscape plants, as well as through erosion of disturbed areas.

Central Reach. Within the central reach, several drainages cross the proposed MBSST Network, as shown in Tables 4.4-2 and 4.4-3. The largest drainage in this reach is the San Lorenzo River. Other substantial drainages include Soquel Creek and Aptos Creek. Each of these drainages connects with the Pacific Ocean. Several mapped wetlands are present within the reach and are associated with the drainages. In addition the San Lorenzo River and its tributaries are mapped as North Central Coast Drainage Sacramento Sucker/Roach River sensitive habitat.

As described above, impacts to these riparian and other sensitive habitats may include loss of habitat through construction of project features, such as trails and drainage crossings. Habitat degradation may also result from introduction of invasive species incidentally from

construction equipment and through selection of invasive landscape plants, as well as through erosion of disturbed areas.

Watsonville Reach. Within the Watsonville reach, the largest drainage is the Pajaro River. Other drainages drain the Watsonville and Gallighan sloughs. All of these drainages connect to the Pacific Ocean. Within the one mile search area, the mapped wetland habitat consisted of freshwater forested/shrub, which is primarily associated with the sloughs. In addition, Coastal and Valley Freshwater Marsh is expected to be associated with the sloughs. Northern Coastal Salt Marsh is associated with the mouth of the Pajaro River and the mouth of the Watsonville Slough, and Central Dune Scrub is associated with Sunset State Beach; however, the proposed MBSST Network is sufficiently far away such that these habitats would not be impacted.

It is expected that each of these drainages and wetlands will fall under the jurisdictions of the USACE, RWQCB, CDFW, and/or CCC. A formal evaluation of these features will be needed prior to implementation of each reach of the MBSST Network project.

As described above, impacts may include loss of habitat through construction of project features, such as trails and drainage crossings. Habitat degradation may also result from introduction of invasive species incidentally from construction equipment and through selection of invasive landscape plants, as well as through erosion of disturbed areas.

Mitigating Design Features. Chapter 5 of the proposed MBSST Network Master Plan identifies drainage and erosion control methods that would be implemented during construction and operation of the MBSST Network project, including engineering to prevent an increase of historic runoff onto other properties, channelization, culverts, improved bridge crossings, and minimization of siltation. The implementation of drainage and erosion control strategies would reduce impacts to species that inhabit aquatic/riparian habitats such as tidewater goby, coho salmon, steelhead, CRLF, and western pond turtle that could result from on- and off-site runoff during construction and operation of the trail.

Mitigation Measures. The following measures are required.

B-2 (a) **Jurisdictional Delineation**. Once the final design has been developed for each segment, but prior to the start of construction, a qualified biologist shall conduct a jurisdictional delineation of the entire segment disturbance area at those locations where construction activity could affect jurisdictional waters. The jurisdictional delineation shall determine if features are under the jurisdiction of the USACE, RWQCB, CDFW, and/or CCC. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the RTC and/or implementing entity, USACE, RWQCG, CDFW, and CCC, as appropriate, for review and approval. Permits shall be obtained from each agency where applicable.

B-2(b) **Wetland and Riparian Habitat Restoration.** Impacts to jurisdictional wetland and riparian habitat shall be mitigated at a

ratio of minimum 2:1 for each segment, and shall occur as close to the impacted habitat as possible. A Habitat Restoration Plan shall be developed by a biologist approved by the RTC and/or implementing entity in accordance with mitigation measure B-1(b) above and shall be implemented for no less than five years after construction of the segment, or until the RTC/implementing entity and/or the permitting authority (e.g., CDFW or USACE) has determined that restoration has been successful. All restoration/compensatory mitigation areas shall be permanently protected through a conservation easement or deed restriction.

B-2(c) **Landscaping Plan.** If landscaping is proposed for a specific segment, a qualified biologist/landscape architect shall prepare a landscape plan for that segment. This plan shall indicate the locations and species of plants to be installed throughout the segment. Drought tolerant, locally native plant species shall be used. Noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Lists 1, 2, and 4 shall not be permitted. Species selected for planting shall be similar to those species found in adjacent native habitats.

B-2(d) **Invasive Weed Prevention and Management Program.** Prior to start of construction of each segment, an Invasive Weed Prevention and Management Program shall be developed by a qualified biologist approved by the RTC and/or implementing entity to prevent invasion areas adjacent native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication before any species can gain a foothold and out-compete native plant species for resources.

All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan.

Herbicides may be used on a limited basis to control the growth and spread of invasive weeds. Aqua-Master herbicides containing a dye to show overspray or a similar herbicide approved by the CDFW shall be used, and shall be applied by a certified pesticide application specialist under the direction of a qualified biologist. Herbicide application shall be plant species-dependent and can

include foliar treatment or cut surface treatments. Herbicide shall not be broadcast over a large area; instead specific plant species shall be targeted. The target plant species shall be removed and disposed of properly at a landfill once they are dead.

Significance After Mitigation. With implementation of the above mitigation measures, potential impacts to sensitive riparian and other habitats would be reduced to a less than significant level.

Impact B-3 Implementation of the proposed MBSST Network project could result in impacts to wildlife movement or nursery sites. This impact would be Class II, *significant but mitigable*.

Northern Reach. Wildlife movement within the northern reach could be associated with drainages and with larger natural areas that are not plowed for cropland such as Big Basin Redwoods State Park and the California Polytechnic State University Lands. Movement through these areas is limited by the presence of Highway 1. Most wildlife movement in this reach is likely to occur in the largely undisturbed mountainous terrain east of Highway 1. Cropland present along the proposed MBSST Network does not necessarily present a barrier to movement, but croplands generally provide low quality habitat for wildlife, and are used primarily for feeding (e.g., white-tailed kites) and some movement. Other wildlife uses, such as nesting (nursery sites) or roosting, are typically absent from croplands due in part to the activities of humans and machines, and efforts to protect crops from predation.

Central Reach. Wildlife movement within the central reach is generally restricted to the drainages that cross the proposed MBSST Network. The majority of the reach is developed for urban uses which are largely incompatible with wildlife movement and breeding except of urban adapted species, such as northern mockingbirds (*Mimus polyglottis*), red-tailed hawks (*Buteo jamaicensis*), opossums (*Didelphia viginianus*), raccoons (*Procyon lotor*) and various rodent species. The presence of domestic animals, in particular, discourages wild animals from occurring in urban areas.

Watsonville Reach. Wildlife movement within the Watsonville reach is likely to be more restrictive than the northern reach and less restrictive than the central reach. Drainages within this reach may facilitate movement and agricultural lands are generally open. However, there are numerous, scattered residential areas that many wild animals would likely avoid, and agricultural activities in this reach consist primarily of row crops. Wildlife present in this reach are likely those that occupy the drainages and/or are adapted to habitat edges such as the white-tailed kite and pallid bat.

No major wildlife movement corridors are identified along the proposed MBSST Network, and wildlife movement is likely to be negatively influenced by Highway 1, which also occurs generally parallel to the proposed MBSST Network throughout its length. Wildlife movement within the proposed MBSST Network is more likely to occur in the northern reach.

Mitigating Design Features. The proposed MBSST Network Master Plan contains design guidelines that would limit potential adverse effects to wildlife movement. Specifically, the Master Plan outlines the types of trail fencing to be used in various environments along the trail

network, and recommends that fencing along the trail corridor be used conservatively to maintain the open feel and views of the coastal environment. With the exception of privacy fencing – which would be used to provide trespass prevention, security, and privacy for adjacent landowners in urban areas – trail fencing would be designed to allow open visibility of the surrounding landscape, but may still impede wildlife movement.

Mitigation Measures. Mitigation measure B-1(k) addresses impacts to nesting birds. The following measures are also required:

B-3(a) **Fence Design.** All project fencing shall be designed to facilitate wildlife movement through the proposed MBSST Network and shall include:

- *A minimum 16 inches between the ground and the bottom of the fence to provide clearance for small animals;*
- *A minimum 12 inches between the top two wires, or top the fence with a wooden rail or mesh instead of wire to prevent animals from becoming entangled; and*
- *If privacy fencing is required near open space areas, openings at the bottom of the fence measure at least 16 inches in diameter shall be installed at reasonable intervals to allow wildlife movement.*

The final fence design shall be submitted by each implementing entity to the RTC and shall be reviewed by a RTC-approved biologist for approval.

B-3(b) **Construction Best Management Practices.** The following construction Best Management Practices (BMPs) shall be incorporated into all grading and construction plans for each segment of the MBSST Network:

- *Designation of a 15 mile per hour speed limit in all construction areas.*
- *All vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas, and clearing of vegetation for vehicle access shall be avoided to the greatest extent feasible.*
- *The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goal of the project.*
- *Designation of equipment washout and fueling areas to be located within the limits of grading at a minimum of 100 feet from waters, wetlands, or other sensitive resources as identified by a qualified biologist. Washout areas shall be designed to fully contain polluted water and materials for subsequent removal from the site.*
- *Daily construction work schedules shall be limited to daylight hours only [consistent with mitigation measure N-1(a) (Construction Hours) in Section 4.10, Noise].*

- *Mufflers shall be used on all construction equipment and vehicles shall be in good operating condition.*
- *Drip pans shall be placed under all stationary vehicles and mechanical equipment.*
- *All trash shall be placed in sealed containers and shall be removed from the project site a minimum of once per week.*
- *No pets are permitted on project site during construction.*

Significance After Mitigation. With implementation of the above mitigation measures, potential impacts to wildlife movement and nursery sites would be reduced to a less than significant level.

d. Cumulative Impacts. The proposed MBSST Network project, in combination with other planned and pending development in the vicinity of the proposed MBSST Network, would incrementally alter biological habitats in the area. However, because the area already consists primarily of biologically disturbed railroad corridor, agricultural areas, and urban development, cumulative biological resource impacts would be limited. Compliance with applicable federal, state, and local regulations relating to preservation of sensitive species in these areas would be expected to reduce cumulative biological impacts to a less than significant level.

4.5 CULTURAL RESOURCES

4.5.1 Setting

a. Environmental Setting. The Master Plan corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport to Railroad Avenue in Monterey County. The corridor primarily aligns with the Santa Cruz Branch Rail Line right-of-way, a 32-mile, continuous travel corridor. The RTC now owns 31-miles of the Santa Cruz Branch Rail Line~~is now owned by the RTC~~. The rail right-of-way would serve both rail service and bike/pedestrian trail functions.

b. Historical Background.

Prehistory. Santa Cruz County is in the Monterey Bay Area, a cultural-historical geographic region which spans the central California coastline from Big Sur northward to just south of the San Francisco Bay. This region generally corresponds to southern Costanoan language groups.

The prehistory of the Monterey Bay Area is categorized according to temporal "periods," which refer to the general social, economic, and environmental adaptations of Native California populations during a given time in prehistory. David A. Fredrickson's Paleo-Archaic-Emergent cultural sequence (1974) is commonly used to interpret the prehistoric occupation of Central California and is broken into three broad periods: the Paleoindian Period (10,000-6000 B.C.); the three-staged Archaic Period, consisting of the Lower Archaic (6000-3000 B.C.), Middle Archaic (3000-500 B.C.), and Upper Archaic (500 B.C.-A.D. 1000); and the Emergent Period (A.D. 1000-1800). T. Jones' (1993) updated period sequence, which integrates data from the central California coast, consists of the Paleoindian (9000-6500 B.C.), Millingstone (6500-3500 B.C.), Early (3500-1000 B.C.), Early/Middle Transition (1000-600 B.C.), Middle (600 B.C.-A.D. 1000), Middle/Late Transition (A.D. 1000-1200), Late (A.D. 1200-1500), Protohistoric (A.D. 1500-1769), and Historic (post A.D. 1769) periods.

Archaeological sites dating to the Paleoindian and Millingstone periods (3500 B.C. or earlier) in the Monterey Bay Area are rare, and the components are poorly defined. Sites from these periods, however, have been identified north of Santa Cruz in Scotts Valley and at Elkhorn Slough, and include crescent-shaped flaked tools, long-stemmed projectile points, cobble/core tools, and milling slabs and handstones. Archaeological evidence of the Late and Protohistoric periods (A.D. 1200-1769) is poorly represented in the Monterey Bay area, although sites dating to this period have been identified in the Santa Cruz Mountains and within City of Santa Cruz limits. Sites dating to these periods include schist, clamshell, and abalone disc beads; small side-notched projectile points; hopper and bedrock mortars; milling slabs; pestles; and handstones.

For over a quarter century, Native American settlement and subsistence patterns in the Monterey Bay Area have been understood in terms of a forager-collector model (Breschini and Haversat, 1980; Dietz and Jackson, 1981) that suggests that before 2,000 years ago, small mobile foraging groups characterized Monterey Bay Area settlement. These foraging groups established temporary residential bases near seasonally available resource patches and gathered food daily, with no storage of food. Foragers were eventually displaced by "collectors" who

occupied year round or semi-permanent residential sites and did not relocate residential sites to seasonal resource patches. More recently, however, the validity of the forager-collector model for understanding the subsistence and settlement practices from the Monterey Bay Area has been questioned (D. Jones, 1992), and Native American settlement-subsistence patterns in the region are a research issue that future archaeological research may help to clarify.

Ethnography. Penutian groups settled around Monterey Bay at approximately 500 B.C., displacing earlier Hokan populations (Breschini and Haversat, 1997). The descendants of the native groups who lived between the Carquinez Strait and the Monterey area prefer to be called Ohlone (Margolin, 1978), although they are often referred to by the name of their linguistic group, Costanoan. Linguists have identified eight Ohlone languages (Shipley, 1978). *Awaswas* was the name of the language spoken in the Santa Cruz area. *Awaswas* speakers' territory basically encompassed the San Lorenzo River watershed.

The Ohlone, like most Native California groups, were organized according to politically independent land-holding groups referred to by anthropologists as "tribelets." There were approximately 40 Ohlone tribelets. The basic Ohlone social unit was the family household of about 15 individuals, which was extended patrilineally (Broadbent, 1972; Harrington, 1933). Households grouped together to form villages, and villages combined to form tribelets. Tribelets exchanged trade goods such as obsidian, shell beads, and baskets; participated in ceremonial and religious activities together; intermarried; and could have extensive reciprocal obligations to one another involving resource collection. At the time of the arrival of the Spanish and establishment of Mission Santa Cruz in 1791, Santa Cruz was within the territory of the Uypi tribelet.

For the Ohlone, like other native Californians, the acorn was a dietary staple, eaten as mush or bread. The Ohlone used a range of other plant resources, including buckeye, California laurel, elderberries, strawberries, manzanita berries, goose berries, toyon berries, wild grapes, wild onion, cattail, amole, wild carrots, clover, and herbs. Animals eaten by the Ohlone included large fauna such as black-tailed deer, Roosevelt elk, antelope, and marine mammals such as sea lion, and sea otter; smaller mammals such as dog, skunk, racoon, rabbit, and squirrel; birds, including geese and ducks; and fish such as salmon, sturgeon, and mollusks (Levy, 1978).

Besides providing sustenance, the Monterey Bay area's flora and fauna provided the Ohlone with raw materials to construct dome-shaped shelters and sweat houses. Animal bones, teeth, beaks, and claws were made into awls, pins, knives, and scrapers. Pelts and feathers became clothing and bedding, while sinews were used for cordage and bow strings. Feathers, bone, and shells were crafted into ornaments (Heizer and Elsasser, 1980).

History. In July 1769, the governor of Baja California, Gaspar de Portola, departed with an expedition from San Diego to locate Monterey Bay and passed through present-day Santa Cruz. Shortly thereafter, in September 1791, Mission Santa Cruz was established on the banks of the San Lorenzo River. Mission Santa Cruz quickly absorbed the surrounding Ohlone population and, by 1796, included 523 neophytes. At its peak of operation, the Mission had 8,000 head of cattle and produced wheat, barley, beans, corn, and lentils for consumption and trade.

Another colonial institution, Villa de Branciforte, was established on the other side of the San Lorenzo River across from Mission Santa Cruz in 1797. The Spanish government established Villa de Branciforte to create a self-sufficient secular settlement populated by retired soldiers, craftsmen, and farmers who could mobilize and defend the coast of Alta California from foreign invasion. However, the colonial government generally viewed Villa de Branciforte as a failure. Early settlers generally lacked the skills to be self-sufficient farmers and when rumors spread that the French pirate, Hippolyte de Bouchard, had raided Monterey, the residents of Branciforte, instead of defending the Mission, responded by looting much of its assets. In 1834, the California missions were secularized, and Mission Santa Cruz lands came under the control of Villa de Branciforte.

Commercial development of Santa Cruz and the surrounding region's natural resources was well under way by the time California became part of the United States in 1848. Logging, lime production, and tanneries were three important industries in the early economy of Santa Cruz. The lime and logging industries thrived in response to the growing demand for building materials during San Francisco's post gold rush construction boom. These industries spawned the City's residential growth and infrastructure development during the 19th century.

The economic focus of the City gradually shifted to tourism near the turn of the 19th century. The growth of local tourism was largely a result of railroad access to Santa Cruz County beginning in the late 1870s.

The Santa Cruz Branch Rail Line right-of-way began operation in May 1876 as a narrow gauge passenger and freight rail line. In 1881 Southern Pacific purchased the Santa Cruz railroad at auction from the original owners and in 1883 replaced the narrow gauge railroad with a standard gauge line. In 1908, the rail line was extended north toward Davenport, with freight and passenger operations beginning on the northern portion. Passenger service was discontinued in 1938. In 1996, Union Pacific purchased the Watsonville-Santa Cruz line from Southern Pacific and Rio Grande Railroads. The California Transportation Commission subsequently approved acquisition of the Santa Cruz Branch Rail Line for public ownership in 2011.

Perhaps more than any other individual, Fred Swanton was responsible for developing Santa Cruz's tourist industry. Swanton, with investors including financier John Martin and the Southern Pacific Railroad, formed the Santa Cruz Beach, Cottage, and Tent City Corporation. The corporation opened the Neptune Casino in 1904, but lost that enterprise to fire in 1906. The Casino was quickly rebuilt and reopened a year later. Swanton also built the Casa del Rey Hotel in 1910 across from the Casino to replace a "tent city," which had served as a popular tourist beach accommodation until that time. The Casa del Rey Hotel stood until the 1989 Loma Prieta earthquake, when it sustained extensive damage and was demolished soon after. Also during the early 20th century, popular beach attractions were built, including the Scenic Railway roller coaster in 1908 and the Giant Dipper Roller Coaster in 1924.

During World War II, tourism declined significantly in Santa Cruz due to travel restrictions and gasoline shortages. In addition, the Santa Cruz fishing economy, which was dominated by Italian immigrants, suffered as the result of Executive Order 9066, which established internment and relocation camps for Japanese, German, and Italian immigrants, including those who were

United States citizens. Many Italian families were relocated inland from the waterfront and many of the fishing boats were abandoned or used in the war effort. The commercial fishing industry never recovered after the war, although sport fishing remains a popular activity. The local tourist economy revived, with the Boardwalk undergoing major renovations in the 1950s and in 1981. The Boardwalk, which remains the focus of Santa Cruz's tourist industry, continues to operate with a mix of historic and modern amusement park attractions.

c. MBSST Network Setting. The proposed MBSST Network project consists of a multi-use trail that would generally follow the coast of Santa Cruz County. According to the Archaeological Sensitive Areas map, as designated on the Santa Cruz County General Plan and LCP Resources and Constraints Maps filed in the Planning Department, much of Santa Cruz County is potentially archaeological sensitive, especially undeveloped coastal areas, valleys, slopes, and drainages. The densest concentrations of prehistoric and archaeological cultural resources in the region are expected to occur (City of Watsonville, September 2012):

- *On terraces along water courses on the valley floor;*
- *On midslope terraces above watercourses in upland areas;*
- *In areas of rock outcrops near where native oak stands have been located;*
- *At the bases of hills, especially where watercourses enter the valley floor; and*
- *Along historic slough margins.*

Concentrations of historic resources are most likely to occur:

- *Adjacent to transportation corridors (historic highways, railroad);*
- *On historic ranches or agricultural farms; and*
- *Within historic neighborhoods and business districts.*

The proposed MBSST trail alignment primarily aligns with the Santa Cruz Branch Rail Line right-of-way, a long-standing local transportation corridor, and passes through historic agricultural areas and along historic slough margins in Santa Cruz County.

Historic Buildings and Landmarks. The County of Santa Cruz Survey of Historic Resources (County Survey) lists historic resources in each of the county's 16 planning areas. Within the six coastal planning areas through which the MBSST Network would pass (North Coast, Bonny Doon, Live Oak, Aptos, La Selva, and San Andreas), there are 70 resources included in the County Survey. Of these, one is listed in the National Register of Historic Places (Anchor Hotel – Bay View, located at 8041 Soquel Drive), 20 are considered eligible or may become eligible for listing on the National Register of Historic Places, and 49 have local historical significance. There are no designated historic districts within these planning areas.

Currently, approximately 600 buildings are listed in the City of Santa Cruz Historic Building Survey. Buildings of greatest historic and architectural significance have been designated "landmarks" pursuant to section 24.12.430 of the City's Zoning Ordinance. Currently there are 26 designated landmarks in the City. Of these 26 properties, 15 properties are listed on the National Register of Historic Places, and one is listed on the California Register of Historical Resources. The site of Mission Santa Cruz and the site of Villa Branciforte are listed in the California Historical Landmarks. The City of Santa Cruz General Plan 2030 includes maps

depicting Historic Districts and Landmarks within the City. The City's existing historic districts are located approximately 1,500 feet north of the proposed trail alignment, along the rail line that follows Chestnut Street and the Chestnut Street Extension north between Laurel Street and Highway 1.

The City of Capitola contains buildings and architectural styles from the City's initial era of development, as well as many Victorian structures and other buildings from the 1920s and 1930s, including stucco buildings of Mediterranean, Art Deco, and Mission Style. Structures and historic districts in Capitola included on the National Register of Historic Places include the Hihn Building, the Old Riverview Historic District, Rispin Mansion, Six Sisters-Lawn Way Historic District, and the Venetian Court Apartments. These historic resources are located along segment 11 of the proposed trail alignment, near the Soquel Creek rail crossing.

Currently, there are 14 historic structures on the City of Watsonville's local register designated by ordinance, of which six are also listed on National Register of Historic Places. The Watsonville Vista 2030 General Plan, which is not yet adopted, proposes to review the existing survey of local historic buildings and nominate eligible buildings from that list to the Watsonville Register of Historic Resources.

d. Regulatory Setting.

Federal.

National Register of Historic Places. Federal regulations for cultural resources are primarily governed by Section 106 of the National Historic Preservation Act (NHPA) of 1966, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the National Register of Historic Places (NRHP). The criteria for determining NRHP eligibility are found in Title 36 Code of Federal Regulations (CFR) Part 60. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in Title 36 CFR Part 800.

The NRHP is the official list of the Nation's historic places worthy of preservation. Authorized under the National Historic Preservation Act of 1966, it is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect the country's historic and archeological resources. The National Register is administered by the National Park Service under the Secretary of the Interior. Properties listed in the National Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. Property owners must agree to such listing. The National Register includes:

- *All historic areas in the National Park System;*
- *National Historic Landmarks that have been designated by the Secretary of the Interior for their significance to all Americans; and*

- *Properties significant to the nation, state, or community which have been nominated by state historic preservation offices, federal agencies, and tribal preservation offices, and have been approved by the National Park Service (National Park Service website).*

To be considered eligible, a property must meet the National Register Criteria for Evaluation, found in Title 36 CFR Part 60.4. This involves examining the property's age, integrity, and significance as follows:

- *Age and Integrity. Is the property old enough to be considered historic (generally at least 50 years old) and does it still look much the way it did in the past?*
- *Significance. Is the property associated with events, activities, or developments that were important in the past? With the lives of people who were important in the past? With significant architectural history, landscape history, or engineering achievements? Does it have the potential to yield information through archeological investigation about our past?*

Archaeological site evaluation assesses the potential of each site to meet one or more of the criteria for NRHP eligibility based on visual surface and subsurface evidence (if available) at each site's location, information gathered during the literature and records searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

American Indian Religious Freedom Act. The American Indian Religious Freedom Act, Title 42 U.S. Code Section 1996, protects Native American religious practices, ethnic heritage sites, and land uses.

National Historic Landmarks. National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Today, fewer than 2,500 historic places bear this national distinction. National Historic Landmarks are places where nationally significant historic events occurred, that are associated with prominent Americans that represent those pivotal ideas that shaped the nation, that teach Americans about their ancient past, or that are premier examples of design or construction. While many historic places are important locally or at a state level, a lesser number have meaning for all Americans. National Historic Landmarks are places that "possess exceptional value or quality in illustrating and interpreting the heritage of the United States" (National Park Service website).

State.

California Register of Historical Resources. The California Register of Historical Resources (California Register) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The California Register helps government agencies identify, evaluate, and protect California's historical resources, and indicates which properties are to be protected from substantial adverse change (Pub. Resources Code, Section 5024.1(a)). The California Register is administered through the State Office of Historic Preservation (SHPO) that is part of the California State Parks system.

A cultural resource is evaluated under four California Register criteria to determine its historical significance. A resource must be significant at the local, state, or national level in

accordance with one or more of the following criteria set forth in the *State CEQA Guidelines* at Section 15064.5(a)(3):

1) *It is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage;*
2) *It is associated with the lives of persons important in our past;*
3) *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
4) *It has yielded, or may be likely to yield, information important in prehistory or history.*

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource according to SHPO publications. The California Register also requires a resource to possess integrity, which is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association." Archaeological resources can sometimes qualify as "historical resources" [*State CEQA Guidelines*, Section 15064.5(c)(1)]. In addition, Public Resources Code Section 5024 requires consultation with SHPO when a project may impact historical resources located on State-owned land.

Two other programs are administered by the state: California Historical Landmarks and California "Points of Interest." California Historical Landmarks are buildings, sites, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value. California Points of Interest are buildings, sites, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other historical value.

Native American Consultation. Prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, Government Code Sections 65352.3 and 65352.4 require a city or county to consult with local Native American tribes that are on the contact list maintained by the Native American Heritage Commission. The purpose is to preserve or mitigate impacts to places, features, and objects described in Public Resources Code Sections 5097.9 and 5097.993 (Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property) that are located within a city or county's jurisdiction. As the proposed MBSST Network project does not entail a General Plan amendment, no such consultation is required.

Human Remains. Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native

American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. *CEQA Guidelines* Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

Public Resources Code Section 5097.5. California Public Resources Code Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

California Environmental Quality Act (CEQA). The *State CEQA Guidelines* Section 15064.5 definition of a "historical resource" is presented in Section 4.5.2(a) (Methodology and Significance Thresholds) below. CEQA requires that historical resources and unique archaeological resources be taken into consideration during the CEQA review process (Public Resources Code, Section 21083.2). If feasible, adverse effects to the significance of historical resources must be avoided, or significant effects mitigated [*CEQA Guidelines* Section 15064.5(b)(4)].

If the cultural resource in question is an archaeological resource, *CEQA Guidelines* Section 15064.5(c)(1) requires that the lead agency first determine if the resource is a historical resource as defined in Section 15064.5(a). If the resource qualifies as a historical resource, potential adverse impacts must be considered in the same manner as a historical resource (California Office of Historic Preservation 2001a:5). If the archaeological resource does not qualify as a historical resource but does qualify as a "unique archaeological resource," then the archaeological resource is treated in accordance with Public Resources Code Section 21083.2 [see also *CEQA Guidelines* Section 15069.5(c)(3)]. "Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- *Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
- *Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
- *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

In practice, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource (Bass, Herson, and Bogdan, 1999).

Treatment options under Public Resources Code Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation include

excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resources inventory.

Santa Cruz County.

Santa Cruz County General Plan. The Conservation and Open Space Element of the Santa Cruz County General Plan includes objectives and policies to protect archaeological and historical resources. The objectives and policies applicable to this project are discussed below.

Policy 5.19.1 *Evaluation of Native American Sites. Protect all archaeological resources until they can be evaluated. Prohibit any disturbance of Native American Cultural Sites without an appropriate permit. Maintain the Native American Cultural Sites ordinance.*

Policy 5.19.2 *Site Surveys. Require an archaeological site survey (surface reconnaissance) as part of the environmental review process for all projects with very high site potential as determined by the inventory of archaeological sites, within the Archaeological Sensitive Areas, as designated on General Plan and LCP Resources and Constraints Maps filed in the Planning Department.*

Policy 5.19.3 *Development Around Archaeological Resources. Protect archaeological resources from development by restricting improvements and grading activities to portions of the property not containing these resources, where feasible, or by preservation of the site through project design and/or use restrictions, such as covering the site with earthfill to a depth that ensures the site will not be disturbed by development, as determined by a professional archaeologist.*

Policy 5.19.4 *Archaeological Evaluations. Require the applicant for development proposals on any archaeological site to provide an evaluation, by a certified archaeologist, of the significance of the resource and what protective measures are necessary to achieve General Plan and LCP Land Use Plan objectives and policies.*

Policy 5.19.5 *Native American Cultural Sites. Prohibit any disturbance of Native American Cultural Sites without an archaeological permit which requires, but is not limited to, the following:*

(a) A statement of the goals, methods, and techniques to be employed in the excavation and analysis of the data, and the reasons why the excavation will be of value.

(b) *A plan to ensure that artifacts and records will be properly preserved for scholarly research and public education.*
(c) *A plan for disposing of human remains in a manner satisfactory to local Native American Indian groups.*

Policy 5.20.3 *Development Activities. For development activities on property containing historic resources, require protection, enhancement, and/or preservation of the historic, cultural, architectural, engineering or aesthetic values of the resources as determined by the Historic Resources Commission. Immediate or substantial hardship to a project applicant shall be considered in establishing project requirements.*

Policy 5.20.4 *Historic Resources Commission Review. Require that applicants for development proposals on property containing a designated Historic Resource submit plans for the protection and preservation of the historic resource values to the Historic Resources Commission for their review and approval; require an evaluation and report by a professional historian or a cultural resources consultant when required by the Commission.*

Policy 5.20.5 *Encourage Protection of Historic Structures. Encourage and support public and private efforts to protect and restore historic structures and continue their use as an integral part of the community.*

Policy 5.20.6 *Maintain Designation as a Certified Local Government. Support existing and further develop local historic resource programs in order to maintain the California State Department of Parks and Recreation's designation of Santa Cruz County as a Certified Local Government (CLG).*

Santa Cruz County Municipal Code. Title 16 (Environmental and Resource Protection) of the Santa Cruz County Municipal Code outlines criteria for Native American cultural studies (Chapter 16.40), historic preservation (Chapter 16.42), and paleontological resource protection (Chapter 16.44).

Chapter 16.40 defines when archaeological surveys and reports are required, required actions when Native American cultural sites or human remains are discovered during the review of a proposed project or during excavation or other ground disturbing activities. Chapter 16.42 defines the significance and designation of protected historic resources on the Santa Cruz County Inventory of Historic Resources and development procedures for designated historic resources. Chapter 16.44 describes requirements for paleontological assessments and reports, permitting requirements for projects on the site of paleontological resources, required actions when paleontological resources are discovered during excavation or other groundbreaking activities.

City of Santa Cruz.

City of Santa Cruz General Plan 2030. The Historic Preservation, Arts, and Culture chapter of the City of Santa Cruz General Plan includes several policies and actions related to preservation of historic resources. These policies and actions are listed below.

Policy HA1.1 *Preserve (or where not possible, responsibly manage) archaeological and paleontological sites important to the community's heritage.*

Policy HA1.2 *Protect (or where not possible, responsibly manage) sensitive archaeological and paleontological resources as early in the land-use planning and development process as possible.*

Action HA1.2.2 *Require preparation of archaeological investigations on sites proposed for development within areas identified as "Highly Sensitive" or "Sensitive" on the "Areas of Archaeological Sensitivity" and "Historical Archaeology Sensitivity" maps, except for exempt uses within "Sensitive" areas as described below, prior to approval of development permits. The investigation shall include archival research, site surveys and necessary supplemental testing as may be required, conducted by a qualified archaeologist. The significance of identified resources shall be ascertained in accordance with CEQA definitions, and impacts and mitigation measures outlined if significant impacts are identified, including, but not limited to recovery options and onsite monitoring by an archaeologist during excavation activities. A written report describing the archeological findings of the research or survey shall be provided to the City.*

Allow minor projects with little excavation to be exempt from this requirement for preparation of an archaeological assessment within the "High Sensitivity" areas. Minor projects generally involve spot excavation to a depth of 12 inches or less below existing grade, or uses that have virtually no potential of resulting in significant impacts to archaeological deposits. Exempt projects may include: building additions, outdoor decks, or excavation in soil that can be documented as previously disturbed.

Action HA1.2.3 *The City shall notify applicants within paleontologically sensitive areas of the potential for encountering such resources during construction and condition approvals that work will be halted and resources examined in the event of encountering paleontological resources during construction. If the find is significant, the City should require the treatment of the find in accordance with the recommendations of the evaluating paleontologist. Treatment may include, but is not limited to, specimen recovery and curation or thorough documentation.*

Policy HA1.3 *Seek and consider input of descendent community and historical organizations on the protection of archeological resources.*

Action HA1.3.1 *Formalize meetings with descendent communities and historical organizations to gather input on the protection of cultural and historic resources.*

Policy HA1.4 *Manage the discovery of human remains and the protection of archaeological deposits in accordance with local, State, and federal requirements.*

Policy HA1.5 *Require that archaeological work within the city be performed by a qualified archaeologist.*

Policy HA1.6 *Provide opportunities for the interpretation of paleontology and prehistoric and historical archaeology in the city.*

Policy HA1.7 *Encourage and facilitate the protection and preservation of traditional cultural properties.*

Action HA1.7.1 *Determine traditional cultural property significance in accordance with California Register criteria.*

Action HA1.8.5 *Give local landmark status to structures, sites or landmarks listed on the national Register and State Landmark and Register Program.*

Action HA1.8.6 *Develop an intra-departmental program for the interpretive display of city history.*

Policy HA1.9 *Require compatible development within historic districts and on sites outside but immediately adjacent to those districts.*

Action HA1.9.1 *Strongly encourage the preservation of the exterior features of historic buildings through clear Zoning Ordinance regulations.*

Action HA1.9.2 *Utilize the Secretary of Interior's Standards and Rehabilitation Guidelines for development within historic districts.*

Action HA1.9.3 *Encourage the restoration, retention, and incorporation of historic features in public right-of-ways and on publicly owned property.*

Policy HA1.10 *Promote public awareness and appreciation of the city's historic and architectural resources.*

Action HA1.11.6 *Consider historic preservation in the development and enforcement of City regulations.*

City of Santa Cruz Municipal Code. The City of Santa Cruz Historic Preservation Ordinance (HPO) provides for the protection, enhancement, and perpetuation of significant cultural resources in the General Plan Area. The HPO provides the statutory framework for local preservation decisions.

City of Capitola.

City of Capitola General Plan. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. The Open Space, Parks and Recreation chapter of the existing Capitola General Plan contains the following policies related to cultural and historical resources.

Policy 24 *It shall be the policy of the City of Capitola to provide for the protection, preservation, and proper disposition (where necessary) of archaeological, historical, and paleontological resources within Capitola. This policy shall be implemented in cooperation with the landowners, developers, State Historic Preservation Office and the Archaeological Regional Research Center.*

Policy 26 *The city shall identify architecturally and historically significant structures and provide for their protection. These include special, unique structures in Capitola Village and surrounding bluffs, both public and private.*

City of Capitola Municipal Code. Chapter 17.87 of the Capitola Municipal Code outlines the City's procedure for establishing or designating historic feature designation:

> *The planning commission, on its own initiative, or by the directive of the city council, or upon application of the owner of any feature, may consider whether a feature should be designated as an historic feature, or whether a feature designated as an historic feature should have that designation dropped and thereby be removed from the register of historic features. Applications submitted by owners or their agents shall be upon such forms as designated by the community development director, shall contain a description of the feature and any proposed alterations of the feature, and such other information as the community development director shall specify. (Ord. 515 § 4 (part), 1982)*

In addition, Chapter 17.87 describes requirements for hearings and noticing for establishing or designating historic feature designation, and entry into the registry of historic features.

Section 17.11.030 describes the archaeological survey report requirement, which requires an archaeological survey report for any development within:

1. *Archaeological/Paleontological Sensitivity Areas as mapped on city of Capitola resource map (LUP p. 19, Map I-1);*
2. *Seven hundred fifty feet of a known archaeological resource; or*
3. *An area with a probability of containing archaeological resources, as determined through the planner's onsite investigation or other available information.*

City of Watsonville.

City of Watsonville General Plan. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, identifies a policy and implementation measures for the preservation of archaeological resources, which are listed below.

Policy 9.H *Archaeological Resources. The City shall foster and provide for the preservation of cultural resources and artifacts of historic and prehistoric human occupation within the Pajaro Valley.*

Impl. 9.H.2 *Protection Measures. The City shall notify the Regional Office, California Archaeological Site Survey, and the Ohlone Indian Cultural Association of*

projects within identified archaeological sensitive areas. An archaeological site survey by a professional archaeologist may also be required.

Impl. 9.H.3 *Project Conditions. The City shall require appropriate land use controls on projects that may endanger or destroy historic and prehistoric artifacts. Such controls include addition of fill to prevent disruption of site by grading, and site planning to avoid disturbance on sensitive portions of the site.*

City of Watsonville Municipal Code. Chapter 8-13 of the Watsonville Municipal Code assigns powers and duties to the Community Development Department and Planning Commission with respect to historical preservation. The Ordinance sets forth the procedures for designation of historic structures and standards for permit review for alteration to an historic structure.

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.5.2 Impact Analysis

a. Methodology and Significance Thresholds.

Evaluation Criteria. Based on Appendix G of the *State CEQA Guidelines*, a significant impact could occur if the proposed MBSST Network project would result in any of the following:

1) *Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5;*
2) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;*
3) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature of paleontological or cultural value;*
4) *Disturb any human remains, including those interred outside of formal cemeteries; or*
5) *Disturb unique architectural features or the character of surrounding buildings.*

The significance of a cultural resource deposit and subsequently the significance of any impact is determined by whether or not that deposit can increase our knowledge of the past. The determining factors are site content and degree of preservation. A finding of archaeological significance follows the criteria established in the *State CEQA Guidelines*.

CEQA Guidelines Section 15064.5 (Determining the Significance of Impacts to Archaeological Resources) states:

> *(3) […] Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of*

Historical Resources (Pub. Res. Code, § 5024.1, Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

Historical resources are "significantly" affected if there is demolition, destruction, relocation, or alteration of the resource or its surroundings. Generally, impacts to historical resources can be mitigated to below a level of significance by following the Secretary of the Interior's *Guidelines for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* [13 PRC 15064.6 (b)]. In some circumstances, documentation of an historical resource by way of historic narrative photographs or architectural drawings will not mitigate the impact of demolition below the level of significance [13 PRC 15126.4 (b)(3)]. Preservation in place is the preferred form of mitigation for a "historical resource of an archaeological nature" as it retains the relationship between artifact and context, and may avoid conflicts with groups associated with the site [PRC 15126.4 (b)(3)(A)]. Historic resources of an archaeological nature and "unique archaeological resources" can be mitigated to below a level of significance by:

- *Relocating construction areas such that the site is avoided;*
- *Incorporation of sites within parks, greenspace, or other open space;*
- *"Capping" or covering the site with a layer of chemically stable soil before building; or*
- *Deeding the site into a permanent conservation easement. [PRC 15126.4 (b)(3)(B)]*

In the event that resources cannot be preserved, "unique archaeological resources" can only be excavated as mitigation if they are threatened with damage or destruction by the proposed project. The time and cost limitations that may apply to the excavation of archaeological resources do not apply to activities that determine whether the archaeological resources are "unique" [PRC 15064.5 (c)(3)].

If an archaeological resource does not meet either the historic resource or the more specific "unique archaeological resource" definition, impacts do not need to be mitigated [13 PRC

15064.5 (e)]. Where the significance of a site is unknown, it is presumed to be significant for the purpose of the EIR investigation.

b. Project Impacts and Mitigation Measures.

Impact CR-1 The proposed MBSST Network project would potentially damage existing prehistoric and archaeological cultural resources and historical structures along the proposed trail alignment. Impacts would be Class II, *significant but mitigable*.

The proposed MBSST Master Plan corridor would generally follow the Santa Cruz Branch Rail Line right-of-way through Santa Cruz County. As discussed in Section 4.5.1(b), above, cultural resources are likely to occur along water courses, near rock outcrops, oak stands, and along historic slough margins. The proposed MBSST trail alignment is located near or adjacent to several of these features throughout Santa Cruz County. In addition, the proposed trail primarily aligns with the Santa Cruz Branch Rail Line right-of-way, a long-standing local transportation corridor, and passes through historic agricultural areas in Santa Cruz County; therefore, there are likely to be concentrations of historic sites and structures within the MBSST Network right-of-way. Development activities associated with the Master Plan could affect prehistoric and archaeological cultural resources and historic structures along the MBSST corridor. Potential impacts to cultural resources, including designated historical resources, are described below.

Northern Reach. The proposed MBSST Network would parallel Highway 1 in the northern reach. Structural improvements along the northern portion of the northern reach (segments 1 and 2) would be limited, as the trail would consist of a Class III on-street/road shoulder bike route, much of which is currently in place. Improvements would therefore be limited to routine road edge clearing, signs, and shoulder pavement striping. Potential cultural resource impacts for these segments would be less than significant, assuming that no further grading is required.

Beginning in segment 3, the proposed MBSST Network would include a new multi-use paved path adjacent to Highway 1. This path would be an approximately twelve foot wide paved surface with center lane striping in some areas. Structural improvements may include: various types of trail fencing; trail furnishings such as benches and seating areas, trash receptacles, bike racks, and picnic and shade shelters; landscaping; night lighting (in some areas); and signage. In addition, parking lot improvements to an existing dirt lot near the Davenport Overlook would be implemented along sub-segment 5.1. Some of this area has been previously subject to grading and other ground disturbance; however, other portions of these segments have not undergone previous ground disturbance where grading is required or been subject to a prehistoric and archaeological cultural resources survey, and therefore there is a greater potential for discovery of and impact to significant prehistoric and archaeological cultural resources. The northern reach also includes 4.61 miles of coastal bluff trails. These trails would be five to six feet wide, unpaved, and blended into the site character and slope. These unpaved trails would not include structural improvements; however, they may require grading, and therefore, may result in impacts to prehistoric and archaeological cultural resources.

For portions of the proposed trail alignment that have not previously been graded and/or surveyed for prehistoric and archaeological cultural resources, impacts would be potentially significant. Mitigation is required to reduce potential impacts to prehistoric and archaeological cultural resources to a less than significant level.

Central Reach. The central reach is primarily urban in nature and traverses portions of Santa Cruz County, the City of Santa Cruz, and the City of Capitola. Structural improvements along the central reach would include: various types of trail fencing; trail furnishings such as benches and seating areas, trash receptacles, bike racks, and picnic and shade shelters; rest areas containing trail furnishings, kiosks with traveler information, and interpretive signage; new pre-engineered and/or retrofitted bridges; roadway and railway crossings; landscaping; night lighting (in some areas); and signage.

As with the northern reach, portions of the central reach that have not undergone previous ground disturbance or been subject to a prehistoric and archaeological cultural resources survey would result in potentially significant impacts to prehistoric and archaeological cultural resources. Therefore, mitigation is required.

Within the City of Santa Cruz, the trail alignment would not pass through an historic district (City of Santa Cruz General Plan, 2012); however, segment 8 of the trail alignment would pass by two City landmarks – Depot Park and the Santa Cruz Beach Boardwalk. The portion of the trail that would pass by Depot Park is an existing Class I bicycle lane, and the portion of the trail that would pass by the Santa Cruz Beach Boardwalk is comprised of existing on-street bicycle lanes and sidewalks. Any structural improvements along segment 8 would occur within the existing roadway right-of-way, and would therefore not be expected to result in alteration or damage to these existing City landmarks, or a substantial adverse change to their setting.

Within the County of Santa Cruz, segment 12 would pass by the Anchor Hotel – Bay View, located at 8041 Soquel Drive. This property is listed in the NRHP. The proposed structural improvements in this portion of the trail alignment include a paved trail on the east side of the existing rail line, various types of trail fencing, trail furnishings, and signage. Landscaping and night lighting may also be included. These improvements would not be expected to result in alteration or damage to this existing historic structure.

Within the City of Capitola, segments 10 and 11 would pass through the Old Riverview Historic District and Six Sisters-Lawn Way Historic District, which are listed on the NRHP and include the historic Hihn Building, Rispin Mansion and the Venetian Court Apartments. The proposed structural improvements in this portion of the trail alignment include a paved trail on the coastal side of the existing rail line, improvements to existing on-street Class II and Class III bicycle lanes and routes and pedestrian sidewalks, a modified trail at-grade railroad crossing, and a rail crossing at Soquel Creek. These improvements would not be expected to result in alteration or damage to the existing historic district. Potential impacts related to alterations to the Soquel Creek rail crossing are discussed in greater detailed below.

The proposed MBSST Network project would include numerous railroad bridge/trestle crossings in the central reach. The majority would be new pre-engineered pedestrian/bicycle bridges of varying spans. However, in some locations existing bridge would be retrofitted. All

of the existing railroad bridges and trestles along the MBSST Network corridor were constructed between 1903 and 1977 (RTC, 2012). Due to their age, many of these bridges are potentially eligible for listing on the California Register. As noted above, one of these structures – the Soquel Creek rail crossing – spans the Old Riverview Historic District in Capitola. Specific improvements that may occur at existing bridge/trestle structures consist of retrofitting to allow for pedestrian and bicycle passage, or installing new pre-engineered pedestrian and bicycle bridges attached or adjacent to existing rail bridges. Because many of the existing rail bridges are potentially eligible for listing on the California Register, and are therefore potentially historical resources, alterations to these structures would be a potentially significant impact. Mitigation is required to reduce impacts to existing historical rail bridges and other structures to a less than significant level.

Watsonville Reach. The Watsonville reach traverses portions of Santa Cruz County and the City of Watsonville. Structural improvements along the majority of this reach would include: various types of trail fencing; trail furnishings; at-grade road crossings; rail bridge/culvert crossings; new pre-engineered rail bridge crossings; landscaping; night lighting (in some areas); and signage. Improvements along segment 19 would be limited to the addition of a Class II bike lane along Walker Street and new sidewalks on the inland side of Walker Street beginning at Riverside Drive/Highway 129. No improvements would be constructed in the southern coastal section of the MBSST Network other than the proposed on street improvements (Class II, Class III and sidewalks) to Beach Street, as the trail consists of an existing shoreline beach route (low tide access) in this area.

As with the northern and central reaches, portions of the Watsonville reach that have not undergone previous ground disturbance or been subject to a prehistoric and archaeological cultural resources survey would result in potentially significant impacts to prehistoric and archaeological cultural resources. Therefore, mitigation is required to reduce impacts to a less than significant level.

Within the City of Watsonville, the trail alignment would not be adjacent of any of the 14 historical structures listed on the local register designated by ordinance (City of Watsonville General Plan, 1994). However, the Watsonville reach would include several new pre-engineered pedestrian/bicycle bridges of varying spans. All of the existing railroad bridges and trestles along the MBSST Network corridor were constructed between 1903 and 1977 (RTC, 2012). Due to their age, many of these bridges are potentially eligible for listing on the California Register. Because many of the existing rail bridges are potentially eligible for listing on the California Register, and are therefore potentially historical resources, alterations to these structures would be a potentially significant impact. Mitigation is required to reduce potential impacts to these existing structures.

Mitigating Design Features. The proposed MBSST Network Master Plan contains design features related to prehistoric and archaeological cultural and historic resources. Specifically, historic resource exhibits (interpretive exhibits) would be placed along the trail at strategic locations offering a variety of information. For example, information concerning the history of railroads, lumber, beaches, and farming in the area would be portrayed. While these design features would provide public information related to prehistoric and archaeological cultural and historical resources in the Master Plan area, the proposed Master Plan would still result in

potentially significant impacts to prehistoric and archaeological cultural resource sites and historic structures, as described above.

Mitigation Measures. The following mitigation measures are required to reduce impacts to prehistoric and archaeological cultural resources and historical structures during MBSST Network construction and apply to the construction of all segments of the trail.

CR-1(a) **Cultural Resources Records Search**. Prior to ~~the issuance of grading permits~~ completion of final design for each trail segment, the RTC and/or implementing entity shall contract with a qualified archaeologist to perform a cultural resources records search. The cultural resources records search shall include both the Area of Direct Impact as well as a suitable buffer area encompassing an Area of Indirect Impact as determined by a qualified archaeologist. If a cultural resources survey has previously been adequately performed for the subject trail segment/impact area, and existing prehistoric or archaeological cultural resources were not identified, no further pre-construction mitigation would be required. If no previous survey has been performed for the subject trail segment/impact area, or if a previous survey has identified prehistoric or archaeological cultural resources, mitigation measure CR-1(b) shall be implemented.

CR-1(b) **Pre-Construction Prehistoric and Archaeological Resources Survey**. Prior to ~~the issuance of grading permits~~ completion of final design for each segment that has not been previously graded and/or surveyed for prehistoric and archaeological cultural resources [as determined by mitigation measure CR-1(a)], the RTC and/or implementing entity shall contract with a qualified archaeologist to perform a Phase I cultural resources assessment. In the event that prehistoric or archaeological cultural resources are identified within the Area of Direct Impact during the Phase I assessment and avoidance of impacts to the resource by redesign are not feasible, the implementing agency shall implement a Phase II subsurface testing program to determine the resource boundaries within the trail corridor/impact area, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts.

If the site is determined significant, the RTC and/or implementing entity may choose to cap the resource area using culturally sterile and chemically neutral fill material and shall include open space accommodations and interpretive displays for the site to ensure its protection from development. A qualified archaeologist shall be retained to monitor the placement of fill upon the site and to make open space and interpretive recommendations. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant prehistoric or

archaeological cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping or further archaeological investigation shall be required, though archaeological monitoring may still be required. The results and recommendations of the Phase II and/or Phase III studies shall determine the need for construction monitoring.

In the event that prehistoric or archaeological cultural resources are identified within the Area of Indirect Impact during the Phase 1 assessment, the implementing entity shall contract with a qualified archaeologist to determine whether avoidance or minimization measures are required to prevent looting and aggravation of existing resources. If required, these measures could include, but shall not be limited to: installation of signage prohibiting the public from accessing the site(s), installation of fencing around the identified sites, installation of protection landscape screening, and/or placement of cultural sterile and chemically neutral fill upon the site(s). Selection of feasible avoidance or minimization measures shall be in consultation with the appropriate resource agency, implementing entity, and/or RTC. Following implementation of feasible avoidance or minimization measures the RTC and/or implementing entity shall prepare a four year monitoring plan that includes annual review of sites within the Area of Indirect Impact to assess whether impacts are occurring, supplemental measures to address identified impacts and an annual report of findings which would be available for review by the relevant resources agencies. The plan shall be implemented for a minimum of four years, or until it is clear that resources are not being impacted by the project.

CR-1(c) **Alteration of Potential Historical Bridges/Structures**. Prior to issuing permits for development of trail segments that would result in alteration of existing rail bridges, trestle structures, or other structures greater than 50 years old (at the time development is anticipated to occur), a qualified architectural historian shall inventory and evaluate the significance of potentially historical bridges and other structures located along the proposed trail alignment.

Preliminary investigations have not identified any historic bridges; however, the trestle over Soquel Creek in Capitola is located in a historic district. If a bridge or other structure located along the proposed trail alignment is determined to be historic, the following shall be conducted prior to any rehabilitation, changes, alterations, or additions:

A report shall be prepared by a professional architectural historian and shall be accompanied by requisite sets of large format camera Historic American Engineering Record (HAER) Level II black-and-

white 8-by-10 inch archival quality prints taken by a professional photographer. A minimum of twelve views shall be documented (two profiles, two centerline shots, four abutment shots, and four engineering details) and two sets of prints shall be sent to the California State Library in Sacramento. Measured drawings shall be prepared of the structure under the supervision of a qualified architectural historian.

After this effort, any proposed rehabilitation, changes, alterations, and additions to historical structures shall comply with the Secretary of the Interior Standards for Rehabilitation. Alterations shall be similar to the surrounding historical landscape and consistent with the character-defining features of the bridge/structure, as determined by procedures implementing the National Historic Preservation Act. Adjacent property owners and local government shall be consulted about the design details of any alterations to existing historical resources. Alterations shall be consistent with applicable local historic preservation policies and guidelines.

Significance After Mitigation. Implementation of mitigation measures CR-1(a) and CR-1(b) would reduce impacts to prehistoric and archaeological cultural resources to a less than significant level. Implementation of mitigation measure CR-1(c) would reduce impacts to historical resources to a less than significant level.

Impact CR-2 Construction of the proposed MBSST Network would involve surface excavation. Although unlikely, construction activities have the potential to unearth or impact previously unidentified prehistoric or archaeological cultural resources. Impacts would be Class II, *significant but mitigable*.

Project construction activities, including ground clearing, grading and excavation, could have adverse impacts on previously unidentified prehistoric or archaeological cultural resources. Pre-construction reconnaissance can only confidently assess the potential for encountering surface prehistoric or archaeological cultural resource remains. As discussed in Section 4.5.1(b), above, cultural resources are likely to occur along water courses, near rock outcrops, oak stands, and along historic slough margins. The proposed MBSST trail alignment is located near or adjacent to several of these features throughout Santa Cruz County. Therefore, the possibility remains for encountering subsurface prehistoric or archaeological cultural resources during construction activities.

If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the City or County Coroner (depending on the jurisdiction in which the discovery occurs) has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC will then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased Native American, who will then help determine what course of action should be taken in dealing with the remains.

Adverse impacts would occur if the implementation of the MBSST Network Master Plan would result in construction activities that would damage previously unidentified prehistoric or archaeological cultural resources. Impacts to such resources would be potentially significant.

Mitigation Measures. The following mitigation measures are required to reduce impacts to previously unidentified prehistoric and archaeological cultural resources.

CR-2(a) **Archaeological Resource Construction Monitoring.** Prior to the commencement of construction activities for each trail segment, an orientation meeting shall be conducted by an archaeologist, general contractor, subcontractor, and construction workers associated with earth disturbing activities. The orientation meeting shall describe the potential of exposing archaeological resources, the types of cultural materials may be encountered, and directions on the steps that shall be taken if such a find is encountered.

A qualified archaeologist shall be present during all initial earth moving activities for each trail segment. In the event that unearthed prehistoric or archaeological cultural resources or human remains are encountered during project construction, mitigation measure CR-2(b) shall take effect.

CR-2(b) **Unearthed Prehistoric or Archaeological Cultural Remains.** If prehistoric or archaeological cultural resource remains are encountered during construction or land modification activities, work shall stop and the RTC and appropriate City or County planning, building department (depending on the jurisdiction in which the discovery occurs) or implementing entity shall be notified at once to assess the nature, extent, and potential significance of any prehistoric or archaeological cultural remains. The implementing entity shall implement a Phase II subsurface testing program to determine the resource boundaries within the trail corridor/impact area, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts.

If the site is determined significant, the RTC and/or implementing entity may choose to cap the resource area using culturally sterile and chemically neutral fill material and shall include open space accommodations and interpretive displays for the site to ensure its protection from development. A qualified archaeologist shall be retained to monitor the placement of fill upon the site and to make open space and interpretive recommendations. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant prehistoric or archaeological cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping and or further

archaeological investigation shall be required. The results and recommendations of the Phase II study shall determine the need for construction monitoring.

Significance After Mitigation. Implementation of mitigation measures CR-2(a) and CR-2(b) would reduce impacts to previously unidentified prehistoric or archaeological cultural resources to a less than significant level.

c. Cumulative Impacts. Proposed development in conjunction with other cumulative projects in Santa Cruz County, including within the cities of Santa Cruz, Capitola, and Watsonville, would have the potential to adversely impact additional prehistoric or archaeological cultural resources. The proposed MBSST Network project would not contribute to any significant cumulative impacts, and cumulative construction impacts related to known and unknown prehistoric and archaeological cultural resources would be similar to that which is described for project-specific impacts and would be addressed on a project-by-project basis.

Cumulative development in Santa Cruz County may include removal and/or replacement of existing bridges along the MBSST Network corridor. In such instances, the Master Plan encourages that future design of any replacement bridges consider including multi-use path facilities on the bridge deck. Although no historic bridges have been identified through preliminary investigations, investigation in future may result in identification of historic bridges. Should this occur, impacts associated with removal or replacement of historic bridges would be addressed on a case-by-case basis as part of environmental review that would be required for future projects. Because the MBSST Network project does not propose removal or replacement of any existing bridges, the project would not contribute to cumulative impacts associated with removal of these historic structures.

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4.6 GEOLOGY/SOILS

4.6.1 Setting

a. Topography and Geology.

Topography. The proposed MBSST corridor stretches the entire length of Santa Cruz County from the San Mateo County Line north of Davenport past the Pajaro River in Watsonville to connect to Monterey County's MBSST system, and into the town of Pajaro at the rail right-of-way southern terminus. The MBSST Network would primarily align with the Santa Cruz Branch Rail Line right-of-way, a 32-mile, continuous travel corridor, 31-miles of which is owned by the RTC. The rail right-of-way would serve both rail service and bike/pedestrian trail functions. The railroad corridor generally parallels the Pacific Ocean, except where it turns inland near Manresa State Beach and on to Watsonville.

The majority of the MBSST Network is located on lowlands seaward of the Santa Cruz Mountains and the coastal bluffs toward the northern extent of the County. The area of the corridor that turns inland toward Watsonville generally follows the flood plains of the Watsonville Slough and Pajaro River, as well as the low-lying coastal areas along Beach Street in the southern portion of the County. The lowlands along the coastline of the Pacific Ocean and Monterey Bay have been interpreted to be uplifted or emergent marine terraces of Quaternary age (Brabb, 1989). The higher terraces are progressively older and more dissected. These terraces are cut into the Santa Cruz Mountains, which consist of Tertiary-age sedimentary rocks that have been folded and faulted by movements along the San Andreas fault system.

The proposed MBSST Network corridor is located on the lowlands of the Santa Cruz Mountains, and consequently, there are varying slopes throughout the corridor. Slopes range from flat to gentle, moderate, and steep. In general, the project site slopes to the west, toward the Pacific Ocean. Elevations throughout the corridor range from sea level to approximately 30 to 40 feet above sea level. Additionally, the corridor is adjacent to steep hillsides throughout most of the northern reach.

Geology. The MBSST Network lies within the Coast Range geomorphic province of California. The Santa Cruz Mountains consist of Tertiary-age sedimentary rocks that have been folded and faulted by movements along the San Andreas Fault system.

The rocks underlying the corridor are predominantly of late Cenozoic marine origin with some continental deposits. The portion of the MBSST Network from north of Davenport to La Selva Beach rests on poorly-graded marine sands and gravels that range from 20 to 40 feet thick. Locally, this terrace has been cut by streams, exposing underlying Tertiary mudstones and siltstones in some locations and more recent alluvial fill deposits less than 100 feet thick in other locations. The underlying Tertiary rocks range up to 8,900 feet thick and are underlain by granitic basement rock. The portion of the site from La Selva Beach to Watsonville rests on continental deposits consisting of alluvial sand, silt, clay, and gravel and eolian sands. These deposits range from 50 to 200 feet thick (Geomatrix Consultants, 1997).

The MBSST Network project site is located within a seismically active region. The northwest-southeast structural grain of the Coast Ranges is controlled by a complex of active faults within the San Andreas fault system. Southwest of the San Andreas fault, the Coast Ranges, including the Santa Cruz Mountains, are underlain by a large, northwest-trending, fault-bounded elongated prism of granitic and metamorphic basement rocks. The granitic and metamorphic basement is Cretaceous in age or older, and is overlain by a sequence of dominantly marine sedimentary rocks of Paleocene to Pliocene age and non-marine sediments of Pleistocene and Holocene age. The older sedimentary rocks are moderately to strongly deformed, with steep-limbed folds and several generations of faults associated with uplift of the Santa Cruz Mountains.

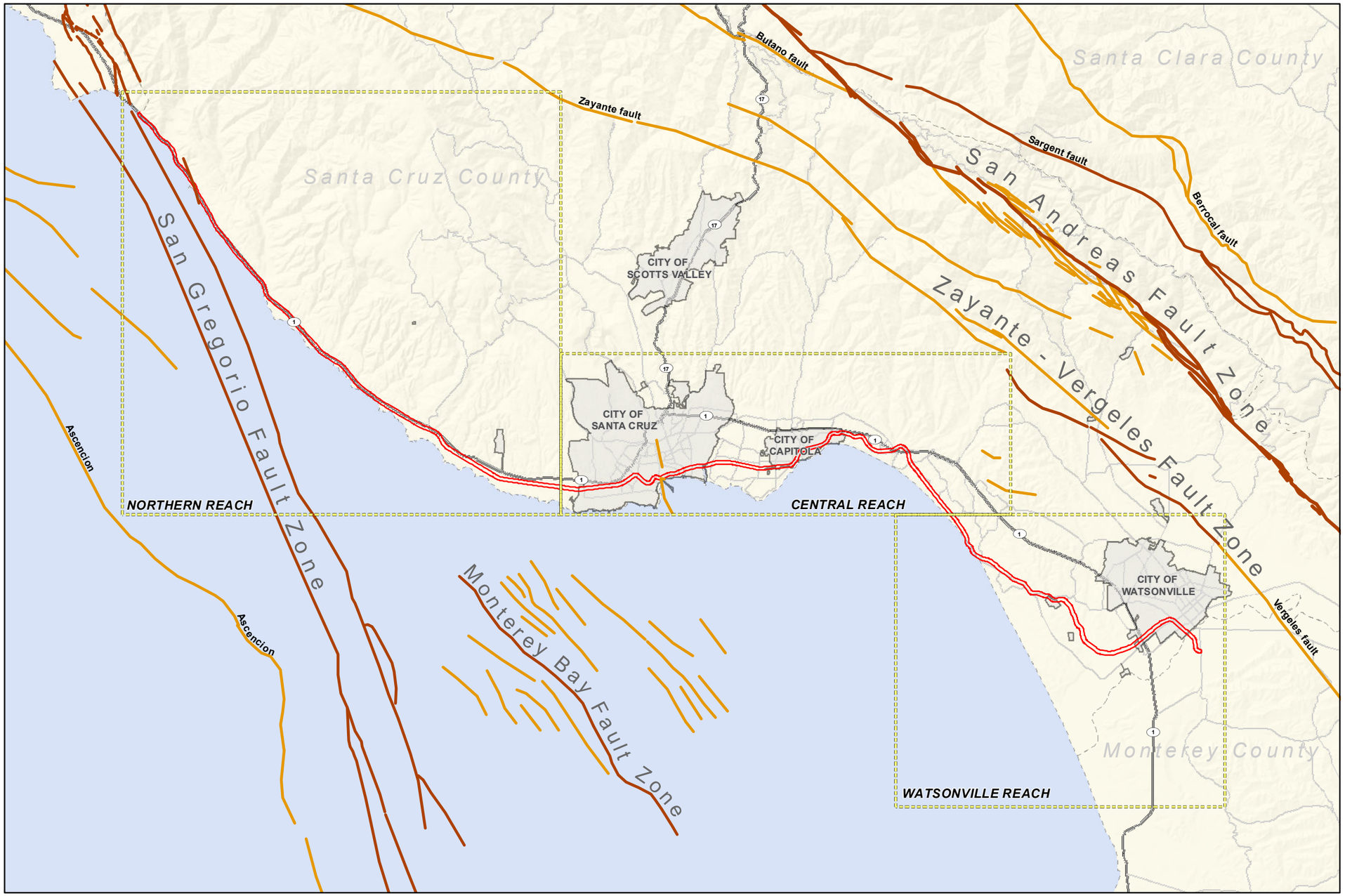
The Santa Cruz Mountains are cut by several active faults, of which the San Andreas is the most important. Along the coast, the ongoing tectonic activity is most evident in the gradual uplift of the coastline, as indicated by the series of uplifted marine terraces that sculpt the coastline (City of Santa Cruz, 2011). In addition to the San Andreas fault, the Zayante-Vergeles and San Gregorio faults and the Monterey Bay – Tularcitos fault zone are associated with Holocene activity (movement in the last 11,000 years) and are considered to be active. Refer to Figure 4.6-1 for a map of faults in the region. The potential for seismicity present in Santa Cruz County is also pervasive through most of coastal California.

There are 42 different soil types within the MBSST Network right-of-way (ROW) and 20 different soil groups or series. Information regarding soils within the MBSST Network ROW was obtained from U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Data Mart. The MBSST Network traverses soils of the Aptos, Baywood, Bonnydoon, Clear Lake, Conejo, Danville, Elder, Elkhorn, Fluvaquentic Haploxerolls, Lompico-Felton, Mocho, Pfeiffer, Pinto, Pits-Dumps, Santa Lucia, Soquel, Tierra-Watsonville, and Watsonville series, as well as aquents [poorly to very poorly drained soils formed in human transported material or on excavated (cut) landscapes] and beaches.

c. Geologic Hazards along the MBSST Network.

Faulting and Seismically Induced Ground Shaking. The United States Geological Survey (USGS) defines active faults as those that have had surface displacement within Holocene time (approximately within the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Active faults as defined by the State Geologist have been designated as Alquist-Priolo Fault Zones and require special regulation and study for projects proposed in these zones. Further discussion of the Alquist-Priolo Earthquake Fault Zoning Act is provided in the Regulatory Setting. Potentially active faults are those that have had surface displacement during Quaternary time (the last 1.6 million years). Inactive faults have not had surface displacement within the last 1.6 million years.

Historical earthquakes along the San Andreas fault and its branches have caused substantial seismic shaking in Santa Cruz County. The two largest historical earthquakes to affect the area were the moment magnitude (Mw) 7.9 San Francisco earthquake of April 18, 1906 and the Mw 6.9 Loma Prieta earthquake of October 17, 1989. Both earthquakes caused severe seismic shaking throughout Santa Cruz County. Regional faults in the MBSST Network are described below and shown in Figure 4.6-1.



Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Fault Map

Figure 4.6-1

San Andreas Fault Zone. The San Andreas Fault Zone is the dominant active fault in California. It is located approximately 10 miles northeast of the City of Santa Cruz and is less than 10 miles from the closest point on the MBSST Network, which lies between Segment 12 and Segment 20. The San Andreas Fault Zone is the primary surface boundary between the Pacific and the North American plates. The main trace of the fault trends northwest-southeast and extends over 800 miles from the Gulf of California through the Coast Ranges to Point Arena, where the fault passes offshore and merges with the Cascadia fault zone.

Zayante-Vergeles Fault. The Zayante Fault lies southwest of the San Andreas Fault and trends about 50 miles northwest from the Watsonville lowlands into the Santa Cruz Mountains. The southern extent of the Zayante Fault merges with the Vergeles Fault. It is at this junction that the fault is considered potentially active (California Geologic Survey, 2010). The nearest portion of the MBSST Network project to the potentially active region of the Zayante-Vergeles Fault is in the Watsonville reach. The easternmost portion of the Watsonville reach is approximately 2.75 miles southwest of the Zayante-Vergeles Fault.

San Gregorio Fault. The San Gregorio Fault cuts the ocean floor seaward of Monterey Bay and skirts the Santa Cruz County coastline before coming on land just south of Point Año Nuevo. The San Gregorio Fault is considered potentially active (California Geologic Survey, 2010.) The area where the San Gregorio Fault comes on land is considered an Alquist-Priolo Fault Zone and coincides with the two northernmost segments of the MBSST Network project.

Monterey Bay – Tularcitos Fault Zone. The Monterey Bay – Tularcitos Fault Zone is based on a postulated connection between the Tularcitos Fault, located on land near the Monterey Peninsula, and the offshore Monterey Bay Fault zone. The Monterey Bay Fault Zone is six to nine miles wide and about 25 miles long, located approximately 2.75 miles southwest of the central reach of the MBSST Network project. This fault zone is considered potentially active.

Faults generally produce damage in two ways: ground shaking and surface rupture. Ground shaking covers a wide area and is greatly influenced by the distance of the site to the seismic source, soil conditions, and depth to groundwater. Surface rupture is limited to very near the fault. As previously mentioned, the northernmost segment of the trail (segment 1) is within an Alquist-Priolo Fault Zone and therefore subject to surface rupture.

Earthquake-generated ground shaking is the greatest cause of widespread damage in an earthquake. California Geologic Survey (CGS) modeling efforts (probabilistic modeling) evaluate earthquake shaking potential in California for given areas by analyzing several factors, such as historical earthquakes, areas damaged, slip rates, and geologic materials (CGS, 2003). The interactive Probabilistic Seismic Hazard Assessment and Map produced by the California Geological Survey for the California/Nevada region (CGS, 2003) depicts peak ground acceleration (Pga), spectral acceleration (Sa) at short (0.2 second) and moderately long (1.0 second) periods. The probabilistic seismic hazards for each reach are shown in Table 4.6-1. Ground movements (10% probability of being exceeded in 50 years) are expressed as a fraction of the acceleration due to gravity (g). Ground movement accelerations were calculated based on firm rock conditions, soft rock conditions, and alluvium site conditions and are discussed below (CGS, 2003). The probabilistic seismic hazards shown for each reach are from one given location within each reach to provide an example of seismic hazards within the MBSST Network area. The approximate locations of each measurement are noted in the table next to the reach.

Table 4.6-1
Sample Probabilistic Seismic Hazards for the MBSST Network

Ground Motion	Firm Rock (g)[1]	Soft Rock (g)	Alluvium (g)
Northern Reach – Near Davenport			
Pga[2]	0.426	0.426	0.458
Sa 0.2 sec[3]	0.997	0.998	1.097
Sa 1.0 sec[4]	0.422	0.513	0.6
Central Reach – City of Santa Cruz			
Pga	0.472	0.472	0.485
Sa 0.2 sec	1.074	1.074	1.15
Sa 1.0 sec	0.477	0.571	0.648
Watsonville Reach – City of Watsonville			
Pga	0.598	0.598	0.598
Sa 0.2 sec	1.331	1.331	1.331
Sa 1.0 sec	0.58	0.656	0.757

Notes:
1. (g) Ground motion is expressed as a fraction of acceleration due to gravity.
2. Pga – Peak ground acceleration.
3. Spectral acceleration at 0.2 second time period.
4. Spectral acceleration at 1.0 second time period.
NEHRP Soil Corrections were used to calculate Soft rock and Alluvium.
Ground Motion values are interpolated from a grid (0.05 degree spacing) of calculated values.
Source: CGS, 2003.

The relationship between the peak ground acceleration and the Modified Mercalli Intensity (MMI), is shown in Table 4.6-2. The MMI is composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction. The MMI does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects. The definition of each scale of the MMI in terms of perceived shaking and potential damage are also shown in Table 4.6-2.

Table 4.6-2
Relationship between Peak Ground Acceleration and Modified Mercalli Intensity

MMI	Peak Ground Acceleration (g)	Perceived Shaking	Potential Damage
I	<0.0017	Not felt	None
II-III	0.0017 – 0.014	Weak	None
IV	0.014 – 0.039	Light	None
V	0.039 – 0.092	Moderate	Very light
VI	0.092 – 0.18	Strong	Light
VII	0.18 – 0.34	Very Strong	Moderate
VIII	0.34 – 0.65	Severe	Moderate to heavy
IX	0.65 – 1.24	Violent	Heavy
X+	>1.24	Extreme	Very heavy

Source: USGS, ShakeMap Scientific Background, 1999.

According to Table 4.6-2, peak ground acceleration for the sample locations along the MBSST Network would result in severe shaking and moderate to heavy damage. It should be noted

that both lower and higher peak ground accelerations could be experienced in different areas of the trail, based on proximity to active faults.

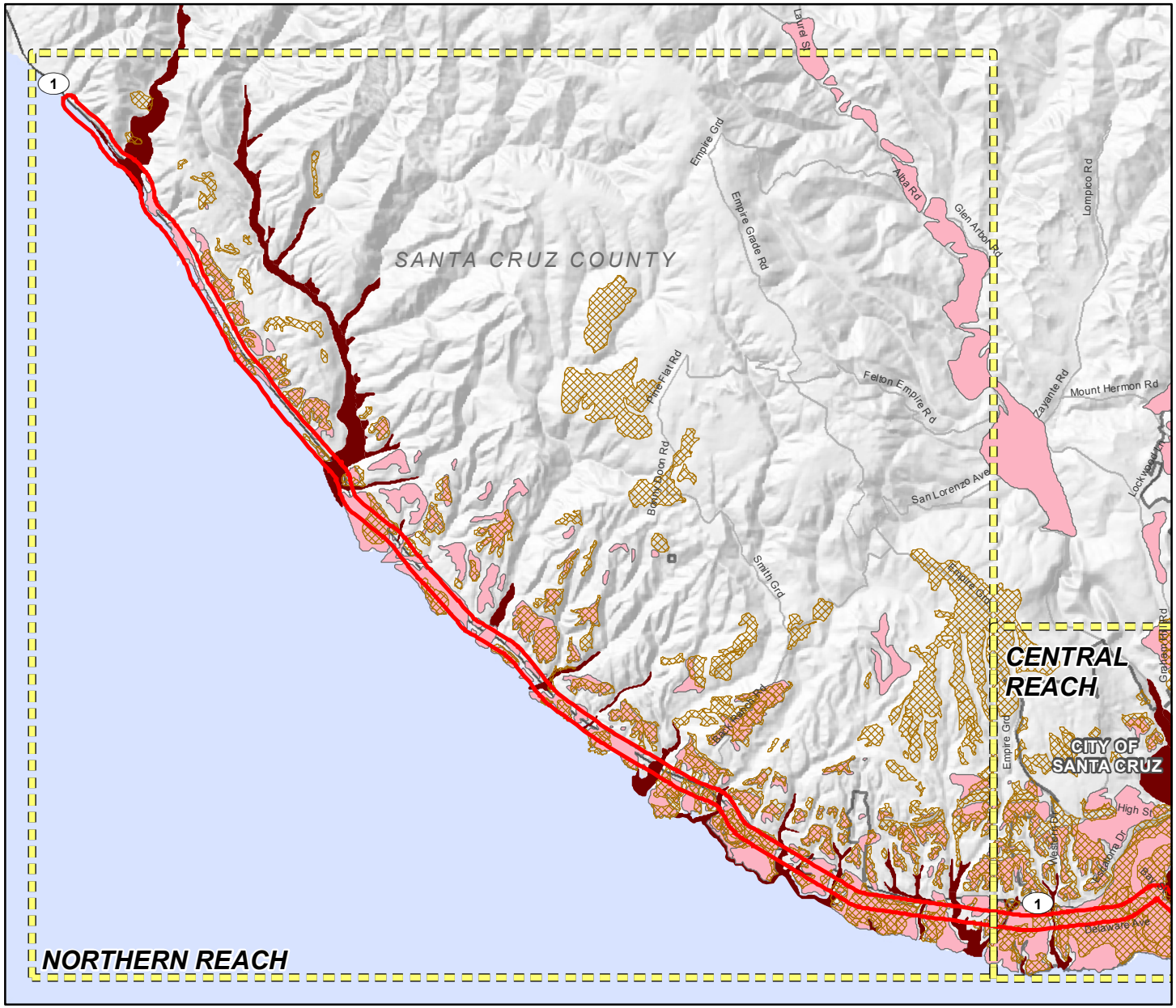
Liquefaction. Liquefaction is a temporary, but substantial, loss of shear strength in granular solids, such as sand, silt, and gravel, usually occurring during or after a major earthquake. This occurs when the shock waves from an earthquake of sufficient magnitude and duration compact and decrease the volume of the soil. If drainage cannot occur, this reduction in soil volume will increase the pressure exerted on the water contained in the soil, forcing it upward to the ground surface. This process can transform stable granular material into a fluid-like state. The potential for liquefaction to occur is greatest in areas with loose, granular, low-density soil, where the water table is within the upper 40 to 50 feet of the ground surface. Liquefaction can result in slope and/or foundation failure. According to the Santa Cruz County Liquefaction Hazard Areas map (2009) and shown in Figures 4.6-2a through 4.6-2c, most of the MBSST Network would be located in areas of low liquefaction potential. However, there are areas interspersed throughout the length of the trail that would be located in high liquefaction hazard areas, primarily within the City of Santa Cruz, the Pajaro Dunes area, and the City of Watsonville portions of the trail.

Subsidence and Settlement. Subsidence is the withdrawal of fluid (oil, natural gas, or water) from compressible sediments. As water is withdrawn and the water table lowered, the effective pressure in the drained sediments is increased. Compressible layers then compact under the over-pressure burden that is no longer compensated by hydrostatic pressure. The resulting land subsidence is most pronounced in uncompacted sediments.

Settlement is the downward movement of the land surface resulting from the compression of void space in underlying soils. Seismically induced settlement occurs in loose to medium dense unconsolidated soil. Loose to medium dense unconsolidated soil can compress (settle) when subject to seismic shaking. The settlement is exacerbated by increased loading, such as from the construction of structures on-site. This settlement can be mitigated prior to development through the removal and recompaction of loose soils. Generally, the same areas that are subject to seismic liquefaction are also subject to settlement because these soils tend to be loose. Thus, the areas shown in Figures 4.6-2a through 4.6-2c as having high liquefaction potential would also be expected to be subject to settlement.

Expansive Soils. Expansive soils are soils that are generally clayey, swell when wetted and shrink when dried. Wetting can occur in a number of ways (i.e., absorption from the air, rainfall, groundwater fluctuations, lawn watering, broken water or sewer lines, etc.). According to the Santa Cruz County Expansive Soils map (2009) and shown in Figures 4.6-2a through 4.6-2c, expansive soils are located at interspersed locations throughout the length of the proposed MBSST Network. Large areas of expansive soils can be found within the City of Santa Cruz, the Live Oak area, the City of Capitola, the Pajaro Dunes area, and the City of Watsonville.

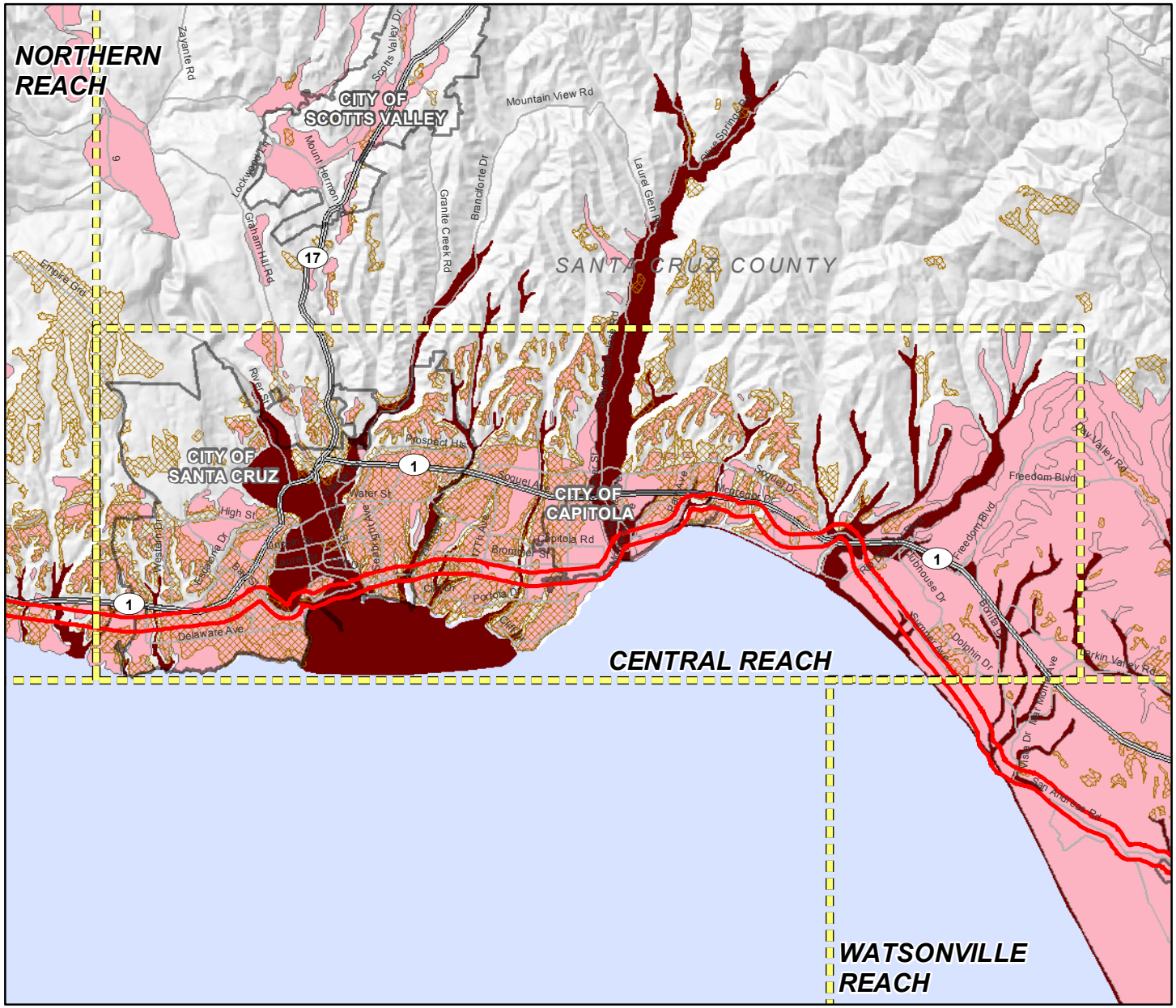
Erosion. Soil erosion is the removal of soil by water and wind. The rate of erosion is estimated from four soil properties: texture, organic matter content, soil structure, and permeability data. Other factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover.



Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Soil Hazards: Northern Reach

Figure 4.6-2a



Legend

- Monterey Bay Sanctuary Scenic Trail Network Corridor*
- Reaches
- Expansive Soils

Liquifaction Potential

- Very High to High
- Moderate to Low

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

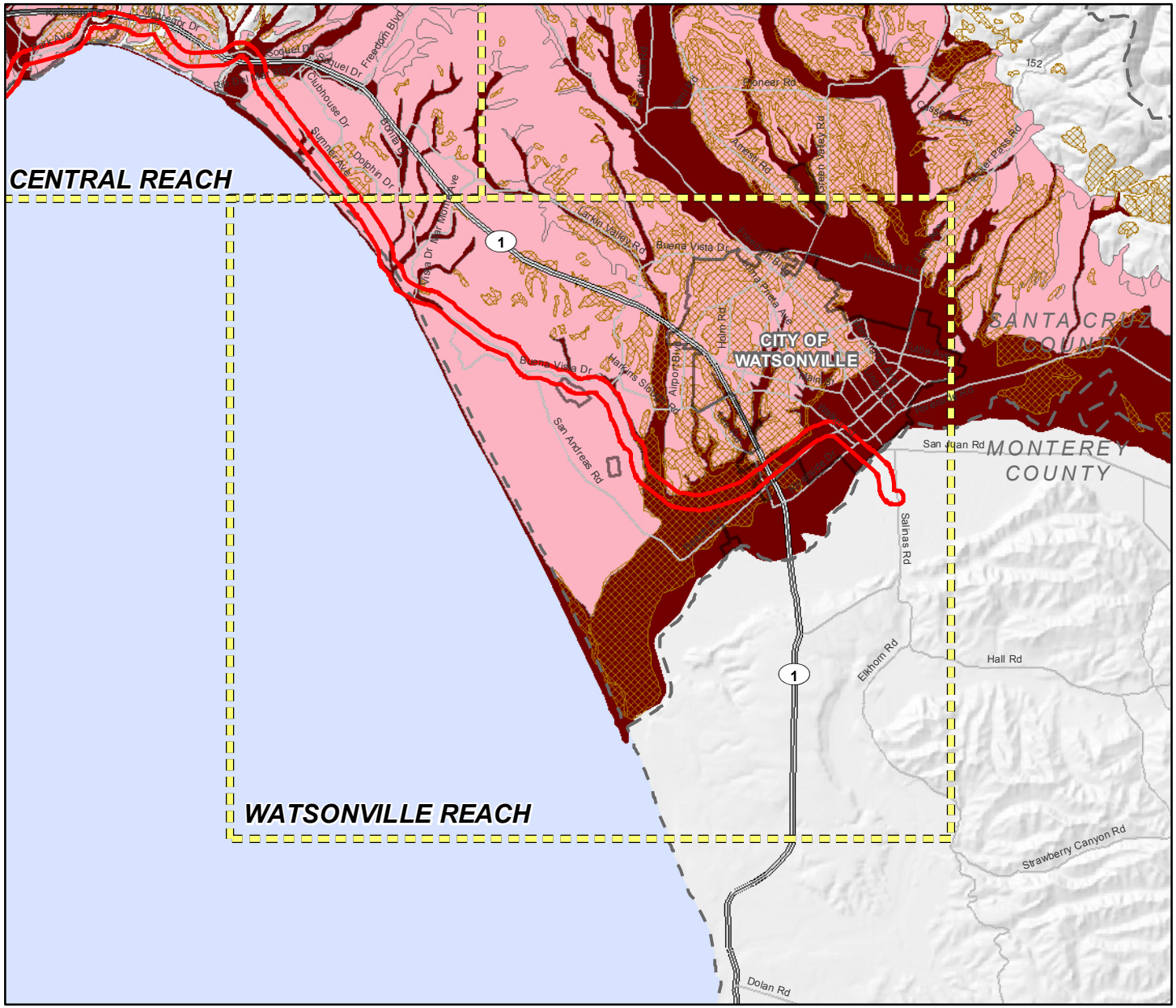
N

0 1 2 Miles

Soil Hazards: Central Reach

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Figure 4.6-2b



Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Figure 4.6-3c

Coastal erosion occurs along the coastline throughout the County. The segments of the trail that could be subject to coastal erosion are those that include the beach areas or are immediately adjacent to the beaches, such as near the Waddell Bluffs and Manresa State Beach (County of Santa Cruz, 2009). Figures 4.6-3a through 4.6-3c depict soils along each of the three reaches and their erosion potential, as well as the areas along the MBSST Network that are subject to coastal erosion.

Table 4.6-3 shows the soils present within the MBSST Network ROW and the erosion hazard potential. The erosion hazard potential is based on the NRCS rating for the hazard of erosion on roads and trails.

Table 4.6-3
Erosion Hazard Potential by Soil Unit

Map Unit	Soil Name	Slope	Percent of ROW	Erosion Hazard Potential*
100	Aptos Loam, warm	15-30%	<1%	Severe
103	Aquents, flooded	N/A	1%	Slight
104	Baywood loamy sand	0-2%	1%	Slight
106	Baywood loamy sand	15-30%	<1%	Severe
105	Baywood loamy sand	2-15%	2%	Severe
107	Baywood loamy sand	30-50%	12%	Severe
109	Beaches	N/A	2.7%	Very Severe
117	Bonnydoon loam	30-50%	4.8%	Severe
116	Bonnydoon loam	5-30%	<1%	Severe
118	Bonnydoon rock-outcrop complex	50-80%	5.2%	Severe
119	Clear Lake clay, moderately wet	N/A	8.2%	Slight
122	Conejo clay loam	0-2%	1.3%	Slight
120	Conejo loam	0-2%	1.9%	Slight
124	Danville loam	0-2%	<1%	Slight
125	Danville loam	2-9%	<1%	Moderate
129	Elder sandy loam	0-2%	1.5%	Slight
130	Elder sandy loam	2-9%	2.9%	Moderate
131	Elder sandy loam	9-15%	<1%	Severe
132	Elkhorn sandy loam	0-2%	<1%	Slight
135	Elkhorn sandy loam	15-30%	3.1%	Severe
133	Elkhorn sandy loam	2-9%	3.1%	Moderate
134	Elkhorn sandy loam	9-15%	13.7%	Moderate
136	Elkhorn-Pfeiffer complex	30-50%	2.5%	Severe
139	Fluvaquentic haploxerolls-aquic xerofluvents complex	0-15%	1.2%	Moderate
143	Lompico-Felton complex	30-50%	<1%	Severe
144	Lompico-Felton complex	50-75%	<1%	Severe
155	Mocho silt-loam	0 to 2 %	1.5%	Slight
160	Pfeiffer gravelly sandy loam	30-50%	<1%	Severe
161	Pinto loam	0-2%	<1%	Slight
162	Pinto loam	2-9%	<1%	Moderate
164	Pits-dumps complex		<1%	Not rated
167	Santa Lucia shaly clay loam	5-30%	<1%	Severe
169	Santa Lucia shaly clay loam	50-75%	<1%	Severe
170	Soquel loam	0-2%	<1%	Slight
171	Soquel loam	2-9%	<1%	Moderate
172	Soquel loam	9-15%	<1%	Moderate
174	Tierra-Watsonville complex	15-30%	1.6%	Severe
175	Tierra-Watsonville complex	30-50%	<1%	Severe
176	Watsonville loam	0-2%	1.7%	Slight

Table 4.6-3
Erosion Hazard Potential by Soil Unit

Map Unit	Soil Name	Slope	Percent of ROW	Erosion Hazard Potential*
177	Watsonville loam	2-15%	2.7%	Severe
178	Watsonville loam, thick surface	0-2%	11.3%	Slight
179	Watsonville loam, thick surface	2-15%	4.7%	Severe

Source: USDA, NRCS, Soil Data Mart, July 2010.

Landslides. "Landslide" is a general term for the dislodging and falling of rock and soil down a sloped surface. "Mudslide" is a general term used for a flow of very wet rock or soil. Landslides can occur from natural conditions such as heavy rainfall, hillside water table fluctuation, and seismic activity. According to the Santa Cruz County Flood and Landslide maps (2009), there are landslide hazards interspersed along portions of Highway 1 in the northern reach, the Wilder Ranch State Park area of the central reach, and several areas in the vicinity of the Watsonville reach. Figures 4.6-4a through 4.6-4c show areas along the trail with slopes greater than 30 percent, which may be subject to greater landslide potential.

d. Regulatory Setting.

Federal.

American Association of State Highway and Transportation Officials (AASHTO). AASHTO provides design guidelines and standards for the construction of bicycle and pedestrian pathways, including bridges.

State.

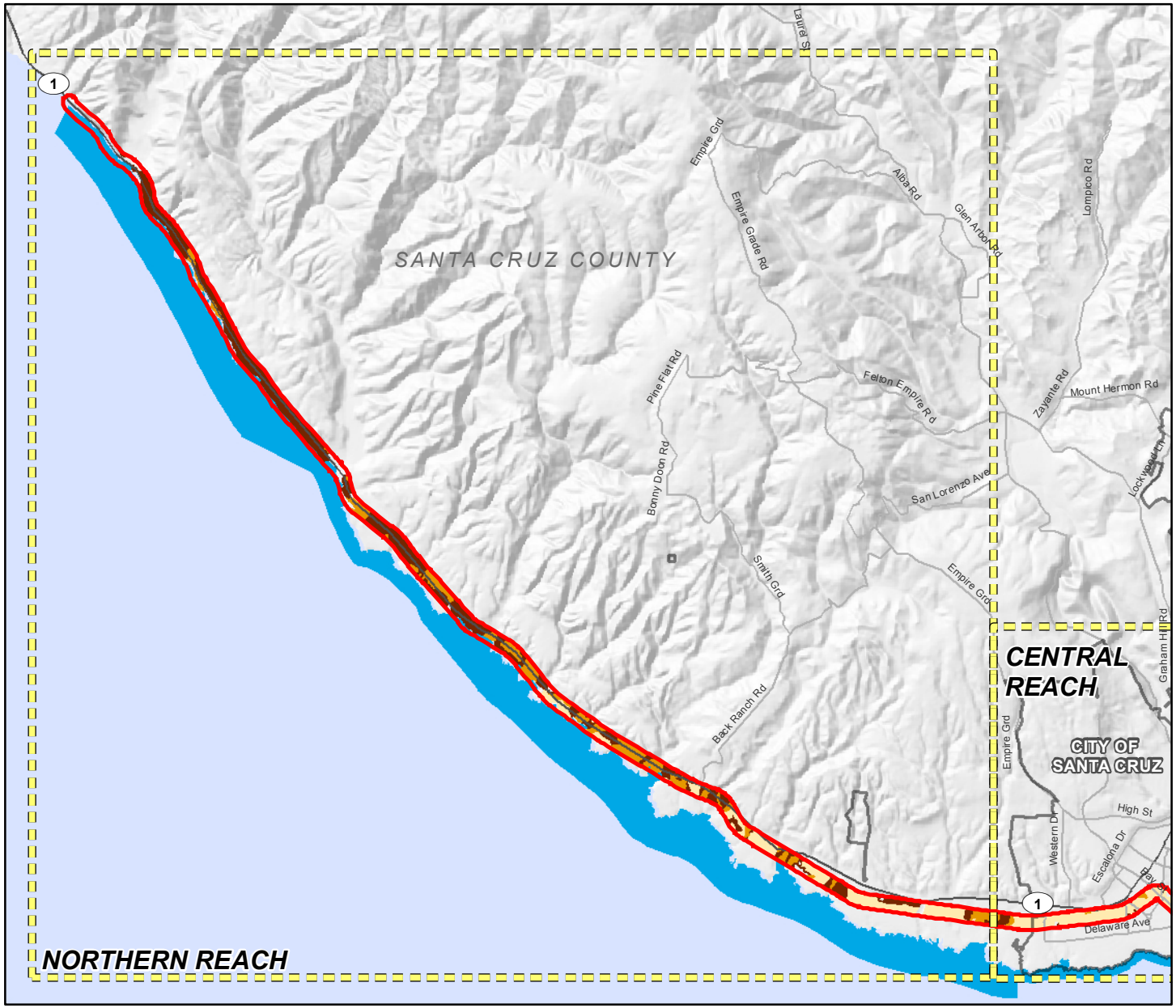
California Building Code (CBC). The California Building Code provides standards for building construction, including design guidelines and specifications to meet earthquake standards.

Caltrans Highway Design Manual. The Caltrans Highway Design Manual provides design guidelines and standards for the construction of bicycle and pedestrian pathways, including bridges.

Alquist-Priolo Earthquake Fault Zoning (AP) Act. The AP Act was passed into law in 1971 following the destructive San Fernando earthquake. The AP Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep.

Santa Cruz County.

Santa Cruz County General Plan. The Santa Cruz County General Plan includes the following objectives and policies to minimize risks resulting from geologic and soil hazards:



Legend

- Reaches
- Monterey Bay Sancturary Scenic Trail Network Corridor*

Erosion Hazard Potential

- Severe
- Moderate
- Slight

Coastal Erosion Zone

- Coastal Erosion Zone A
- Coastal Erosion Zone V

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

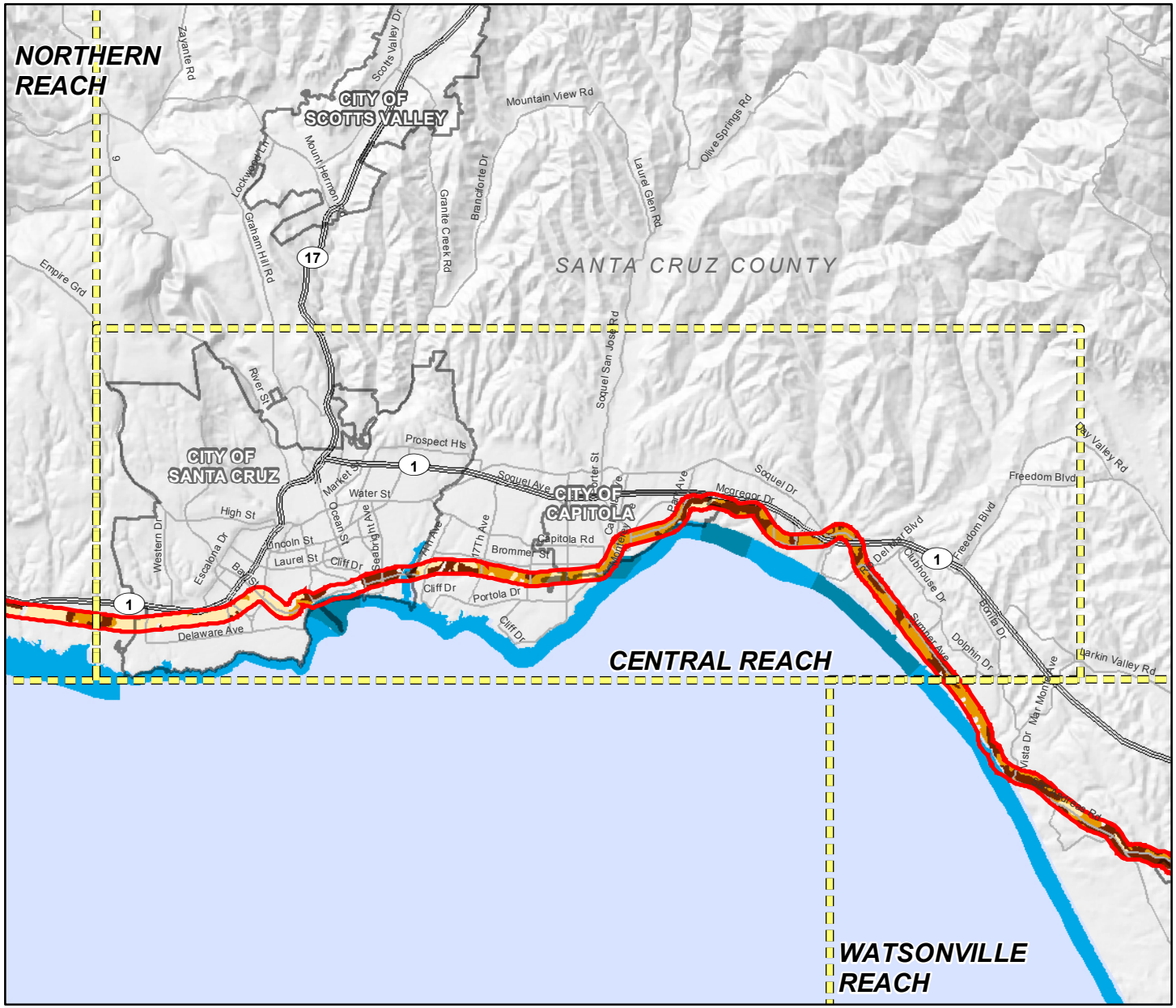
N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Erosion Hazards: Northern Reach

Figure 4.6-3a



Legend

- Monterey Bay Sanctuary Scenic Trail Network Corridor*
- Reaches

Erosion Hazard Potential

- Severe
- Moderate
- Slight

Coastal Erosion Zone

- Coastal Erosion Zone A
- Coastal Erosion Zone V

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

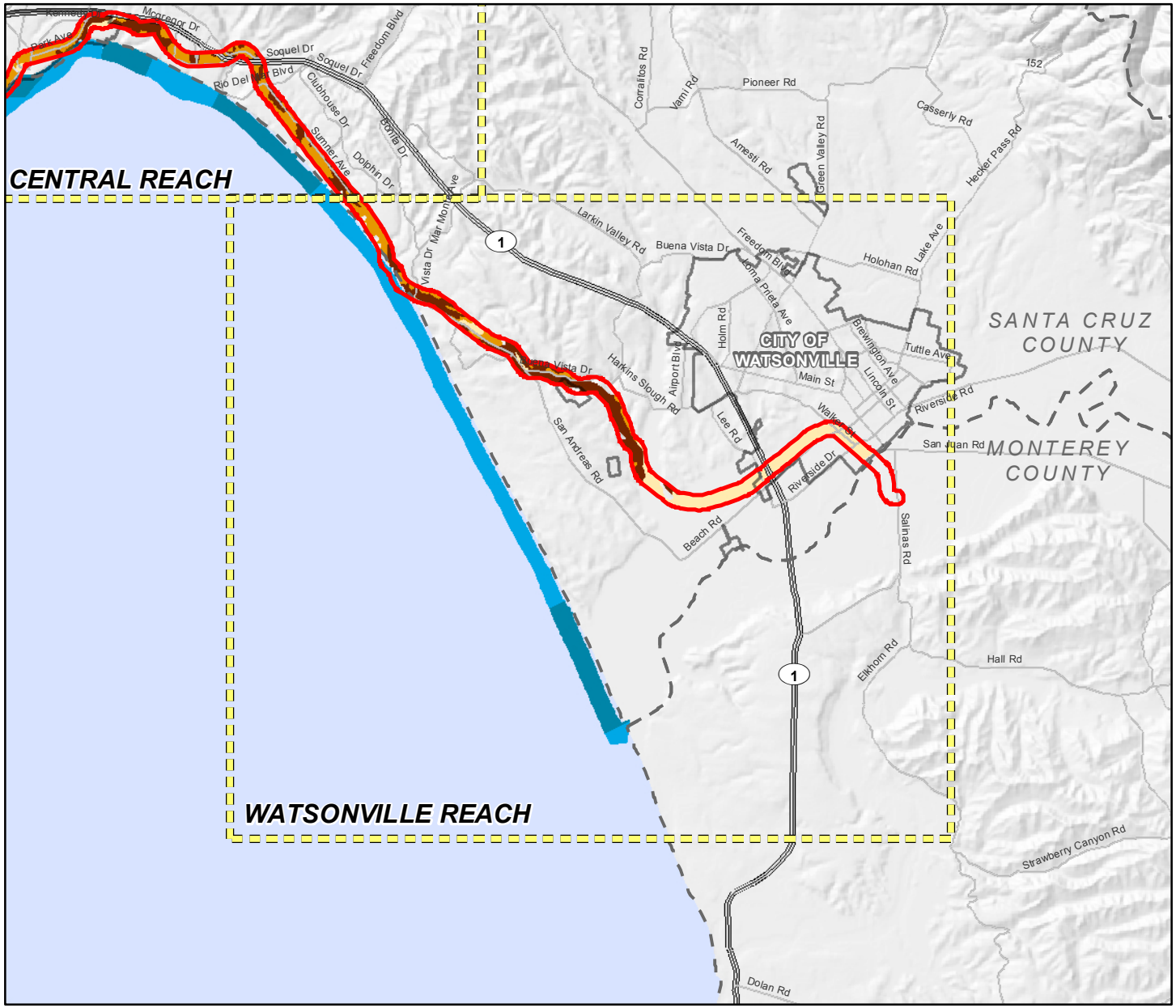
N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Erosion Hazards: Central Reach

Figure 4.6-3b



Legend

- Reaches
- Monterey Bay Sancturary Scenic Trail Network Corridor*

Erosion Hazard Potential

- Severe
- Moderate
- Slight

Coastal Erosion Zone

- Coastal Erosion Zone A
- Coastal Erosion Zone V

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

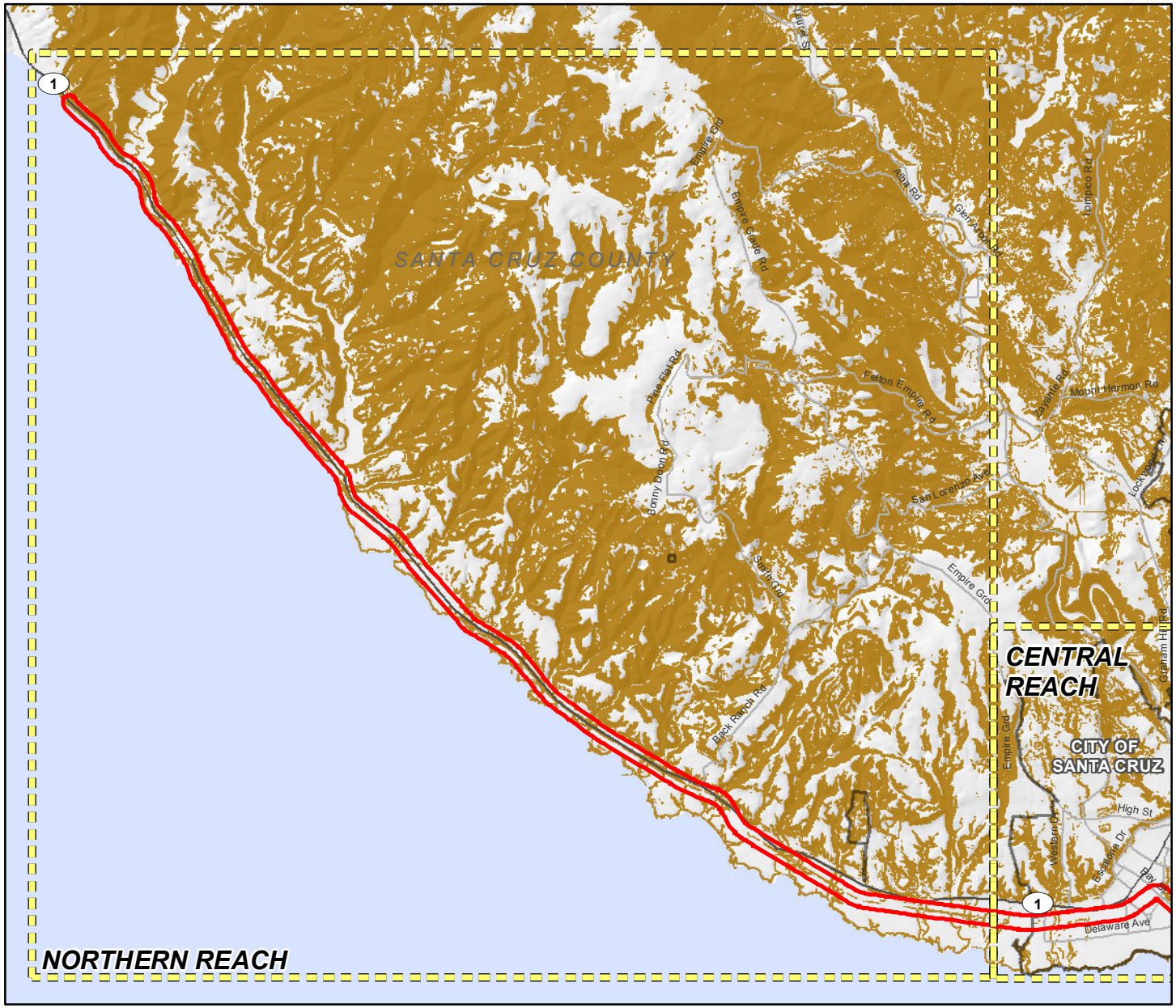
N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Erosion Hazards: Watsonville Reach

Figure 4.6-3c



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- Slope Above 30%

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

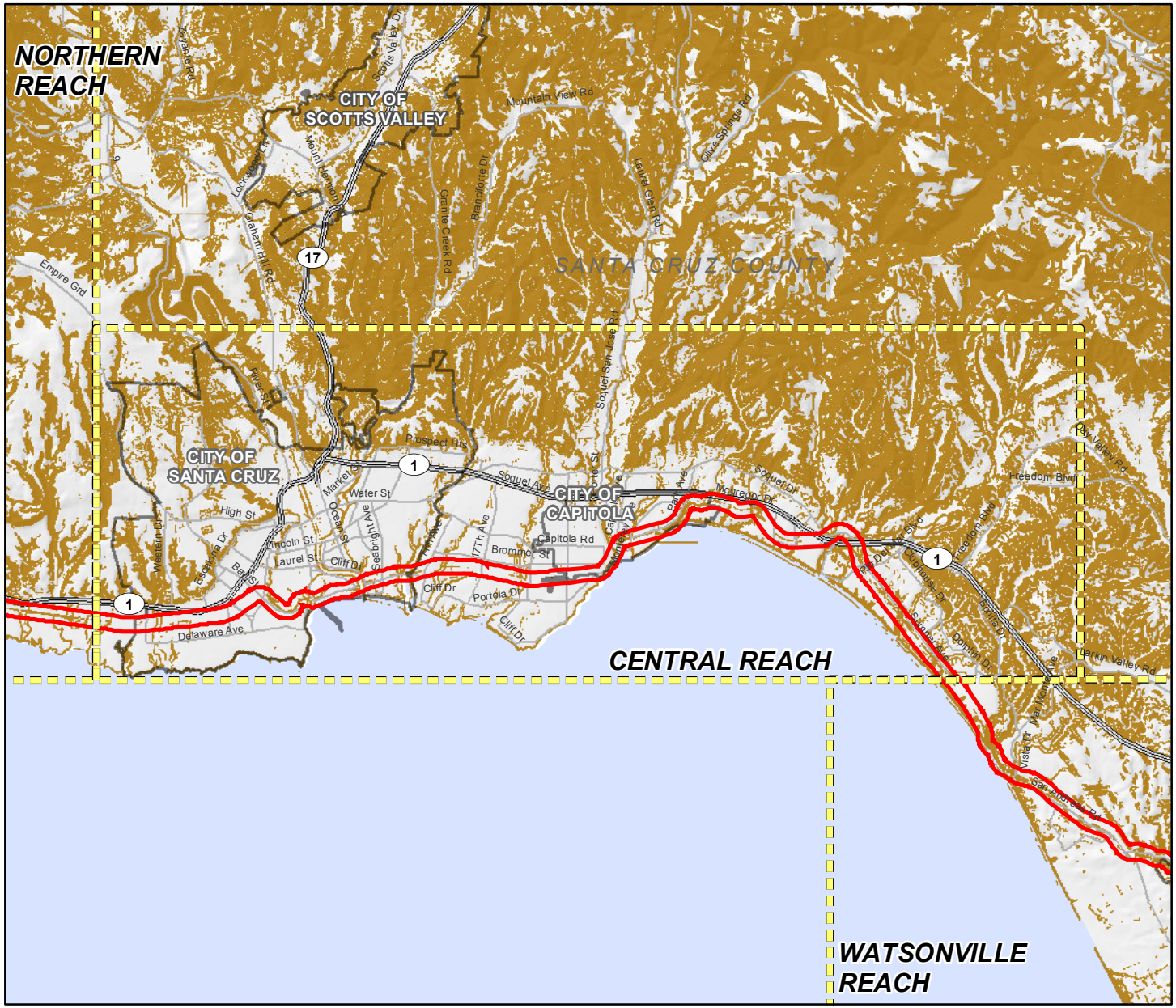
N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Steep Slopes: Northern Reach

Figure 4.6-4a



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- Slope Above 30%

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Steep Slopes: Central Reach

Figure 4.6-4b

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Steep Slopes: Watsonville Reach

Figure 4.6-4c

Policy 5.7.3 *Erosion Control for Stream and Lagoon Protection. For all new and existing development and land disturbances, require the installation and maintenance of sediment basins, and/or other strict erosion control measures, as needed to prevent siltation of streams and coastal lagoons.*

Objective 6.1 *Seismic Hazards. To reduce the potential for loss of life, injury, and property damage resulting from earthquakes by: regulating the siting and design of development in seismic hazard areas; encouraging open space, agricultural or low density land use in the fault zones; and increasing public information and awareness of seismic hazards.*

Policy 6.1.1 *Geologic Review for Development in Designated Fault Zones. Require a review of geologic hazards for all discretionary development projects, including the creation of new lots, in designated fault zones. Fault zones designated for review include the Butano, Sargent, Zayante, and Corralitos complexes, as well as the State designated Seismic Review Zones. Required geologic review shall examine all potential seismic hazards, and may consist of a Geologic Hazards Assessment and a more complete investigation where required. Such assessment shall be prepared by County staff under supervision of the County Geologist, or a certified engineering geologist may conduct this review at the applicant's choice and expense.*

Policy 6.1.2 *Geologic Reports for Development in Alquist-Priolo Zones. Require a preliminary geologic report or full engineering geology report for development on parcels within Alquist-Priolo State-designated seismic review zones.*

Policy 6.1.3 *Engineering Geology Report for Public Facilities in Fault Zones. Require a full engineering geology report by a certified engineering geologist whenever a significant potential hazard is identified by a Geologic Hazards Assessment or Preliminary Geologic Report, and prior to the approval of any new public facility or critical structure within the designated fault zones.*

Policy 6.1.4 *Site Investigation Regarding Liquefaction Hazard. Require site-specific investigation by a certified engineering geologist and/or civil engineer of all development proposals of more than four residential units in areas designated as having a high or very high liquefaction potential. Proposals of four units and under and non-residential projects shall be reviewed for liquefaction hazard through environmental review and/or geologic hazards assessment, and when a significant potential hazard exists a site-specific investigation shall be required.*

Policy 6.1.5 *Location of New Development Away from Potentially Hazardous Areas. Require the location and/or clustering of development away from potentially hazardous areas where feasible and condition development permits based on the recommendations of the site's Hazard Assessment or other technical reports.*

Policy 6.1.8 *Design Standards for new Public Facilities. Require all new public facilities and critical structures to be designed to withstand the expected ground shaking during the design earthquake on the San Andreas Fault.*

Policy 6.1.11 *Setbacks from Faults. Exclude from density calculations for land divisions, land within 50 feet of the edge of the area or fault induced offset and distortion of an active or potentially active fault trace. In addition, all new habitable structures on existing lots of record shall be set back a minimum of fifty (50) feet from the edge of the area of fault induced offset and distortion of an active or potentially active fault trace. This setback may be reduced to a minimum of twenty-five (25) feet based upon paleoseismic studies that include observation trenches. Reduction of the setback may only occur when both the consulting engineering geologist preparing the study and the County Geologist observe the trench and concur that the reduction is appropriate. Critical structures and facilities shall be set back a minimum of one hundred (100) feet from the edge of the area of fault induced offset and distortion of an active or potentially active fault traces. (Revised by Res. 81-99)*

Objective 6.2 *Slope Stability. To reduce safety hazards and property damage caused by landslides and other ground movements affecting land use activities in areas of unstable geologic formations, potentially unstable slopes and coastal bluff retreat.*

Policy 6.2.1 *Geologic Hazards Assessments for Development On and Near Slopes. Require a geologic hazards assessment of all development, including grading permits, that is potentially affected by slope instability, regardless of the slope gradient on which the development takes place. Such assessment shall be prepared by County staff under supervision of the County Geologist, or a certified engineering geologist may conduct this review at the applicant's choice and expense.*

Policy 6.2.2 *Engineering Geology Report. Require an engineering geology report by a certified engineering geologist and/or a soils engineering report when the hazards assessment identifies potentially unsafe geologic conditions in an area of proposed development.*

Policy 6.2.3 *Conditions for Development and Grading Permits. Condition development and grading permits based on the recommendations of the Hazard assessment and other technical reports.*

Policy 6.2.4 *Mitigation of Geologic Hazards and Density Considerations. Deny the location of a proposed development or permit for a grading project if it is found that geologic hazards cannot be mitigated to within acceptable risk levels; and approve development proposals only if the project's density reflects consideration of the degree of hazard on the site, as determined by technical information.*

Policy 6.2.10 *Site Development to Minimize Hazards. Require all developments to be sited and designed to avoid or minimize hazards as determined by the geologic hazards assessment or geologic and engineering investigations. (Revised by Res. 81-99)*

Policy 6.2.11 *Geologic Hazards Assessment in Coastal Hazard Areas. Require a geologic hazards assessment or full geologic report for all development activities within coastal hazard areas, including all development activity within 100-feet of a coastal bluff. Other technical reports may be required if significant potential hazards are identified by the hazards assessment. (Revised by Res. 81-99)*

Policy 6.2.12 *Setbacks from Coastal Bluffs. All development activities, including those which are cantilevered, and non habitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff. A setback greater than 25 feet may be required based on conditions on and adjoining the site. The setback shall be sufficient to provide a stable building site over the 100-year lifetime of the structure, as determined through geologic and/or soil engineering reports. The determination of the minimum 100 year setback shall be based on the existing site conditions and shall not take into consideration the effect of any proposed shoreline or coastal bluff protection measures. (Revised by Res. 81-99)*

Objective 6.3 *Erosion. To control erosion and siltation originating from existing conditions, current land-use activities, and from new developments, to reduce damage to soil, water, and biotic resources.*

Policy 6.3.1 *Slope Restrictions. Prohibit structures in discretionary projects on slopes in excess of 30 percent. A single family dwelling on an existing lot of record may be excepted from the prohibition where siting on greater slopes would result in less land disturbance, or siting on lesser slopes is infeasible.*

Policy 6.3.2 *Grading Projects to Address Mitigation Measures. Deny any grading project where a potential danger to soil or water resources has been identified and adequate mitigation measures cannot be undertaken.*

Policy 6.3.3 *Abatement of Grading and Drainage Problems. Require, as a condition of development approval, abatement of any grading or drainage condition on the property which gives rise to existing or potential erosion problems.*

Policy 6.3.4 *Erosion Control Plan Approval Required for Development. Require approval of an erosion control plan for all development, as specified in the Erosion Control ordinance. Vegetation removal shall be minimized and limited to that amount indicated on the approved development plans, but shall be consistent with fire safety requirements.*

Policy 6.3.5 *Installation of Erosion Control Measures. Require the installation of erosion control measures consistent with the Erosion Control ordinance, by October 15, or the advent of significant rain, or project completion, whichever occurs first. Prior to October 15, require adequate erosion control to be provided to prevent erosion from early storms. For development activities, require protection of exposed soil from erosion between October 15 and April 15 and require vegetation and stabilization of disturbed areas prior to completion of the project. For agricultural activities, require that adequate measures are taken to prevent excessive sediment from leaving the property.*

Policy 6.3.6 *Earthmoving in Least Disturbed or Water Supply Watersheds. Prohibit earthmoving operations in areas of very high or high erosion hazard potential and in Least-Disturbed or Water-Supply Watersheds between October 15 and April 15, unless preauthorized by the Planning Director. If such activities take place, measures to control erosion must be in place at the end of each day's work.*

Policy 6.3.8 *On-Site Sediment Containment. Require containment of all sediment on the site during construction and require drainage improvements for the completed development that will provide runoff control, including onsite retention or detention where downstream drainage facilities have limited capacity. Runoff control systems or Best Management Practices shall be adequate to prevent any significant increasing in site runoff over pre-existing volumes and velocities and to maximize on-site collection of non-point source pollutants.*

Policy 6.3.10 *Land Clearing Permit. Require a land clearing permit and an erosion control plan for clearing one or more acres, except when clearing is for existing agricultural uses. Require that any erosion control and land clearing activities be consistent with all General Plan and LCP Land Use Plan policies.*

Policy 6.3.11 *Sensitive Habitat Consideration for Land Clearing Permits. Require a permit for any land clearing in a sensitive habitat area and for clearing more than one quarter acre in Water Supply Watershed, Least Disturbed Watershed, very high and high erosion hazard areas no matter what the parcel size. Require that any land clearing be consistent with all General Plan and LCP Land Use policies.*

Santa Cruz County Code. Chapter 16.10, Geologic Hazards, of the Santa Cruz County Code provides regulations guiding construction and development in areas with known geologic hazards, such as faulting, liquefaction, and coastal erosion.

City of Santa Cruz.

City of Santa Cruz General Plan 2030. The City of Santa Cruz General Plan 2030 includes the following goals, policies, and actions to minimize geologic hazards:

Goal HZ6 *Protection from natural hazards.*

Policy HZ6.1 *Reduce erosion hazards.*

Action HZ6.1.1 *Minimize hazards posed by coastal cliff retreat.*

Action HZ6.1.2 *For development adjacent to cliffs, require setbacks for buildings equal to 50 years of anticipated cliff retreat.*

Policy HZ6.2 *Discourage development on unstable slopes.*

Action HZ6.2.1	*Require engineering geology reports when, in the opinion of the City's planning director, excavation and grading have the potential for exposure to slope instability or the potential to create unstable slope or soil conditions.*
Policy HZ6.3	*Reduce the potential for life loss, injury, and property and economic damage from earthquakes, liquefaction, and other seismic hazards.*
Action HZ6.3.1	*Adopt new State-approved California Building Codes (CBC) and require that all new construction conform with the latest edition of the CBC.*
Action HZ6.3.6	*Require site specific geologic investigations by qualified professionals for proposed development in potential liquefaction areas shown on the Liquefaction Hazard Map to assess potential liquefaction hazards, and require developments to incorporate the design and other mitigation measures recommended by the investigations.*

Santa Cruz City Code. The City of Santa Cruz Municipal Code provides regulations regarding geologic study requirements in Chapter 18.45, Excavation and Grading Regulations. Chapter 24.14, Environmental Resource Management, also provides regulations regarding slopes, erosion, and seismic hazards.

City of Capitola.

City of Capitola General Plan. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. The Safety chapter of the existing Capitola General Plan contains the following policies related to geologic and seismic issues.

Goal	*Strive to protect the community from injury, loss of life, and property damage resulting from natural catastrophes and other hazardous conditions.*
Policy 11	*New development along the coastal bluffs shall be evaluated for seismic integrity.*
Impl. 11	*1. All development along the coastal bluffs and beach areas must demonstrate the geologic stability of a structure for a 50 year period, must not significantly contribute to the instability of the coastal bluffs or beach areas, and must be consistent with other policies of the Capitola General Plan and the Local Coastal Plan.* *2. Soils Report and seismic evaluation shall be required of all new construction within 200 feet of the edge of the coastal cliff line.*
Policy 13	*It shall be the policy of the City of Capitola to adequately plan for natural hazards in new development, reduce risks to life and property, and revise all plans and the Zoning Ordinance to be in conformance with all the policies of the Coastal Act relating to hazards and shoreline structures.*
Impl. 12	*1. Require geologic/engineering reports in areas of high seismic shaking for structures subject to public use or multi-residential as required by the UBC.*

2. Revise Zoning Ordinance to require geologic reports for all development proposed on coastal bluffs or beaches, including shoreline structures such as seawalls and including provisions of Policy VII-8.

Policy 15 *A geologic/engineering report which indicated methods of achieving structural stability and mitigation measures to prevent erosion shall be submitted for any structure which is to be constructed on a slope in excess of 30 percent.*

Impl. 15 *Revise Zoning Ordinance to require geologic/engineering report for structures to be built on slopes in excess of 30 percent.*

Capitola Municipal Code. Title 15 of the City of Capitola Municipal Code includes regulations for excavation and grading, which addresses hazardous conditions, erosion control, and requirements for inspection reports.

City of Watsonville.

City of Watsonville General Plan. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, identifies a policy and implementation measures for related to geologic and seismic issues, which are listed below.

Goal 13.1 *Land Use Safety. Plan for and regulate the uses of land in order to provide a pattern of urban development that will minimize exposure to hazards from either natural or human-related causes.*

Policy 13.1.2 *Soil Constraints. The City shall take all appropriate actions to ensure that current land use activities and new developments are mitigated to prevent soil failure and other soil-related dangers.*

Impl. 13.1.21 *Risk Mitigation. The City shall identify and mitigate to an acceptable level of risk new development proposed in areas with geologic, seismic, flood, or other environmental constraints.*

Impl. 13.1.22 *Soils Investigation. The City shall require a soils investigation report prior to new development on sites deemed to have a high potential for soil erosion, landslide, or other soil-related constraints.*

Impl. 13.1.24 *Slope. The City shall not permit new development on soils that are subject to landslide. The City shall also strongly discourage development on slopes greater than 25 percent.*

Goal 13.2 *Seismic and Other Geologic Hazards. Reduce the potential for loss of life, injury, and economic damage resulting from earthquakes and associated geologic hazards such as landslides and liquefaction.*

Policy 13.2.1 *Seismic Hazards. The City shall use the development review process to ensure that potential geologic hazards are evaluated and mitigated prior to construction.*

Impl. 13.2.11 *Geologic Review. The City may require a geo-technical report prepared by a registered professional prior to the issuance of a building permit.*

Impl. 13.2.12 *Structural Design. The City shall place structural design conditions on new development to ensure that recommendations of geo-technical evaluation are implemented.*

Watsonville Municipal Code. Chapter 6 of the Watsonville Municipal Code provides design standards for erosion control, including the preparation of soils reports.

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.5.2 Impact Analysis.

a. Methodology and Significance Thresholds. This evaluation is based on review of existing information that has been developed for the proposed MBSST Network Master Plan and other available regional sources, including the California Division of Mines and Geology (CDMG) and the USDA Soil Conservation Service Soil Surveys for Santa Cruz County. In accordance with Appendix G of the *State CEQA Guidelines,* impacts would be considered potentially significant if the proposed MBSST Network would:

1) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
    a. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;*
    b. *Strong seismic ground shaking;*
    c. *Seismic-related ground failure, including liquefaction; and/or*
    d. *Landslides.*
2) *Result in substantial soil erosion or the loss of topsoil;*
3) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; and/or*
4) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.*

It should be noted that compliance with the existing Santa Cruz County Environmental Health regulations, including required permitting, and the Regional Water Quality Control Board policies and regulations would eliminate impacts related to soils adequately supporting septic tanks, which are proposed in the Watsonville reach. As a result, the checklist item related to this

conditions were excluded from the above list and further discussion can be found in the Initial Study (Appendix A of this document).

b. Project Impacts and Mitigation Measures.

Impact GEO-1 **Future seismic activity could result in fault rupture along the San Gregorio Fault, which lies under segments 1 and 2 of the MBSST Network. However, improvements along these segments would be limited to on-road improvements and would not include the construction of any structures. Impacts would be Class III, *less than significant*.**

The portion of the San Gregorio Fault that underlies segments 1 and 2 is an Alquist-Priolo Fault Zone, as shown in Figure 4.6-1. The Alquist-Priolo Earthquake Zoning Act was established to mitigate the hazard of surface rupture to structures for human occupancy. Construction in Alquist-Priolo Fault Zones is regulated by the State Geologist and requires special study for structures planned over active faults. Other than within segments 1 and 2, there are no other Alquist-Priolo fault zones or other known active faults located along the MBSST Network corridor.

Segments 1 and 2 of the trail would not include any structures that would be inhabited by people. Trail components in segments 1 and 2 would only involve improvements to existing on-street facilities along Highway 1, such as roadway striping and shoulder improvements. These segments of the trail also are not anticipated to include any paving or sidewalks. Because there are no structures proposed and this segment of the MBSST Network would only include improvements to existing roadway facilities, there would be no change to risks associated with surface rupture; therefore, impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-2 **Seismically induced ground shaking could destroy or damage MBSST Network structures, including bridges and a restroom facility, resulting in loss of property or risk to human health. All structures would be required to comply with California Building Code standards to address risk from seismic ground shaking. This would be a Class III, *less than significant* impact.**

There are several potentially active faults in the region that could generate ground-shaking along the MBSST Network. These faults include the San Andreas Fault, the Zayante – Vergeles Fault, the San Gregorio Fault, and the Monterey Bay – Tularcitos Fault, which are depicted in Figure 4.6-1. Ground shaking produced by earthquakes along these faults could result in potentially significant impacts to structures on the MBSST Network. As shown in Table 4.6-1, earthquakes in the MBSST Network vicinity could produce peak ground accelerations estimated between 0.4g and 1.3g, or possibly greater in some areas. According to Table 4.6-2, the

perceived shaking from earthquakes that achieve these peak ground accelerations ranges from severe to extreme, and the potential damage ranges from moderate/heavy to very heavy. Any structures built along the trail, such as restroom facilities or bridges, would be at risk during a strong seismic event in the region.

Although nothing can ensure that structures do not fail under seismic stress, proper engineering can minimize the risk to life and property. As such, building standards have been developed for construction in areas subject to seismic ground shaking. The most recent California Building Code requirements ensure that new structures are engineered to withstand the expected ground acceleration at a given location. In addition, the bicycle and pedestrian bridges would be constructed in compliance with federal and state standards, including the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications, the AASHTO Guide Specifications for the Design of Pedestrian Bridges (which provides standards for bridges which are designed for and intended to carry primarily pedestrians, bicyclists, equestrian riders, and light maintenance vehicles, but not designed and intended to carry typical highway traffic), and the Caltrans LRFD. Each local jurisdiction also has policies and standards in place to regulate construction in areas subject to ground shaking. Compliance with all applicable provisions of federal, state, and local construction and design standards would reduce impacts to less than significant. Furthermore, the MBSST Network would not include any residences or structures that would be occupied by large numbers of people or for extended periods of time. The only structures that would temporarily be occupied by people would be a restroom facility in the Watsonville reach and the bicycle and pedestrian bridges throughout the MBSST Network. The limited number of people that would be in or on a MBSST Network structure at any given time would further reduce potential impacts resulting from seismic ground shaking.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-3 **There are several areas within the MBSST Network that are at risk for seismic-related ground failure. Seismic activity could produce ground shaking sufficient to cause liquefaction, subsidence, or settlement in these areas. This is a Class II, *significant but mitigable* impact.**

Northern Reach. Figure 4.6-2a shows liquefaction potential in the northern reach. As shown therein, high liquefaction potential occurs near the various creek outlets, especially near the outlets of Waddell Creek and Scott Creek. There are also low to moderate liquefaction hazards throughout the other areas of the northern reach. Seismic subsidence and settlement also occur in the loose, alluvial soils that are typically associated with liquefaction hazards. Thus, the same areas may be subject to these hazards. The risk to structures, property, and people located in these areas would be potentially significant.

Central Reach. Figure 4.6-2b shows liquefaction potential in the central reach. As shown therein, high liquefaction potential occurs in the areas surrounding the San Lorenzo River and the various creek outlets. There are also low to moderate liquefaction hazards throughout the other areas of the central reach. Seismic subsidence and settlement also occur in the loose,

alluvial soils that are typically associated with liquefaction hazards. Thus, the same areas may be subject to these hazards. The risk to structures, property, and people located in these areas would be potentially significant.

Watsonville Reach. Figure 4.6-2c shows liquefaction potential in the Watsonville reach. As shown therein, a large portion of the Watsonville reach is located in an area considered to have high liquefaction potential. This area extends from portion of the trail that in the Pajaro Dunes area to the City of Watsonville. There are also low to moderate liquefaction hazards throughout the remainder of the Watsonville reach. Seismic subsidence and settlement also occur in the loose, alluvial soils that are typically associated with liquefaction hazards. Thus, the same areas may be subject to these hazards. The risk to structures, property, and people located in these areas would be potentially significant.

In areas prone to liquefaction, current structural engineering methods for foundation design may not be sufficient to prevent a building's foundation from failing in a larger earthquake which results in stronger and longer ground shaking. However, as with ground shaking hazards, compliance with standard design and engineering practices in the California Building Code, AASHTO LRFD Bridge Design Specifications, AASHTO Guide Specifications for the Design of Pedestrian Bridges (which provides standards for bridges which are designed for and intended to carry primarily pedestrians, bicyclists, equestrian riders, and light maintenance vehicles, but not designed and intended to carry typical highway traffic), Caltrans LRFD, and Caltrans Highway Design Manual would reduce impacts to structures, bridges, paved multi-use paths, and trail furnishings located in liquefaction hazard zones. Each jurisdiction along the MBSST Network also has policies in place to regulate construction in areas with known soil hazards, such as liquefaction. Policies include preparation of soils report or geotechnical reports and compliance with recommendations contained therein. Furthermore, the only structures that would temporarily be occupied by people would be a restroom facility in the Watsonville reach and the bicycle and pedestrian bridges throughout the MBSST Network. The limited number of people that would be in or on a MBSST Network structure, paved multi-use path, or trail furnishing at any given time would further reduce potential impacts resulting from seismic related ground failure. Nonetheless, mitigation is required to reduce impacts associated with seismic-related ground failure to a less than significant level.

Mitigation Measures. The following mitigation measure is required.

GEO-3 **Geotechnical Study.** Prior to site development of each segment of the MBSST Network, a geotechnical study shall be prepared by a registered civil or geotechnical engineer and reviewed by the RTC and/or implementing entity. This report shall include an analysis of the liquefaction, subsidence, and settlement potential of the underlying materials. If the segment under study is confirmed to be in an area prone to seismically-induced liquefaction, subsidence, or settlement, appropriate techniques to minimize hazards shall be prescribed and implemented. Suitable measures to reduce ground-failure impacts could include, but are not limited to, the following:

- *Specialized design of foundations by a structural engineer*
- *Removal or treatment of liquefiable soils to reduce the potential for liquefaction*
- *In-situ densification of soils*
- *Replacement or recompaction of soils, or*
- *Other alterations to the ground characteristics.*

Significance After Mitigation. Implementation of the above mitigation measure would address anticipated impacts related to seismically-induced liquefaction to the extent of industry standards, and as such, would reduce impacts to a less than significant level.

Impact GEO-4 **Several isolated areas along the MBSST Network project are identified as potential landslide hazard areas. Impacts resulting from landslide hazards would be Class II, *significant but mitigable*.**

The terrain of the MBSST Network varies throughout the trail due to its length and its location near the foothills of the Santa Cruz Mountains. Figures 4.6-4a through 4.6-4c show numerous locations across all three reaches of the MBSST Network that have slopes greater than 30 percent. In addition, the Santa Cruz County Flood and Landslide Hazard Maps (2009) identify several areas along the MBSST Network corridor as having potential for landslides. These areas are discussed below.

Northern Reach. Throughout the northern reach, there are numerous hillsides adjacent to Highway 1 with slopes greater than 30 percent. There are also several small areas adjacent to Highway 1 that have been designated by the County of Santa Cruz as landslide hazard areas (Santa Cruz County Flood and Landslide Hazard Maps, 2009). These areas are located on the hillside of Highway 1 near Greyhound Rock, as well as several areas north of Scott Creek and north of Laguna Creek. MBSST Network facilities located in designated landslide hazard areas or areas with slopes greater than 30 percent could be susceptible to potential landslides, and mitigation would be required to reduce impacts to a less than significant level.

Central Reach. In the central reach, there are only a few small areas with slopes greater than 30 percent. This reach is mostly urbanized and there are fewer slopes. There is one small area in Wilder Ranch State Park that is a designated landslide hazard area (Santa Cruz County Flood and Landslide Hazard Maps, 2009). MBSST Network facilities located in designated landslide hazard areas or areas with slopes greater than 30 percent could be susceptible to potential landslides, and mitigation would be required to reduce impacts to a less than significant level.

Watsonville Reach. There are several areas in the Watsonville reach that have slopes greater than 30 percent. These areas are primarily in the La Selva Beach area and the Buena Vista Drive area. There are also several small areas in the Buena Vista Drive area that are designated as landslide hazard areas (Santa Cruz County Flood and Landslide Hazard Maps, 2009). MBSST Network facilities located in designated landslide hazard areas or areas with slopes greater than 30 percent could be susceptible to potential landslides, and mitigation would be required to reduce impacts to a less than significant level.

Mitigation Measures. The following mitigation measure is required.

GEO-4 **Hillside Stability Evaluation.** If any permanent structures (including structures, bridges, paved multi-use paths, and trail furnishings) within a segment are to be located within possible landslide hazard zones, then an evaluation of the adjacent hillside shall be performed by a registered engineering geologist or a registered professional civil or geotechnical engineer prior to approval of that segment. If a landslide potential is found to exist, then setbacks or retaining walls, where approved by a registered engineering geologist or registered professional civil or geotechnical engineer, shall be imposed. The setback distance or design of the retaining walls shall be determined by the results of the landslide evaluation study.

Significance After Mitigation. With implementation of the above mitigation, the potential impacts from landslide risks would be reduced to a less than significant level.

Impact GEO-5 **Several areas of the MBSST Network project could be subject to erosion hazards. Coastal erosion hazards are present in the areas of the MBSST Network that are directly adjacent to the coast. In addition, soils are present throughout the MBSST Network that have moderate to severe erosion hazard potential. However, design guidelines in the proposed MBSST Network Master Plan would ensure that impacts would be Class III, *less than significant*.**

Areas of coastal erosion are identified on the Santa Cruz County Coastal Erosion Map (2009). In addition, as indicated in Table 4.6-3, there are several soils within the MBSST Network that are considered to have moderate to severe erosion potential. Specific areas of erosion within each reach are discussed below.

Northern Reach. Figure 4.6-3a shows erosion hazards in the northern reach. As shown therein, coastal erosion hazards exist throughout segments 1, 2, and 3. There are also a few areas with coastal erosion hazards between Davenport and Wilder Ranch (segment 5). In addition, as shown in Figure 4.6-3a, soils with the potential for severe (non-coastal) erosion exist throughout most of the northern reach, especially in the northernmost segments. Soils with moderate erosion potential are prevalent in the southern portion of the northern reach.

Structural improvements along the northern portion of the northern reach (segments 1 and 2), where coastal erosion hazards are prevalent, would be limited, as the trail would consist of a Class III on-street/road shoulder bike route, much of which is currently in place. Erosion hazards along these segments would therefore be limited. However, beginning in segment 3, the proposed MBSST Network would include a new multi-use paved path adjacent to Highway 1. This path would be an approximately twelve foot wide paved surface with center lane striping in some areas. Structural improvements may include: various types of trail fencing; trail

furnishings such as benches and seating areas, trash receptacles, bike racks, and picnic and shade shelters; landscaping; night lighting (in some areas); and signage. In addition, parking lot improvements to an existing dirt lot near the Davenport Overlook would be implemented along sub-segment 5.1. These facilities would be constructed in areas with a moderate to severe erosion hazard potential. Construction and operation of the proposed MBSST Network project in these areas could result in substantial soil erosion or loss of topsoil if adequate erosion control methods are not implemented.

Central Reach. Figure 4.6-3b shows erosion hazards in the central reach. As shown therein, few areas of the proposed MBSST Network project fall in the coastal erosion hazard zone through the central reach, with the exception of one small area near Arana Gulch in the City of Santa Cruz and one small area near Soquel Creek in the City of Capitola. However, soils with severe (non-coastal) erosion potential in the central reach exist east and west of Arana Gulch, as well as in the New Brighton State Beach area. Soils with moderate erosion potential are predominant throughout the eastern half of the central reach, including segments 10 through 12.

Improvements through the central reach would include a multi-use paved path with fencing, new pre-engineered and/or retrofitted bridges, railway and roadway crossings, trail furnishings, landscaping, and signage. These facilities would be constructed in areas with a moderate to severe erosion hazard potential, and some improvements would be implemented in areas within the coastal erosion hazard zone. Construction and operation of the proposed MBSST Network project in these areas could result in substantial soil erosion or loss of topsoil if adequate erosion control methods are not implemented.

Watsonville Reach. Figure 4.6-3c shows erosion hazards in the Watsonville reach. As shown therein, there is only one small area in the Watsonville reach near La Selva Beach that falls within the coastal erosion hazard zone. The MBSST Network turns inland after La Selva Beach, and coastal erosion hazards are no longer a concern. However, as shown in Figure 4.6-3c, there are two portions of the Watsonville reach that have soils with severe erosion potential, including the La Selva Beach area in segment 16 and the Buena Vista Drive area in segment 17. The southernmost portion of the trail, including segments 18 through 20, consists of soils with low erosion potential.

Improvements through the northern portion of the Watsonville reach would include a multi-use paved path with fencing, trail furnishings, landscaping, and signage. Within the City of Watsonville, improvements would be limited to on-street pedestrian and bicycle improvements. These facilities would be constructed in areas with a moderate to severe erosion hazard potential, and some improvements would be implemented in areas within the coastal erosion hazard zone. Construction and operation of the proposed MBSST Network project in these areas could result in substantial soil erosion or loss of topsoil if adequate erosion control methods are not implemented.

Mitigating Design Features. Chapter 5 of the proposed MBSST Network Master Plan identifies erosion control methods that would be implemented during construction and operation of the MBSST Network project, including engineering to prevent an increase of historic runoff onto other properties, channelization, culverts, improved bridge crossings, and minimization of siltation. The implementation of erosion control strategies would reduce

impacts to on- and off-site erosion resulting from construction of the trail. Erosion impacts resulting from operation of the trail would be limited as trail improvements would be designed to prevent erosion and preserve the trail. Paved portions of the trail would prevent erosion impacts by protecting the soil from erosive elements, such as wind and water. Unpaved portions of the trail would be designed to avoid grades greater than two percent when possible and may require some hand tooled segments with drainage crossings.

In addition, each jurisdiction has policies in place designed to eliminate and prevent erosion. Policies include required measures for project design, runoff control, land clearing, and overall responsibility. Compliance with local regulatory policies and the drainage and erosion control methods and trail design standards included in the Master Plan would reduce impacts to a less than significant level.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GEO-6 **The proposed MBSST Network project could be subject to structural damage resulting from unstable soils, including soils with high liquefaction, subsidence, and settlement potential. Impacts would be Class II, *significant but mitigable*.**

According to Santa Cruz County liquefaction hazard maps, there are several areas along the MBSST Network that have high liquefaction potential, including within the City of Santa Cruz, the Pajaro Dunes area, and the City of Watsonville portions of the trail. Figures 4.6-2a through 4.6-2c show the areas along the MBSST Network project that are subject to such hazards. Subsidence and settlement can also occur in the loose, alluvial soils associated with liquefaction. Thus, the same areas may be subject to these hazards. The same areas that are subject to seismic-related ground failure (as described in Impact GEO-3) would also be subject to non-seismically induced soil instability impacts. Refer to the discussion under Impact GEO-3 for a description of the location of these hazards along each reach.

In areas prone to liquefaction, compliance with standard design and engineering practices in the California Building Code, AASHTO LRFD Bridge Design Specifications, AASHTO Guide Specifications for the Design of Pedestrian Bridges (which provides standards for bridges which are designed for and intended to carry primarily pedestrians, bicyclists, equestrian riders, and light maintenance vehicles, but not designed and intended to carry typical highway traffic), Caltrans LRFD, and Caltrans Highway Design Manual would reduce impacts to structures, bridges, paved multi-use paths, and trail furnishings located in liquefaction hazard zones. Each jurisdiction along the MBSST Network also has policies in place to regulate construction in areas with known soil hazards, such as liquefaction, subsidence, or settlement. Policies include preparation of soils report or geotechnical reports and compliance with recommendations contained therein. Furthermore, the only structures that would temporarily be occupied by people would be a restroom facility in the Watsonville reach and the bicycle and pedestrian bridges throughout the MBSST Network. The limited number of people that would be in or on a MBSST Network structure, paved multi-use path, or trail furnishing at any given time would

further reduce potential impacts resulting from soil instability. Nonetheless, mitigation would be required to reduce impacts associated with unstable soils to a less than significant level.

Mitigation Measure. Mitigation measure GEO-3 requires preparation of a geotechnical study prior to development of each segment. If the segment under study is confirmed to be in an area prone to seismically-induced liquefaction, subsidence, or settlement, then appropriate techniques to minimize hazards shall be prescribed and implemented. Refer to Impact GEO-3 for the complete mitigation measure.

Significance After Mitigation. Implementation of mitigation measure GEO-3 would address anticipated impacts related to soil instability to the extent of industry standards, and as such, would reduce impacts to a less than significant level.

Impact GEO-7 **The MBSST Network project is located in areas defined as having potential for the expansion or contraction of soils. This is a Class II, *significant but mitigable* impact.**

The County of Santa Cruz identifies several areas throughout the MBSST Network as having expansive soils. The areas within each reach that are subject to such hazards are discussed below.

Northern Reach. Figure 4.6-2a shows the areas within the MBSST Network that are subject to expansive soils. As shown therein, there are several small areas between Waddell Creek and Scott Creek and in the Davenport area that have expansive soils. The presence of expansive soils becomes more prevalent toward the lower segments of the northern reach. New trail features, such as paved multi-use paths, bridges, fences, or other trail furnishings located in these areas could be damaged as a result of soil expansion or contraction.

Central Reach. Figure 4.6-2b shows the areas within the central reach that are subject to expansive soils. These areas are primarily in the portions of the trail within the City of Santa Cruz, as well as in the City of Capitola. New trail features, such as paved multi-use paths, bridges, fences, or other trail furnishings could be damaged as a result of soil expansion or contraction.

Watsonville Reach. Figure 4.6-2c shows the areas within the Watsonville reach that are subject to expansive soils. Expansive soils in the Watsonville reach are concentrated in the Watsonville Slough area. New trail features, such as paved multi-use paths, restrooms, bridges, fences, or other trail furnishings could be damaged as a result of soil expansion or contraction.

Standard engineering practices in the California Building Code and the Caltrans Highway Design Manual would help reduce impacts to structures and pavement resulting from expansive soils. In addition, mitigation would be required to further reduce impacts resulting from expansive soils.

Mitigation Measures. The following mitigation measure is required.

GEO-7 **Study of Soil Expansion.** The geotechnical study required in mitigation measure GEO-3 shall include an evaluation of the

potential for soil expansion of the underlying materials. If the segment under study is identified as being subject to expansive soil hazards, appropriate techniques to minimize hazards shall be prescribed and implemented. Suitable measures to reduce expansive soil hazards could include, but not be limited to: design of foundations by a structural engineer and/or or the replacement of soils beneath the segment.

Significance After Mitigation. With the implementation of the above mitigation measure, impacts related to soil expansion would be reduced to a less than significant level.

c. Cumulative Impacts. Buildout of Santa Cruz County will introduce new buildings and structures that would cumulatively increase the potential for exposure to seismic and soil-related hazards. The proposed MBSST Network and other facilities would incrementally contribute to this cumulative effect. However, seismic and soil-related hazards are site-specific and all new development would be subject to independent environmental review and regulations in place to minimize any potential health risks. Impacts associated with individual developments would be addressed on a case-by-case basis, depending upon the type and severity of geologic and soil hazards present. Assuming that all hazards are adequately addressed for each individual development proposal, no cumulative increase in the exposure to seismic and soil-related hazard would occur and therefore no significant cumulative impacts are anticipated.

4.7 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

4.7.1 Setting

a. Climate Change and Greenhouse Gases (GHGs). Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC, 2007), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (90 percent or greater chance) that the global average net effect of human activities since 1750 has been one of warming. The prevailing scientific opinion on climate change is that most of the observed increase in global average temperatures, since the mid-20th century, is likely due to the observed increase in anthropogenic GHG concentrations (IPCC, 2007).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally and are released by natural sources or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH_4) has a GWP of 21, meaning its global warming effect is 21 times greater than carbon dioxide on a molecule per molecule basis (IPCC, 1997).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHG, Earth's surface would be about 34° C cooler (CalEPA, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide. The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO_2 are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (United States Environmental Protection Agency [U.S. EPA], April 2011). CO_2 was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th century. Concentrations of CO_2 in the atmosphere have risen approximately 40 percent since the industrial revolution. The global atmospheric concentration of CO_2 has increased from a pre-industrial value of about 280 parts per million (ppm) to 391 ppm in 2011 (IPCC, 2007; National Oceanic and Atmospheric Association [NOAA], 2010). The average annual CO_2 concentration growth rate was larger between 1995 and 2005 (average: 1.9 ppm per year) than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates (NOAA, 2010). Currently, CO_2 represents an estimated 82.7 percent of total GHG emissions (Department of Energy [DOE] Energy Information Administration [EIA], December 2008). The largest source of CO_2, and of overall GHG emissions, is fossil fuel combustion.

Methane. Methane (CH_4) is an effective absorber of radiation, though its atmospheric concentration is less than that of CO_2 and its lifetime in the atmosphere is limited to 10 to 12 years. It has a global warming potential (GWP) approximately 21 times that of CO_2. Over the last 250 years, the concentration of CH_4 in the atmosphere has increased by 148 percent (IPCC, 2007), although emissions have declined from 1990 levels. Anthropogenic sources of CH_4 include enteric fermentation associated with domestic livestock, landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (U.S. EPA, April 2011).

Nitrous Oxide. Concentrations of nitrous oxide (N_2O) began to rise at the beginning of the industrial revolution and continue to increase at a relatively uniform growth rate (NOAA, 2010). N_2O is produced by microbial processes in soil and water, including those reactions that occur in fertilizers that contain nitrogen, fossil fuel combustion, and other chemical processes. Use of these fertilizers has increased over the last century. Agricultural soil management and mobile source fossil fuel combustion are the major sources of N_2O emissions. Nitrous oxide's GWP is approximately 310 times that of CO_2.

Fluorinated Gases (HFCS, PFCS and SF_6). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfurhexafluoride (SF_6), are powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone-destroying potential and were phased out under the Montreal Protocol (1987) and Clean Air Act Amendments of 1990.

Electrical transmission and distribution systems account for most SF_6 emissions, while PFC emissions result from semiconductor manufacturing and as a by-product of primary aluminum production. Fluorinated gases are typically emitted in smaller quantities than CO_2, CH_4, and N_2O, but these compounds have much higher GWPs. SF_6 is the most potent GHG the IPCC has evaluated.

b. Statewide Greenhouse Gas Emissions Inventory. Worldwide anthropogenic emissions of GHG were approximately 40,000 million metric tons (MMT) CO_2E in 2004, including ongoing emissions from industrial and agricultural sources, but excluding emissions from land use changes (i.e., deforestation, biomass decay) (IPCC, 2007). CO_2 emissions from fossil fuel use accounts for 56.6 percent of the total emissions of 49,000 MMT CO_2E (includes land use changes) and CO_2 emissions from all sources accout for 76.7 percent of the total. Methane emissions account for 14.3 percent of GHG and N_2O emissions account for 7.9 percent (IPCC, 2007).

Total U.S. GHG emissions were 6,821.8 MMT CO_2E in 2009 (U.S. EPA, April 2012). Total U.S. emissions have increased by 10.5 percent since 1990; emissions rose by 3.2 percent from 2009 to 2010 (U.S. EPA, April 2012). This increase was primarily due to (1) an increase in economic output resulting in an increase in energy consumption across all sectors; and (2) much warmer summer conditions resulting in an increase in electricity demand for air conditioning. Since 1990, U.S. emissions have increased at an average annual rate of 0.5 percent. In 2010, the transportation and industrial end-use sectors accounted for 32 percent and 26 percent of CO_2 emissions from fossil fuel combustion, respectively. Meanwhile, the residential and commercial end-use sectors accounted for 22 percent and 19 percent of CO_2 emissions from fossil fuel combustion, respectively (U.S. EPA, April 2012).

Based upon the California Air Resources Board (CARB) *California Greenhouse Gas Inventory for 2000-2009* (http://www.arb.ca.gov/cc/inventory/data/data.htm), California produced 453 MMT CO_2E in 2009. The major source of GHG in California is transportation, contributing 36 percent of the state's total GHG emissions. Electricity generation is the second largest source, contributing 24 percent of the state's GHG emissions (CARB, April 2012). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The ARB has projected statewide unregulated GHG emissions for the year 2020 will be 596 MMT CO_2E (CARB, 2007). These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

c. Potential Effects of Climate Change. Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Scientists have projected that the average global surface temperature could rise by1.0-4.5°F (0.6-2.5°C) in the next 50 years, and the increase may be as high as 2.2-10°F (1.4-5.8°C) in the next century. In addition to these projections, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic (IPCC, 2007).

According to the CalEPA's *2010 Climate Action Team Biennial Report*, potential impacts of climate change in California may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CalEPA, April 2010). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Sea Level Rise. According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. The study identifies a sea level rise on the California coast over the past century of approximately eight inches. Based on the results of various global climate change models, sea level rise is expected to continue. The California Climate Adaptation Strategy (December 2009) estimates a sea level rise of up to 55 inches by the end of this century.

Air Quality. Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Energy Commission [CEC] March, 2009).

Water Supply. Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future water supplies in California. However, the average early spring snowpack in the Sierra Nevada decreased by about 10 percent during the last century, a loss of 1.5 million acre-feet of snowpack storage. During the same period, sea level rose eight inches along California's coast. California's temperature has risen 1°F, mostly at night and during the winter, with higher elevations experiencing the highest increase. Many Southern California cities have experienced their lowest recorded annual precipitation twice within the past decade. In a span of only two years, Los Angeles experienced both its driest and wettest years on record (California Department of Water Resources [DWR], 2008; CCCC, May 2009).

This uncertainty complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The Sierra snowpack provides the majority of California's water supply by accumulating snow during our wet winters and releasing it slowly when we need it during our dry springs and summers. Based upon historical data and modeling, DWR projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050. Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack (DWR, 2008).

Hydrology. As discussed above, climate change could potentially affect: the amount of snowfall, rainfall, and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise may be a product of climate change through two main processes: expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply due to salt water intrusion. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a $30 billion agricultural industry that produces half of the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater air pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (CCCC, 2006).

Ecosystems and Wildlife. Climate change and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan, 2004; Parmesan, C. and H. Galbraith, 2004).

d. Local Effects of Climate Change. While the above identifies the possible effects of climate change at a global and potentially statewide level, in general scientific modeling tools are currently unable to predict what impacts would occur locally with a similar degree of accuracy. In general, regional and local predictions are made based on downscaling statewide models (CEC, March 2009). According to the *Santa Cruz County Climate Action Strategy* and *City of Santa Cruz Climate Action Plan*, a wide range of ecological effects may result locally. These include:

- *Sea level rise*
- *Flooding*
- *Extreme Storm Events*
- *Coastal storm damage, bluff erosion, beach loss and landslides*
- *Ocean acidification*
- *Changes in precipitation and climatic water deficit*
- *Changes in temperatures*
- *Increase in wildland fires*
- *Impacts to biodiversity and habitat*
- *Impacts to water supply*
- *Impacts to public health*
- *Economic impacts of climate change*
- *Climate change and social vulnerability*

According to the Center for Ocean Solutions, potential impacts from sea level rise on coastal communities, such as those in Santa Cruz County, include: coastal erosion, coastal inundation, the intrusion of salt water into fresh water, and increased frequency and intensity of storms and waves. Unlike flooding events that can be short lived, erosion can cause greater and potentially permanent damage. Coastal erosion will increase as global sea levels continue to rise. Higher sea levels will allow waves and tides to travel farther inland, exposing beaches, cliffs and coastal dunes to more persistent erosion forces. Erosion is not a new issue in California but rising sea levels threaten to increase the severity and frequency of erosion damage to coastal infrastructure and property.

Projected sea level rise along the MBSST Network is depicted in Figures 4.7-1a through 4.7-1c. These figures show an approximate 4.6-foot (1.4-meter) sea level rise combined with a 100-year flood in 2100. The physical area at risk of erosion resulting from such a rise in sea level in Santa Cruz County is a maximum estimated cliff retreat of approximately 1,120 feet (340 meters) and an average retreat of 0.25 to 0.5 feet per year (0.07-0.15 meters per year).

e. Regulatory Setting. The following regulations address both climate change and GHG emissions.

International. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was produced by the United Nations in 1992. The UNFCCC is an international environmental treaty with the objective of, "stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." This is generally understood to be achieved by stabilizing global GHG concentrations between 350 and 400 ppm, in order to limit the global average temperature increases between 2 and 2.4°C above pre-industrial levels (IPCC 2007). The UNFCC itself does not set limits on GHG emissions for individual countries or enforcement mechanisms. Instead, the treaty provides for updates, called "protocols," that would identify mandatory emissions limits.

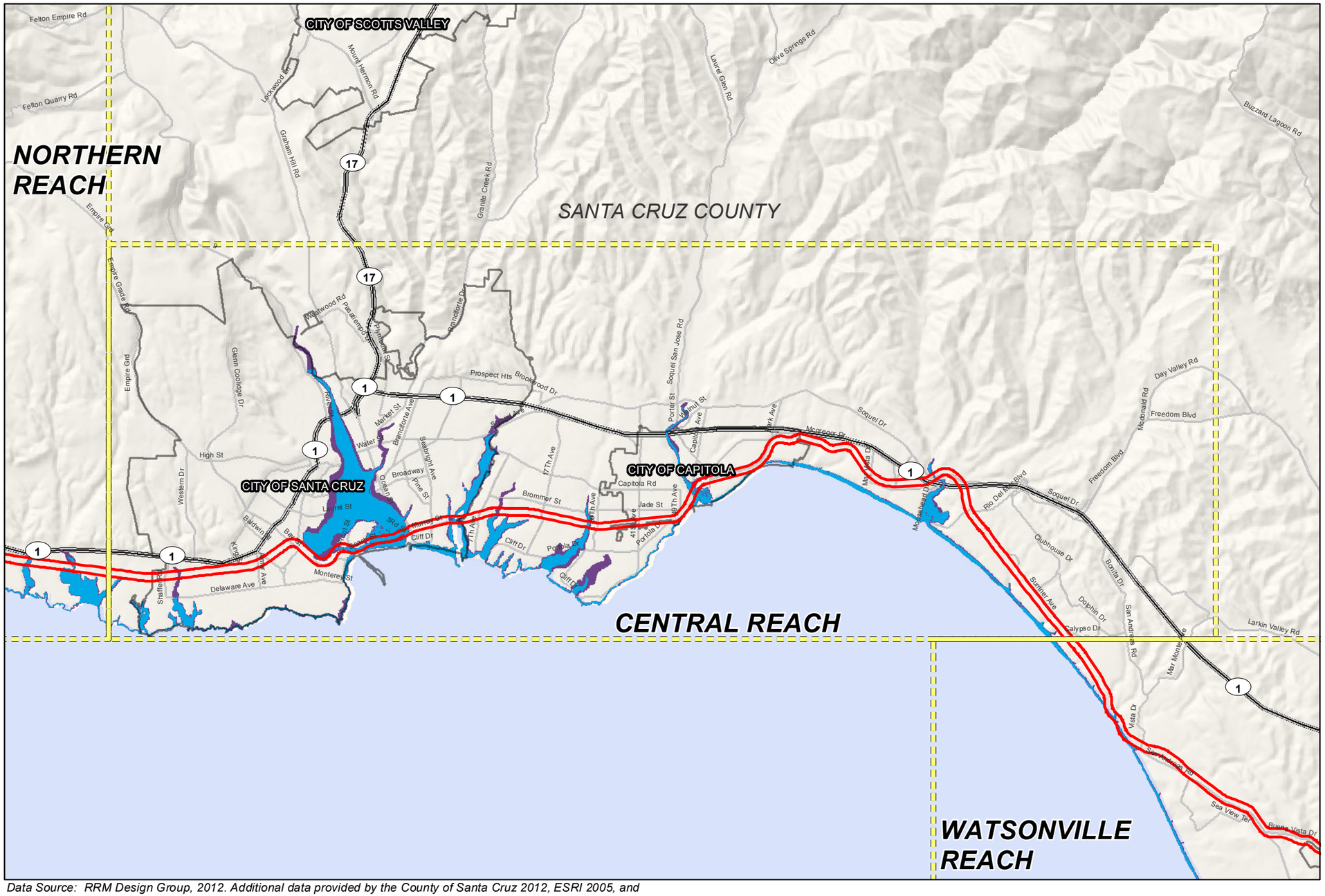
Five years later, the UNFCC brought nations together again to draft the *Kyoto Protocol* (1997). The Kyoto Protocol established commitments for industrialized nations to reduce their collective emissions of six GHGs (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) to 5.2 percent below 1990 levels by 2012. The United States is a signatory of the Kyoto Protocol, but Congress has not ratified it and the United States has not bound itself to the Protocol's commitments (UNFCCC, 2007). The first commitment period of the Kyoto Protocol ended in 2012. Governments, including 38 industrialized countries, agreed to a second commitment period of the Kyoto Protocol, beginning January 1, 2013 and ending either on December 31, 2017 or December 31, 2020, to be decided by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its seventeenth session (UNFCCC, November 2011).

In Durban (17th session of the Conference of the Parties in Durban, South Africa, December 2011), governments decided to adopt a universal legal agreement on climate change as soon as possible, but not later than 2015. Work will begin on this immediately under a new group called the Ad Hoc Working Group on the Durban Platform for Enhanced Action. Progress was also made regarding the creation of a Green Climate Fund (GCF) for which a management framework was adopted.

Data Source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012, ESRI 2005, and Heberger, Matthew, and Herrera, Pablo, 2009, California coast 100-year flood with a 1.4 meter sea-level rise, 2100: The Impacts of Sea-Level Rise on the California Coast, Pacific Institute, Oakland CA.

Changes in Flood Levels from Projected Sea Level Rise: Northern Reach

Figure 4.7-1a



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- 100-Year Flood without Sea Level Rise
- 100-Year Flood with Sea Level Rise**

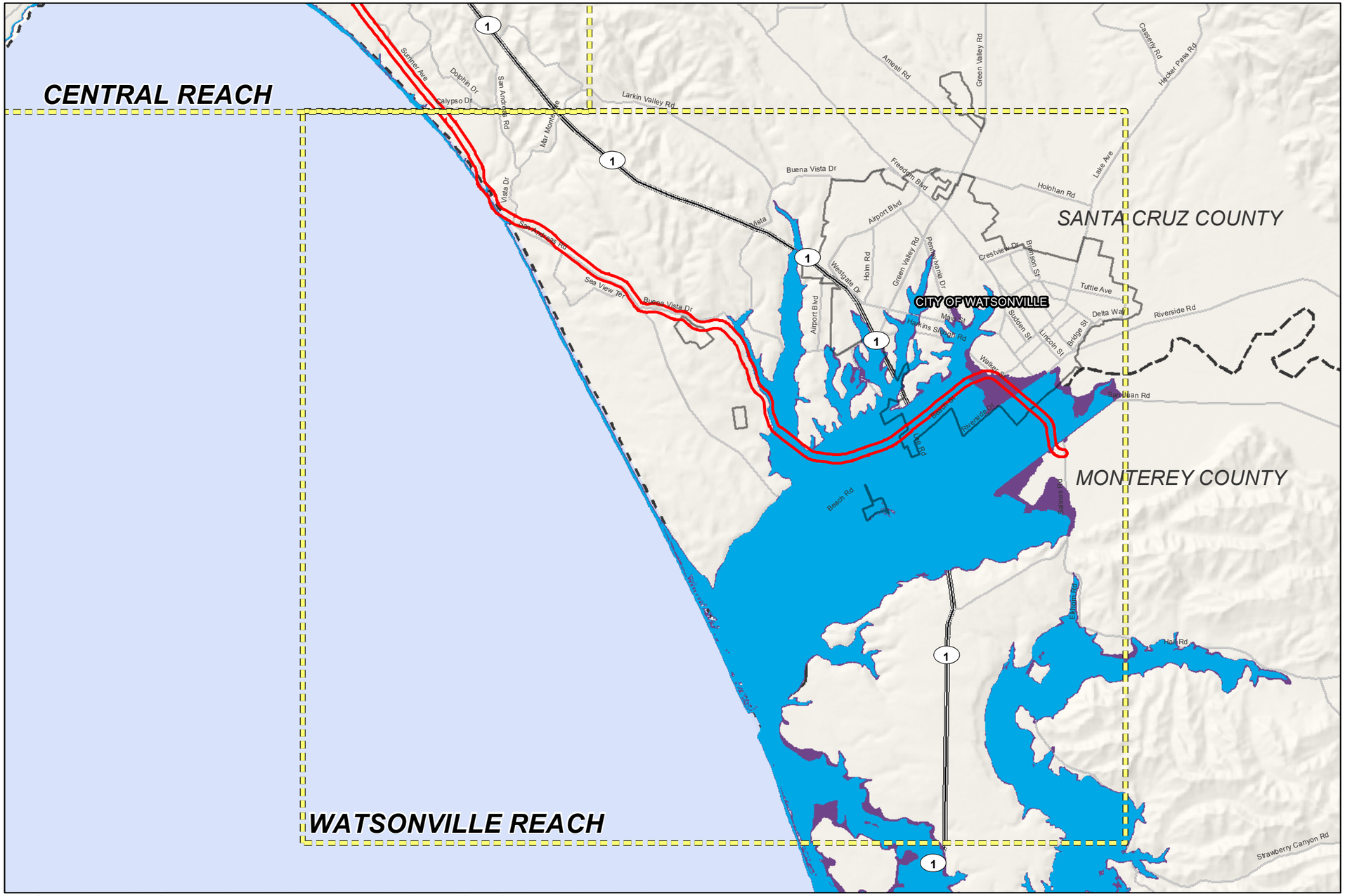
**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

***Scenario assumes a 1.4-meter (4.6 foot) sea level rise in 2100*

Data Source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012, ESRI 2005, and Heberger, Matthew, and Herrera, Pablo, 2009, California coast 100-year flood with a 1.4 meter sea-level rise, 2100: The Impacts of Sea-Level Rise on the California Coast, Pacific Institute, Oakland CA.

Changes in Flood Levels from Projected Sea Level Rise: Central Reach

Figure 4.7-1b



Data Source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012, ESRI 2005, and Heberger, Matthew, and Herrera, Pablo, 2009, California coast 100-year flood with a 1.4 meter sea-level rise, 2100: The Impacts of Sea-Level Rise on the California Coast, Pacific Institute, Oakland CA.

Changes in Flood Levels from Projected Sea Level Rise: Watsonville Reach

Figure 4.7-1c

Federal. The United States is currently using a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (led by the Secretaries of Energy and Commerce) that is charged with carrying out the President's National Climate Change Technology Initiative (U.S. EPA, December 2007).

The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The first annual reports were due in March 2011.

On May 13, 2010, the U.S. EPA issued a Final Rule that took effect on January 2, 2011, setting a threshold of 75,000 million tons (MT) CO_2E per year for GHG emissions. New and existing industrial facilities that meet or exceed that threshold will require a permit after that date. On November 10, 2010, the U.S. EPA published the "PSD and Title V Permitting Guidance for Greenhouse Gases." The U.S. EPA's guidance document is directed at state agencies responsible for air pollution permits under the Federal Clean Air Act to help them understand how to implement GHG reduction requirements while mitigating costs for industry. It is expected that most states will use the U.S. EPA's new guidelines when processing new air pollution permits for power plants, oil refineries, cement manufacturing, and other big pollution point sources.

On January 2, 2011, the U.S. EPA implemented the first phase of the Tailoring Rule for GHG emissions Title V Permitting. Under the first phase of the Tailoring Rule, all new sources of emissions are subject to GHG Title V permitting if they are otherwise subject to Title V for another air pollutant and they emit at least 75,000 MT CO_2E per year. Under Phase 1, no sources were required to obtain a Title V permit solely due to GHG emissions. Phase 2 of the Tailoring Rule went into effect July 1, 2011. At that time new sources were subject to GHG Title V permitting if the source emits 100,000 MT CO_2E per year, or they are otherwise subject to Title V permitting for another pollutant and emit at least 75,000 MT CO_2E per year.

California. Assembly Bill (AB) 1493 (2002), referred to as "Pavley," requires ARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, EPA granted the waiver of Clean Air Act preemption to California for its greenhouse gas emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" will cover 2017 to 2025. Fleet average emission standards would reach 22 per cent reduction by 2012 and 30 per cent by 2016.

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provided that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission

reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the Statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels; the same requirement as under S-3-05), and requires ARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires ARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, the ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2E. The Scoping Plan was approved by ARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State *CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

Senate Bill (SB) 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing ARB to develop regional greenhouse gas emission reduction targets to be achieved from vehicles for 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010 CARB adopted final regional targets for reducing greenhouse gas emissions from 2005 levels by 2020 and 2035.

CARB Resolution 07-54 establishes 25,000 metric tons of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005 percent of California's total inventory of GHG emissions for 2004.

In April 2011, Governor Brown signed SB 2X requiring California to generate 33 percent of its electricity from renewable energy by 2020.

For more information on the Senate and Assembly bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and http://www.arb.ca.gov/cc/cc.htm.

California Environmental Quality Act. Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. As noted previously, the adopted *CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, but contain no suggested thresholds of significance for GHG emissions. Instead, they give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), the San Luis Obispo Air Pollution Control District (SLOAPCD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. The BAAQMD thresholds are under litigation.

Local. The County of Santa Cruz adopted a Climate Action Strategy (CAS) in February 2013, and the City of Santa Cruz completed the final draft of its Climate Action Plan (CAP) in October 2012. The City of Santa Cruz also adopted its Climate Adaptation Plan in December 2011 (City of Santa Cruz, December 13, 2011). The City of Capitola is in the process of updating the City's General Plan, which will include the preparation of a Climate Action Plan (City of Capitola, December 2012). The City of Watsonville also began drafting a CAP in early 2013. The City of Watsonville CAP will be integrated into the City's 2030 Vista General Plan. The County CAS, the City of Santa Cruz CAP, and the City of Santa Cruz Climate Adaptation Plan are discussed below.

Santa Cruz County. The County of Santa Cruz CAS reports the results of the GHG emissions inventory for Santa Cruz County, proposes targets for GHG reduction, and outlines strategies and implementing actions to achieve the targets. The CAS describes current activities addressing adaptation to climate change and identifies next steps toward a complete vulnerability assessment and adaptation plan.

City of Santa Cruz. The City of Santa Cruz CAP was adopted in October 2012. The City's CAP outlines the actions the City and its partners may take to meet State land use requirements pertaining to climate change, achieve the policies identified in the General Plan 2030, and accomplish the GHG reduction goals set by the City Council.

The City of Santa Cruz Climate Adaptation Plan was adopted December 13, 2011. The City of Santa Cruz Climate Adaptation Plan creates a framework for decision makers to build a more resilient and sustainable community that is informed by the most current climate science. The Climate Adaptation Plan establishes goals and objectives for the City of Santa Cruz to adapt to climate change impacts. The following is a list of the objectives outlined in the City's Climate Adaptation Plan:

1. *Consider potential climate change impacts in planning and decision making processes*
2. *Coordinate adaptation planning with other planning, including General Plan/land use codes*
3. *Collaborate with others to raise awareness about climate change impacts*
4. *Seek opportunities to inform the community on potential climate change impacts*
5. *Incorporate ongoing monitoring processes to inform decisions*

6. *Seek opportunities to develop an environmentally sustainable economy*
7. *Continue Greenhouse Gas (GHG) mitigation efforts*
8. *Minimize impacts of future sea level rise*
9. *Maintain and add to the city's urban tree canopy and increase tree diversity within urbanized areas*
10. *Support protection of the Monterey Bay Marine Sanctuary*

4.7.2 Impact Analysis

a. Methodology and Significance Thresholds. Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines are used in evaluating the significance of GHG emissions from the proposed MBSST Network.

According to the *CEQA Guidelines*, impacts related to GHG emissions from the proposed MBSST Network would be significant if the project would:

1) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
2) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines*, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). However, neither the Monterey Bay Unified Air Pollution Control District (MBUAPCD) nor the County of Santa Cruz has adopted GHG emissions thresholds. The MBUAPCD recommends using the San Luis Obispo APCD (SLOAPCD) quantitative emissions threshold of 1,150 metric tons of carbon dioxide equivalent (MT CO_2E) per year for most land use projects. As such, the proposed MBSST Network would have a significant impact related to GHG emissions if buildout of the trail network would generate more than 1,150 metric tons of CO_2E per year.

In addition, in order to determine whether or not the proposed MBSST Network project's GHG emissions are "cumulatively considerable," an inconsistency with applicable GHG emissions reductions strategies would be a significant impact under the second significance threshold discussed above.

There is no adopted significance threshold for sea level rise. For the purposes of this assessment, impacts related to sea level rise would be considered potentially significant if projected sea level rise would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, consistent with thresholds used in Section 4.6, *Geology/Soils*.

Study Methodology. Calculations of CO_2, CH_4, and N_2O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO_2, CH_4, and N_2O because these make up 98.9 percent of all GHG emissions by volume (IPCC, 2007) and are the GHG emissions that the MBSST Network project would emit in the largest quantities. Fluorinated gases, such as HFCs, PFCs, and SF_6, were also considered for analysis. However, because the MBSST Network project would involve development of a recreational trail, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes. Emissions of all GHGs are converted into their equivalent weight in CO_2 (CO_2E). Minimal amounts of other main GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the calculated CO_2E amounts.

Construction Emissions. The California Emissions Estimator Model (CalEEMod) 2011 Version 2011.1.1 was used to estimate construction emissions for the proposed MBSST Network and is based on parameters such as the duration of construction activity, area of disturbance, and anticipated equipment use during construction. Although the trail right-of-way varies from 25 feet up to a maximum width of 148 feet (along segment 17), 25 feet represents an average expected disturbance area for trail components (multi-use paved path, unpaved [decomposed granite] path, landscaping, trail furnishings, and signage). Therefore, for the purposes of estimating emissions, it was assumed that the area of disturbance for the entire length of the proposed MBSST Network would be 25 feet wide. Based on this width and a total trail length of 49.6 miles, the total area of disturbance would be approximately 150.4 acres. This is considered a conservative estimate, as this trail length includes 10.4 miles of paved and un-paved coastal spur trails (which would be a maximum width of six feet) and 7.5 miles of on-shoulder improvements adjacent to Highway 1 (which may not include any ground disturbance).

Construction duration was determined using the phasing plan outlined in the proposed Master Plan and based on the default number of days assigned by CalEEMod. The MBSST Network is divided into 20 segments, ranging in length from 0.65 miles to 10.66 miles. As a reasonable worst-case scenario, construction of the longest segment (segment 5) was modeled to represent the largest area of disturbance throughout construction of the proposed MBSST Network. Based on this segment's length of 10.66 miles and the average expected disturbance area for trail components (25 feet), the estimated disturbance area of segment 5 is 32.3 acres, or 21.5% of the total trail disturbance area (150.3 acres). Using the default number of construction days[1] in CalEEMod, construction of 32.3 acres of trail would take an estimated 135 days (approximately seven months) to construct. This default construction length is consistent with the analysis in Section 4.3, *Air Quality*. The potential for multiple segments to be constructed at once is also considered.

Operational Emissions. A limitation on the quantitative analysis of operational impacts is that emission models, such as CalEEMod, evaluate aggregate emissions, meaning that all vehicle trips and related emissions assigned to a project are assumed to be new trips and emissions generated by the project itself. Such models do not demonstrate, with respect to a regional air quality impact, what proportion of these emissions are actually "new" emissions, specifically attributable to the project in question. For most projects, a primary contributor to regional air quality emissions is from motor vehicles; however, the quantity of vehicle trips appropriately characterized as "new" is usually uncertain as traffic associated with a project

[1] *The default number of construction days assumes construction would occur five days per week.*

may be relocated trips from other locales. This is the case with the proposed MBSST Network, as recreation is a land use with inherent demand. In other words, many of the vehicle trips associated with the proposed MBSST Network would be relocated from other existing recreational opportunities as people begin to use the MBSST Network instead. Therefore, because the incremental increase in trips estimated in Section 4.11, *Transportation/Traffic,* would not be perceptible, and because the proportion of "new" trips is unknown, a qualitative discussion of operational emissions is provided herein.

b. Project Impacts and Mitigation Measures.

Impact GHG-1 The proposed MBSST Network project would generate greenhouse gas emissions during construction and operation. Construction emissions would primarily be generated by construction equipment and paving. Operational emissions would be generated by vehicle trips by trail users and for trail maintenance, but may be balanced regionally by the potential reduction in vehicle trips on cross county arterial corridors due to a change in travel modes. Overall, greenhouse gas emissions from the proposed MBSST Network Impacts would be Class III, *less than* significant.

Construction GHG Emissions. Construction of the proposed MBSST Network project would result in the generation of greenhouse gas emissions, primarily from construction equipment emissions and paving. As a reasonable worst-case scenario, construction of the longest segment (segment 5) was modeled to represent the largest area of disturbance throughout construction of the proposed MBSST Network. Based on this segment's length of 10.66 miles and the average expected disturbance area for trail components (25 feet), the estimated disturbance area of segment 5 is 32.3 acres, or 21.5 percent of the total trail disturbance area (150.3 acres). Using the default number of construction days[2] in CalEEMod, construction of 32.3 acres of trail would take an estimated 135 days (approximately seven months) to construct. This default construction length is consistent with the analysis in Section 4.3, *Air Quality*. Greenhouse gas modeling assumptions and results are included in Appendix C.

Table 4.7-1 illustrates the estimated annual and total CO_2E emissions during construction of segment 5.

Table 4.7-1
Estimated GHG Construction Emissions Segment 5

Year	MT CO_2E
Year 1	352.9
Total Construction Emissions	**352.9**

Source: CalEEMod v.2011.1.1. See Appendix C for Calculations

[2] *The default number of construction days assumes construction would occur five days per week.*

It should be noted that, depending on funding availability and other local factors, more than one segment of the trail could be constructed at one time. Overlapping construction would increase the MT CO_2E being emitted across the MBSST Network. Table 4.7-1 depicts the maximum emissions from the longest segment of the trail (segment 5), which extends for 10.66 miles (or 21.5 percent of the total trail length). As shown, construction of this segment would result in 352.9 MT CO_2E; therefore, construction of this segment would result in approximately 33.1 MT CO_2E per mile of construction activity.[3] Using this factor as a proxy for the remainder of the trail, up to 34.7 miles (or 70 percent) of the MBSST Network project could be constructed at one time without exceeding the threshold of 1,150 MT CO_2E per year.[4] Given funding and infrastructure constraints, construction of approximately 34.7 miles of the trail corridor in any one year is highly unlikely.

Operational GHG Emissions. The proposed MBSST Network would result in the construction of new facilities for active modes of transportation in Santa Cruz County, including bicycle, pedestrian, and equestrian paths. As noted in Section 4.11, *Transportation/Traffic*, the proposed MBSST Network would incrementally increase the number of vehicles travelling to staging areas from recreational users, commuters and for general maintenance purposes. On an individual basis for each staging area, the peak hour increase in trips would be imperceptible. Further, the minimal increase in localized trips may be balanced regionally by the potential reduction in vehicle trips on cross county arterial corridors. This reduction would occur due to the change in commuter, utilitarian and recreational travel modes (from vehicles to bicycling or walking trips) and also because many of the trips may be relocated trips currently accessing other recreational opportunities, and thus do not constitute "new" trips.

Because vehicle trips to the proposed MBSST Network would be minimal, and from a regional perspective many would be relocated trips rather than "new" trips, the proposed MBSST Network would not be expected to generate measurable operational emissions from vehicles.

As shown in Table 4.7-1, construction emissions would not exceed the 1,150 MT CO_2E per year threshold, even if up to 34.7 miles (or 70 percent) of the MBSST Network project is constructed concurrently. In addition, as described above, operational GHG emissions would be negligible. Therefore, overall impacts related to the proposed MBSST Network's contribution to regional GHG emissions would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. The MBSST Network project's contribution to cumulative GHG emissions would be less than significant without mitigation.

Impact GHG-2 **The proposed MBSST Network project would be generally consistent with the Climate Action Team GHG reduction strategies, the 2008 Attorney General Greenhouse Gas Reduction Measures, the City of Santa Cruz Climate Action Plan and County of Santa Cruz Climate Action Strategy. As a result, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be Class III, *less than significant.***

[3] *352.9 MT CO_2E ÷ 10.66 miles = 33.1 MT CO_2E per mile*
[4] *1,150 MT CO_2E ÷ 33.1 MT CO_2E = 34.7 miles*

The proposed MBSST Network would be generally consistent with applicable regulations or plans addressing greenhouse gas reductions. The CAT published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (the "2006 CAT Report") in March 2006. The CAT Report identifies a recommended list of strategies that the State could pursue to reduce climate change greenhouse gas emissions. The CAT strategies are recommended to reduce GHG emissions at a statewide level to meet the goals of the Executive Order S-3-05. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies. In addition, in 2008 the California Attorney General published *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level* (Office of the California Attorney General, Global Warming Measures Updated May 21, 2008). This document provides information that may be helpful to local agencies in carrying out their duties under CEQA as they relate to climate change. Included in this document are various measures that may reduce the climate change related impacts of a project.

Moreover, the City of Santa Cruz CAP outlines the actions the City and its partners may take to meet State land use requirements pertaining to climate change, achieve the policies identified in the General Plan 2020, and accomplish the GHG reduction goals set by City Council. The CAP includes Community-wide goals for the reduction of GHG emissions.

Tables 4.7-2, 4.7-3 and 4.7-4 demonstrate that the proposed MBSST Network would be consistent with the GHG reduction strategies set forth by the 2006 CAT Report, the 2008 Attorney General's Greenhouse Gas Reduction Measures and the City of Santa Cruz CAP.

Table 4.7-2
Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	MBSST Network Consistency
California Air Resources Board	
Vehicle Climate Change Standards AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	**Consistent** The vehicles that would travel to and from the proposed MBSST Network during operation and construction would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
Diesel Anti-Idling The ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling in July 2004.	**Consistent** Current State law restricts diesel truck idling to five minutes or less. Diesel trucks traveling to and from the proposed MBSST Network during construction and operation would be subject to this state-wide law.
Hydrofluorocarbon Reduction 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems.	**Consistent** This strategy applies to consumer products. The proposed MBSST Network would not be anticipated to utilize consumer products. However, all applicable products would be required to comply with the

Table 4.7-2
Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	MBSST Network Consistency
3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	regulations that are in effect at the time of manufacture.
Alternative Fuels: Biodiesel Blends ARB would develop regulations to require the use of 1 percent to 4 percent biodiesel displacement of California diesel fuel.	**Consistent** The diesel vehicles such as construction vehicles that travel to and from the proposed MBSST Network could utilize this fuel once it is commercially available.
Alternative Fuels: Ethanol Increased use of E-85 fuel.	**Consistent** Future trail users could choose to purchase flex-fuel vehicles and utilize this fuel once it is commercially available regionally and locally.
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	**Consistent** The heavy-duty vehicles used for construction activities that would travel to and from the proposed MBSST Network would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Achieve 50 percent Statewide Recycling Goal Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	**Consistent** As discussed in the Initial Study (Appendix A), landfills serving the jurisdictions within Santa Cruz County have sufficient remaining capacity to serve the limited waste generated by the proposed MBSST Network project. As of 2006, the cities of Santa Cruz, Capitola, and Watsonville were diverting approximately 62 percent, 58 percent, and 72 percent of their solid waste, respectively. As of 2006, the unincorporated areas of Santa Cruz County were diverting approximately 65 percent of their solid waste (CalRecycle, December 2012). It is anticipated that these jurisdictions will continue to divert more than 50 percent of their solid waste, including waste from the proposed MBSST Network.
Zero Waste – High Recycling Efforts to exceed the 50 percent goal would allow for additional reductions in climate change emissions.	**Consistent** In 2006, the cities of Santa Cruz, Capitola, and Watsonville were diverting approximately 62 percent, 58 percent, and 72 percent of their solid waste, respectively, while the unincorporated areas of Santa Cruz County were diverting approximately 65 percent of their solid waste. It is anticipated that these jurisdictions will continue to divert more than 50 percent of their solid waste, including waste from the proposed MBSST Network.

Table 4.7-2
Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	MBSST Network Consistency
Department of Forestry	
Urban Forestry A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	**Consistent** Though construction of the proposed project may require limited tree removal, landscaping along some segments of the proposed MBSST Network project would result overall in additional planted trees throughout the County.
Department of Water Resources	
Water Use Efficiency Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	**Consistent** As described in Section 4.12, *Public Safety and Services*, the proposed MBSST Network would not require substantial amounts of water. The new planned restroom, to be located in the Watsonville reach, would be required to be consistent with CalGreen standards. As such, the new restroom would be equipped with low-flow plumbing fixtures, reducing water use.
Energy Commission (CEC)	
Building Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	**Consistent** The proposed MBSST Network would involve the development of only one building that would require the use of energy. The planned restroom in the Watsonville reach would be required to comply with the standards of Title 24 that are in effect at the time of its development.
Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	*Not applicable* The proposed MBSST Network would not involve physical development of structures that would require the use of appliances.
Fuel-Efficient Replacement Tires & Inflation Programs State legislation established a statewide program to encourage the production and use of more efficient tires.	**Consistent** Future trail users that travel to and from the 22 trail head locations could purchase tires for their vehicles that comply with state programs for increased fuel efficiency.
Municipal Utility Energy Efficiency Programs/Demand Response Includes energy efficiency programs, renewable	*Not Applicable* The proposed MBSST Network is an alternative transportation project that would not use substantial

Table 4.7-2
Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	MBSST Network Consistency
portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.	amounts of energy. Development of the MBSST Network project would not preclude the implementation of this strategy by municipal utility providers.
Municipal Utility Renewable Portfolio Standard California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 20 percent of retail electricity sales from renewable energy sources by 2017, within certain cost constraints.	*Not Applicable* The proposed MBSST Network does not involve a commercial development of the MBSST Network project and would not preclude the implementation of this strategy by Southern California Edison.
Municipal Utility Combined Heat and Power Cost effective reduction from fossil fuel consumption in the commercial and industrial sector through the application of on-site power production to meet both heat and electricity loads.	*Not Applicable* This strategy addresses incentives that could be provided by utility providers such as Southern California Edison and The Gas Company.
Alternative Fuels: Non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	**Consistent** Future trail users that travel to and from the 22 trail head locations could purchase alternative fuel vehicles and utilize these fuels once they are commercially available regionally and locally. The proposed MBSST Network would provide a transportation and recreational opportunities that does not utilize fossil fuels and therefore, would also not increase the use of non-petroleum fuels.
Green Buildings Initiative Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out specific actions state agencies are to take with state-owned and -leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20 percent target.	**Consistent** As discussed previously, the proposed MBSST Network would involve the development of one building that would require the use of energy. The planned restroom in the Watsonville reach would be required to be constructed in compliance with the standards of Title 24 that are in effect at the time of its development.
Business, Transportation and Housing	
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors.	**Consistent** The proposed MBSST Network is an alternative transportation project that would not involve commercial or residential development that would require the use of public transit systems. However, as the project would provide a new alternative transportation corridor, it could provide convenient

Table 4.7-2
Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	MBSST Network Consistency
ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	access to and from new development and to and from existing transit facilities in the future.
Public Utilities Commission (PUC)	
Accelerated Renewable Portfolio Standard The Governor has set a goal of achieving 33 percent renewable in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33 percent goal.	*Not Applicable* The proposed MBSST Network project would not require substantial amounts of energy. Project development would not preclude the implementation of this strategy by energy providers.
California Solar Initiative The solar initiative includes installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses, increased use of solar thermal systems to offset the increasing demand for natural gas, use of advanced metering in solar applications, and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.	*Not Applicable* The proposed MBSST Network would provide an opportunity for alternative modes of transportation within Santa Cruz County and would not involve the development of homes of businesses. However, project implementation would not preclude the implementation of this strategy.

Table 4.7-3
Consistency with Applicable Attorney General Greenhouse Gas Reduction Measures

Strategy	*MBSST Network Consistency*
Transportation-Related Emissions	
Diesel Anti-Idling Set specific limits on idling time for commercial vehicles, including delivery vehicles.	**Consistent** Currently, CARB's Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the proposed MBSST Network during construction and maintenance would be subject to this state-wide law.
Transportation Emissions Reduction Provide shuttle service to public transportation.	*Not Applicable* The proposed MBSST Network would not involve the development of businesses, homes or other structures that would generate increased population demanding public transportation.
Solid Waste and Energy Emissions	
Solid Waste Reduction Strategy Project construction shall require reuse and recycling of construction and demolition waste.	**Consistent** In 2006, the cities of Santa Cruz, Capitola, and Watsonville were diverting approximately 62 percent, 58 percent, and 72 percent of their solid waste, respectively, while the unincorporated areas of Santa Cruz County were diverting approximately 65 percent. It is anticipated that these jurisdictions will continue to divert more than 50 percent of their solid waste, including construction waste from the proposed MBSST Network.
Water Use Efficiency Require measures that reduce the amount of water sent to the sewer system – see examples in CAT standard above. Reduction in water volume sent to the sewer system means less water has to be treated and pumped to the end user, thereby saving energy.	**Consistent** The proposed MBSST Network would be anticipated to incorporate landscaping in certain areas that would be designed to require minimal irrigation and to reflect the native vegetation of the surrounding area, thereby reducing water use. In addition, the planned restroom in the Watsonville reach would be equipped with ultra-low-flow plumbing fixtures, further reducing water use at the project site, as required by CalGreen standards.
Land Use Measures, Smart Growth Strategies and Carbon Offsets	
Smart Land Use and Intelligent Transportation Systems Require pedestrian-only streets and plazas within the project site and destinations that may be reached conveniently by public transportation, walking or bicycling.	**Consistent** The proposed MBSST Network project is not a destination that would include pedestrian-only streets or plazas. However, the project would provide access to such destinations via new walking and bicycling trails.

Table 4.7-4
Consistency with City of Santa Cruz Climate Action Plan Goals

Goals	*MBSST Network Consistency*
Energy Consumption Significantly reduce energy use in municipal, residential and commercial buildings.	*Not Applicable* The proposed MBSST Network Master Plan would not involve residential, municipal, or commercial development that would consume energy.
Sustainable Transportation and Land Use Planning Reduce GHG emissions by reducing vehicle miles traveled, decreasing single occupancy vehicle travel, and increasing the use of alternative fuels and transportation options.	**Consistent** The proposed MBSST Network project would divert commuter trips towards the use of non-motorized transportation modes, which would limit long-term emissions of greenhouse gases.
Sustainable Transportation and Land Use Planning Promote land use strategies that encourage higher density development along transit corridors and activity centers to support efficient, accessible, and sustainable transportation options.	**Consistent** The MBSST Network project would link tourism and activity centers as it traverses downtown Watsonville, Aptos Village, Capitola Village, and the Santa Cruz beach area near downtown Santa Cruz.
Water Conservation Continue to reduce per capita and total water use within the Santa Cruz service area.	**Consistent** Water use along the proposed MBSST Network would be minimal, primarily for landscaping, as well as increased demands on existing restrooms and drinking fountains. As discussed in Section 4.12, *Public Safety and Services*, the proposed MBSST Network would not require significant amounts of water. Impacts to the City of Santa Cruz Water District would be *less than significant*.
Solid Waste Management Reduce GHG emissions through improved waste handling and increased recycling, composting, reuse, and waste reduction.	**Consistent** As discussed in the Initial Study (Appendix A), landfills serving the jurisdictions within Santa Cruz County, including the City of Santa Cruz, have sufficient remaining capacity to serve the limited waste generated by the proposed MBSST Network. In addition, it is anticipated that MBSST Network jurisdictions, including the City of Santa Cruz, will continue to divert more than 50 percent of their solid waste, including waste from the proposed project.
Renewable Energy Ensure a sustainable transition toward locally generated renewable energy through programs, policies, and investments.	*Not Applicable* The proposed MBSST Network is an alternative transportation project that would not use substantial amounts of energy. Development of the MBSST Network project would not preclude the implementation of this strategy by municipal utility providers.

Table 4.7-5
Consistency with County of Santa Cruz Climate Action Strategy Goals

Goals	*MBSST Network Consistency*
Energy Emissions	
Aggregated Purchasing Develop a Community Choice Aggregation (CCA) Program.	*Not Applicable* A CCA Program allows communities to aggregate the purchasing power of individual customers to secure electricity. As the proposed MDSST Network Master Plan would involve minimal consumption of energy, such a program would not apply. Development of the MBSST Network project would not preclude the implementation of this strategy by jurisdictions in Santa Cruz County.
Energy Efficiency Increase energy efficiency in new and existing buildings and facilities.	**Consistent** As discussed previously, the proposed MBSST Network would involve the development of one building that would require the use of energy. The planned restroom in the Watsonville reach would be constructed as an energy-efficient facility, in compliance with the standards of Title 24 that are in effect at the time of its development.
Green Business Program Enhance and expand the Green Business Program.	**Consistent** The MBSST Network project would facilitate employee commuting by alternative modes of transportation, which could reduce the amount of vehicle miles traveled per employee.
Renewable Energy Increase local renewable energy generation.	*Not Applicable* The proposed MBSST Network is an alternative transportation project that would not use substantial amounts of energy. Development of the MBSST Network project would not preclude the implementation of this strategy by municipal utility providers.
Public Education Public education about climate change and impacts of individual actions.	**Consistent** The proposed MDSST Network would have signs about historical and educational themes in strategic locations along the trail, which could include education about climate change.
Building Standards Continue to improve the Green Building Program by exceeding the minimum standards of the state green building code (Cal Green).	**Consistent** As discussed previously, the proposed MBSST Network would involve the development of one building that would require the use of energy. The planned restroom in the Watsonville reach would be constructed as an energy-efficient facility, in compliance with the standards of Title 24 that are in effect at the time of its development.

Table 4.7-5
Consistency with County of Santa Cruz Climate Action Strategy Goals

Goals	*MBSST Network Consistency*
Partnerships Form partnerships and cooperative agreements among local governments, educational institutions, nongovernmental organizations, and private businesses as a cost-effective way to facilitate mitigation and adaptation.	**Consistent** Administration of the proposed MBSST would involve the RTC and the implementing entities (City of Santa Cruz, County of Santa Cruz, City of Capitola, City of Watsonville, and/or State Parks). The RTC, as the owner of the Santa Cruz Branch Rail Line, would continue to provide regional policy oversight for the corridor and coordination with the rail operator. In addition, implementation of the proposed MDSST Network would involve cooperation with the County of Monterey, the Transportation Agency for Monterey County (TAMC), and the Monterey Bay National Marine Sanctuary.
Water Conservation Reduce energy use for water supply through water conservation strategies.	**Consistent** Water use along the proposed MBSST Network would be minimal, primarily for landscaping, as well as increased demands on existing restrooms and drinking fountains. As discussed in Section 4.12, *Public Safety and Services*, the proposed MBSST Network would not require significant amounts of water. The new planned restroom, to be located in the Watsonville reach, would be required to be consistent with CalGreen standards. Impacts to the City of Santa Cruz Water District would be *less than significant*.
Transportation-Related Emissions	
Vehicle Miles Traveled Reduce vehicle miles traveled (VMT) through County and regional long range planning efforts.	**Consistent** The proposed MBSST Network project would divert commuter trips towards the use of non-motorized transportation modes, which would reduce vehicle miles traveled in Santa Cruz County.
Bicycle and Pedestrian Activity Increase bicycle ridership and walking through incentive programs and investment in bicycle and pedestrian infrastructure and safety programs.	**Consistent** The proposed MBSST Network would substantially improve bicycle and pedestrian infrastructure along the coastline of Santa Cruz County, resulting in greater bicycle and pedestrian activity.
Zero and Low Emission Vehicles Provide infrastructure to support zero and low emissions vehicles (plug in, hybrid plug-in vehicles).	**Consistent** As discussed earlier, future trail users that travel to and from the 22 trail head locations could purchase alternative fuel vehicles and utilize these fuels once they are commercially available regionally and locally. The proposed MBSST Network would provide a transportation and recreational opportunities that does not utilize fossil fuels and therefore, would also not increase the use of non-petroleum fuels.

Table 4.7-5
Consistency with County of Santa Cruz Climate Action Strategy Goals

Goals	*MBSST Network Consistency*
Employee Commuting Increase employee use of alternative commute modes: bus transit, walking, bicycling, carpooling, etc.	**Consistent** As discussed above, the MBSST Network project would facilitate employee commuting by alternative modes of transportation, which could reduce the amount of vehicle miles traveled per employee.
County Fleet Reduce County fleet emissions.	*Not Applicable* The proposed MBSST Network would not affect emissions from the County's vehicle fleet.
Solid Waste Emissions	
Landfill "Waste to Energy" Pursue "waste to energy" capacity at County landfill through acquiring existing capacity and investigating new technology.	*Not Applicable* The proposed MBSST Network is an alternative transportation project that would not result in the generation of substantial amounts of solid waste. No "waste to energy" capacity would be acquired at landfills as part of the project.
Landfill Gas Capture Improve existing landfill gas capture system to increase percentage capture of landfill gases.	*Not Applicable* The proposed MBSST Network is an alternative transportation project that would not result in the generation of substantial amounts of solid waste. The project would not involve landfill gas capture.
Waste Diversion Reduce the amount of solid waste, particularly recyclable and compostable materials, in the commercial and residential waste stream.	**Consistent** As discussed in the Initial Study (Appendix A), landfills serving the jurisdictions within Santa Cruz County, including the City of Santa Cruz, have sufficient remaining capacity to serve the limited waste generated by the proposed MBSST Network. In addition, it is anticipated that MBSST Network jurisdictions, including the City of Santa Cruz, will continue to divert more than 50 percent of their solid waste, including waste from the proposed project.

As indicated in Tables 4.7-2 through 4.7-5, the proposed MBSST Network would be consistent with CAT strategies, the 2008 Attorney General Greenhouse Gas Reduction Measures, the City of Santa Cruz's CAP, and the County of Santa Cruz's CAS. Therefore, the proposed MBSST Network would be consistent with the objectives of AB 32, SB 97, and SB 375, and their contribution to the reduction of cumulative GHG emissions.

Mitigation Measures. No mitigation would be required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact GHG-3 Several segments of the proposed MBSST Network would parallel the coastal bluffs/edges of the Santa Cruz County coastline. Given the proximity to the coastline, these segments could be affected by flooding and/or shoreline retreat associated with sea level rise. However, ongoing trail maintenance and inspection activities would ensure that sea level rise does not expose people or structures to the risk of loss, injury, or death. Impacts would be Class III, *less than significant*.

The Master Plan corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport past the Pajaro River in Watsonville. The trail would extend through unincorporated Santa Cruz County and portions of the cities of Santa Cruz, Capitola, and Watsonville. The southernmost segment (segment 20) would extend into Monterey County. The corridor is separated into three reaches: the northern reach extends from the San Mateo County line to the western Santa Cruz city limit; the central reach extends from the western Santa Cruz city limit to Seascape Boulevard; and the Watsonville reach extends from Seascape Boulevard to Railroad Avenue in Monterey County. Potential impacts to each of the three reaches resulting from sea level rise are discussed below.

Northern Reach. The northern reach consists primarily of narrow steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coastal Dairies, transitioning to rural agricultural land and natural coastal mesas south to Schaffer Road. The proposed MBSST Network project would construct limited pedestrian and bicycle improvements to the northernmost portion of the northern reach (segments 1 and 2) and would introduce a new multi-purpose trail along the existing railroad right-of-way for the remainder of the northern reach. Unpaved coastal bluff trails would also be constructed in some segments.

Figure 4.7-1a shows the portions of the northern reach that would be exposed to potential impacts resulting from a 100-year flood combined with 1.4 meters (55 inches) of sea level rise (the change from non-sea level rise flooding in 2012 and projected sea level rise flooding in 2100 is shown in purple). As shown therein, there are several areas throughout the northern reach that could be exposed to additional flooding during a 100-year flood event as a result of sea level rise. However, the extent of additional flood inundation caused by sea level rise is nominal and based on projections that rely on assumptions regarding global GHG emissions into the future. The actual global emissions and resulting change in global average temperature and rise in sea level are unknown. Impacts related to flooding under current conditions are addressed in Section 4.9, *Hydrology and Water Quality.* As noted therein, mitigation measures are required to reduce potential flooding impacts to a less than significant level. These measures would also be expected to address additional flooding impacts that may occur as a result of future sea level rise.

In addition to flooding, sea level rise can create an increased potential for erosion and shoreline retreat as a result of beaches and coastal bluffs being exposed to increased and more frequent wave attacks. As described in Section 4.7.1(d) (Local Effects of Climate Change), Santa Cruz County could experience a maximum estimated cliff retreat of approximately 1,120 feet (340 m) and an average retreat of 0.25 to 0.5 feet per year (0.07-0.15 m/yr). Such cliff retreat, as a result of climate change-induced sea level rise, could negatively affect some segments of the northern

reach. However, as described above, such projections are based on assumptions regarding future global GHG emissions. As such, the actual effect of climate change-induced sea level rise on the Santa Cruz County shoreline is unknown.

Central Reach. The central reach traverses portions of the City of Santa Cruz, the unincorporated County, and the City of Capitola. Improvements through the central reach would include a multi-use paved path with fencing, new pre-engineered and/or retrofitted bridges, roadway and railway crossings, trail furnishings, landscaping, and signage.

Figure 4.7-1b shows the portions of the central reach that would be exposed to potential impacts resulting from a 100-year flood combined with 1.4 meters (55 inches) of sea level rise (the change from non-sea level rise flooding in 2012 and projected sea level rise flooding in 2100 is shown in purple). As shown therein, there are several areas throughout the central reach that could be exposed to additional flooding during a 100-year flood event as a result of sea level rise, including segments 7 through 12. However, the extent of additional flood inundation caused by sea level rise is nominal and based on projections that rely on assumptions regarding global GHG emissions into the future. The actual global emissions and resulting change in global average temperature and rise in sea level are unknown. Impacts related to flooding under current conditions are addressed in Section 4.9, *Hydrology and Water Quality.* As noted therein, mitigation measures are required to reduce potential flooding impacts to a less than significant level. These measures would also be expected to address additional flooding impacts that may occur as a result of future sea level rise.

In addition to flooding, sea level rise can create an increased potential for erosion and shoreline retreat as a result of beaches and coastal bluffs being exposed to increased and more frequent wave attacks. As described in Section 4.7.1(d) (Local Effects of Climate Change), Santa Cruz County could experience a maximum estimated cliff retreat of approximately 1,120 feet (340 m) and an average retreat of 0.25 to 0.5 feet per year (0.07-0.15 m/yr). Such cliff retreat as a result of climate change-induced sea level rise could negatively affect some segments of the central reach. However, as described above, such projections are based on assumptions regarding future global GHG emissions. As such, the actual effect of climate change-induced sea level rise on the Santa Cruz County shoreline is unknown. Additionally, as described in Section 4.6, *Geology and Soils*, the City of Santa Cruz General Plan 2030 contains actions HZ 6.1.1 and HZ 6.1.2, which require new development to take the impacts of potential cliff retreat into account prior to project implementation. Therefore, the segments of the central reach which traverse the City of Santa Cruz would be required to account for cliff retreat in the design of the trail.

Watsonville Reach. The Watsonville reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. In addition, on street improvements (Class II, Class III and sidewalks) are proposed for Beach Street. Improvements through the northern portion of the Watsonville reach would include a multi-use paved path with fencing, trail furnishings, landscaping, and signage. Within the City of Watsonville, improvements would be limited to on-street pedestrian and bicycle improvements.

Figure 4.7-1c shows the portions of the Watsonville reach that would be exposed to potential impacts resulting from a 100-year flood combined with 1.4 meters (55 inches) of sea level rise

(the change from non-sea level rise flooding in 2012 and projected sea level rise flooding in 2100 is shown in purple). As shown therein, there are several areas throughout the Watsonville reach that would be exposed to additional flooding during a 100-year flood event as a result of sea level rise, including segment 15 (near Manresa State Beach), the southern half of segment 17 (near Harkins Slough), and segments 18 through 20. However, the extent of additional flood inundation caused by sea level rise is nominal and based on projections that rely on assumptions regarding global GHG emissions into the future. The actual global emissions and resulting change in global average temperature and rise in sea level are unknown. Impacts related to flooding under current conditions are addressed in Section 4.9, *Hydrology and Water Quality.* As noted therein, mitigation measures are required to reduce potential flooding impacts to a less than significant level. These measures would also be expected to address additional flooding impacts that may occur as a result of future sea level rise.

In addition to flooding, sea level rise can create an increased potential for erosion and shoreline retreat as a result of beaches and coastal bluffs being exposed to increased and more frequent wave attacks. As described in Section 4.7.1(d) (Local Effects of Climate Change), Santa Cruz County could experience a maximum estimated cliff retreat of approximately 1,120 feet (340 m) and an average retreat of 0.25 to 0.5 feet per year (0.07-0.15 m/yr). Such cliff retreat as a result of climate change-induced sea level rise could negatively affect some segments of the Watsonville reach. However, as described above, such projections are based on assumptions regarding future global GHG emissions. As such, the actual effect of climate change-induced sea level rise on the Santa Cruz County shoreline is unknown.

Mitigating Design Features. The proposed MBSST Network Master Plan contains an operations and maintenance plan (O&M Plan; Chapter 7 of the proposed Master Plan) to ensure that the MBSST Network is operated in an efficient and safe manner for all trail users and adjacent uses. The O&M Plan identifies the responsibilities, tasks, procedures, estimated operations and trail maintenance costs and other aspects related to the management of the trail. In accordance with the O&M Plan, the Trail ~~Manager~~ Ranger would be responsible for monitoring security and safety of the trail through routine inspections, while the Trail Manager would be responsible for~~;~~ overseeing maintenance and rehabilitation efforts~~;~~ and managing and responding to issues and incidents. Through routine maintenance and inspections, it is anticipated that the Trail Manager and/or Trail Ranger would identify any areas of the trail that are experiencing excessive coastal erosion as a result of sea level rise. As these areas are identified, appropriate action would be taken to minimize the risk of loss, injury or death. Such actions may include trail segment closure, structural improvements or relocation of portions of the trail.

Mitigation Measures. Mitigation measures H-5(a) (Bridge Design) and H-5(b) (Trail Inspection and Repair Program) in Section 4.9, *Hydrology and Water Quality,* would reduce current flooding-related impacts to a less than significant level. If sea level rise causes flood hazard zones to expand in the future, as projected on Figures 4.7-1a through 4.7-1c, these measures would be expected to address such effects. In addition, ongoing trail maintenance and inspections would identify areas that are experiencing excessive coastal erosion as a result of sea level rise. As areas are identified, appropriate action would be taken to minimize the risk of loss, injury or death. Therefore, impacts of sea level rise on the proposed MBSST Network project would not be significant, and specific mitigation to address this issue is not required.

Significance After Mitigation. Impacts would be less than significant with mitigation.

c. Cumulative Impacts. Greenhouse gases and climate change are, by definition, cumulative impacts. As discussed in Impact GHG-1, the proposed MBSST Network project's contribution to regional GHG emissions would be less than significant. In addition, the proposed MBSST Network project would be consistent with the CAT strategies, the 2008 Attorney General Greenhouse Gas Reduction Measures, and the City of Santa Cruz's CAP, and the County of Santa Cruz CAS. Active transportation has been credited with not producing greenhouse gases (GHGs) that contribute to climate change, and are therefore modes that are generally consistent with statewide emissions reduction goals pursuant to AB 32. Moreover, long-term use of the proposed MBSST Network project would divert commute, utilitarian and recreational trips towards the use of non-motorized transportation modes. Therefore, the greenhouse gas emissions from the proposed MBSST Network would not be cumulatively considerable.

With the implementation of mitigation measures H-5(a) and H-5(b) and ongoing trail maintenance and inspection, the proposed MBSST Network would be consistent with Objective 7 of the City of Santa Cruz Climate Adaptation Plan, which calls for the minimization of impacts resulting from future sea level rise. As a result, the project's contribution to cumulative effects of sea level rise would be less than significant.

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4.8 HAZARDS AND HAZARDOUS MATERIALS

4.8.1 Setting

The Master Plan corridor stretches the entire length of Santa Cruz County from the San Mateo County line north of Davenport past the Pajaro River in Watsonville to connect to Monterey County's MBSST system, and into the town of Pajaro at the rail right-of-way southern terminus. The corridor generally follows the Santa Cruz Branch Rail Line right-of-way. The rail right-of-way would serve both rail service and bike/pedestrian trail functions. The proposed trail would extend for a distance of approximately 50 miles (including coastal spur trails) through unincorporated Santa Cruz County and portions of the cities of Santa Cruz, Capitola, and Watsonville. The southernmost segment (segment 20) would extend into Monterey County. Adjacent land uses vary along the MBSST Network corridor and include open space, agriculture, and the community of Davenport in the northern reach; urban land uses, including industrial, residential, commercial, and recreation uses in the central reach; and residential, agricultural, open space, and industrial land uses in the Watsonville reach.

a. General Hazards Associated with Historical Uses. The MBSST Network corridor abuts agricultural uses in both the northern and Watsonville reaches. Agriculture has been a prevalent land use in Santa Cruz County since the mid 1800s. The corridor primarily aligns with the Santa Cruz Branch Rail Line right-of-way, which began operation in May 1876 as a narrow gauge passenger and freight rail line. The rail line was extended north toward Davenport, with freight and passenger operations beginning on the northern portion in 1908. Passenger service was discontinued in 1938.

Historical agricultural operations in the project vicinity likely involved the use of organochlorine pesticides. Furthermore, herbicides were commonly used as a defoliant to control weeds along railroad corridors. Residual amounts of these chemicals could exist in surficial soils along the MBSST Network corridor. Also, the creosote that is used to protect the wooden railroad ties from decay is known to contain poly-nuclear aromatic hydrocarbons (PAHs). Some PAHs are known to be human carcinogens. Creosote can leach into adjacent soil and groundwater over time. It is possible that areas along the railroad were used as rail-tie preparation areas where large amounts of creosote could have been used.

Due to the long history of agricultural development and rail operations in the area and the potential use of creosote for the railroad construction, soil contamination is known to exist along the proposed MBSST Network corridor [discussed in greater detail under *Other On-Site and Adjacent Hazards* in Section 4.8.1(b), below].

b. Hazards Associated with Adjacent Land Uses. Adjacent land uses with the highest potential for exposing users of the MBSST Network project to hazardous materials include agricultural operations in the northern and Watsonville reaches and adjacent industrial uses in the central and Watsonville reaches. A variety of chemicals are used on agricultural crops in Santa Cruz County. Chemicals are used as pesticides, herbicides, and nutrients. Due to the large amount of agricultural land uses, the variety of crops, and the changing agricultural techniques used in the area, compilation of a complete list of the chemicals used is beyond the scope of this analysis. Chemicals used in industrial operations are dependent on the type of operation and

associated manufacturing processes. The potential hazards associated with these and other adjacent land uses are described below.

Agricultural Pesticides. In general, pesticide use can result in health impacts to those who come in contact with such chemicals. The Santa Cruz County Agricultural Commissioner's office retains a registry of pesticides used on individual agricultural parcels in the County. For this analysis, countywide records of pesticide use dating back to 2006 were obtained from the Agricultural Commissioner's office.

The California Office of the U.S. Environmental Protection Agency (Cal EPA), Department of Pesticide Regulations (DPR) is the state agency that sets regulatory standards for pesticides, whether in homes or agriculture. DPR establishes regulatory practices that determine when and how a pesticide is applied and establishes safety precautions. The California Occupational Health and Safety Administration (Cal/OSHA) also establishes workplace standards for pesticide use to protect farm workers. DPR uses "signal words" to classify pesticides. This classification ranges, in order of decreasing severity, from "danger," to "warning," to "caution". These classifications are based upon testing of the entire formulation, active and inactive ingredients, and indicate acute, short term health hazards, such as those resulting from inhalation, eye contact, ingestion, dermal absorption, and dermal irritation. Additionally, the long term effects of exposure to some of these pesticides may be considered carcinogenic. A lifetime exposure to a pesticide (70 years) is assumed for a carcinogen.

Users of the trail can be exposed to agricultural chemicals through ingestion, inhalation, and dermal contact. The most likely paths of exposure are ingestion and inhalation of the chemicals during and after they are applied to the crops, either by aircraft or by more conventional methods. Some chemicals used can produce acute effects on humans exposed to elevated levels. For instance, methyl bromide has been publicized as creating nausea and other effects for residents adjacent to areas in which fumigation has occurred. Initial acute effects may include headache, dizziness, nausea or vomiting, chest and abdominal pain, and irritated eyes, nose, and throat (Gehring and Associates, 1991). With sufficient exposure, symptoms of slurred speech, blurred vision, temporary blindness, mental confusion, and sweating may occur (Gehring and Associates, 1991).

Symptoms of acute exposure to organophosphate may include: numbness, tingling sensations, incoordination, headache, dizziness, tremor, nausea, abdominal cramps, sweating, blurred vision, difficulty breathing or respiratory depression, and slow heartbeat. Very high doses may result in unconsciousness, incontinence, and convulsions or fatality. Persons with respiratory ailments, recent exposure to cholinesterase inhibitors, cholinesterase impairment, or liver malfunction are at increased risk from exposure. Some organophosphates may cause delayed symptoms beginning one to four weeks after an acute exposure, which may or may not have produced immediate effects.

Methyl Bromide. Pesticide use permits provided by the Santa Cruz County Agricultural Commissioner's office indicate that methyl bromide has been used in the County as recently as October 2012. Numerous application of methyl bromide (product name: Terr-o-gas) are recorded every year from 2006 through 2012 (or every year of record provided by the Agricultural Commissioner's office), and are primarily applied to strawberry fields via ground or fumigation

application. As permit records indicate that methyl bromide has been applied throughout Santa Cruz County, it is likely that this pesticide may be used in the vicinity of the MBSST Network.

Methyl bromide is a pesticide of particular concern that has demonstrable health effects. Methyl bromide is a broad spectrum pesticide used in the control of pest insects, nematodes, weeds, pathogens, and rodents. When used as a soil fumigant, methyl bromide is injected into the soil at a depth of 12 to 24 inches before a crop is planted. This will effectively sterilize the soil, killing the vast majority of soil organisms. Immediately after the methyl bromide is injected, the soil is covered with plastic tarps, which temporarily hold the methyl bromide in the soil.

Methyl bromide is toxic not only to the target pests, but to non-target organisms as well. Human exposure to high concentrations of methyl bromide can result in central nervous system and respiratory system failure, as well as specific and severe deleterious actions on the lungs, eyes, and skin. Exposure of pregnant women may result in fetal defects. The pesticide, however, has been found to be non-detectable in the soil after a few days to a few weeks after application.

The amount of methyl bromide produced and imported in the U.S. was reduced incrementally until it was phased out in January 1, 2005, pursuant to our obligations under the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Protocol) and the Clean Air Act (CAA). Allowable exemptions to the phase out include 1) the Quarantine and Preshipment (QPS) exemption, to eliminate quarantine pests, and 2) the Critical Use Exemption (CUE), designed for agricultural users with no technically or economically feasible alternatives.

Each year, the U.S. EPA solicits applications for CUEs from methyl bromide users. The U.S. Government, after reviewing the applications, seeks authorization for those uses from the Parties to the Montreal Protocol. Once the Parties authorize critical uses and an amount of methyl bromide for those critical uses, U.S. EPA publishes a rule allowing for the production of critical use Methyl Bromide. Each round takes up to 3 years.

California Code of Regulations Section 6447 places restrictions on methyl bromide use in fields. This includes: requiring 48 hour notification to the Agricultural Commissioner and adjacent land owners; outlining requirements for establishing an inner and an outer buffer zone (of a minimum 30 feet and 60 feet, respectively) for a period of 36 hours, subject to the approval of the Agricultural Commissioner; and prohibiting certain application methods.

Methidathion. Aside from methyl bromide, one of the most hazardous agricultural chemicals used in Santa Cruz County is methidathion (common name: Supracide). No human contact with the sprayed areas is allowed for 30 days after using of this pesticide. Methidathion has been applied every year between 2007 and 2011 on artichoke crops in the southernmost portion of Santa Cruz County, and may therefore be applied near the Watsonville reach of the MBSST Network.

Methidathion is an organophosphate insecticide, which functions by inhibiting the action of acetylcholinesterase (AChE) in nerve cells. Organophosphate pesticides can be absorbed by all routes, including inhalation, ingestion, and dermal absorption. Repeated or prolonged exposure to organophosphates may result in the same effects as acute exposure including the delayed symptoms. Other effects reported in workers repeatedly exposed include impaired memory and

concentration, disorientation, severe depressions, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking and drowsiness or insomnia. An influenza-like condition with headache, nausea, weakness, loss of appetite, and malaise has also been reported.

Industrial and Commercial Uses. Users of hazardous materials include commercial manufacturing, petroleum exploration, industrial fabrication, biotechnology, and agribusinesses. Potentially hazardous materials used by businesses may include petroleum based fuels, chlorinated solvents, acrylic coatings, corrosive or caustic additives, and to a lesser extent, chemical fertilizers, pesticides, and herbicides. Users of hazardous materials include gas stations and other automotive service-related business, utilities, agribusinesses, and other commercial and industrial uses.

The proposed MBSST Network passes by industrial areas in segment 7 of the central reach, where the trail enters the City of Santa Cruz, and in segments 18 and 19 in the Watsonville reach. Industrial uses along segment 7 include construction and auto storage. Segment 7 would also pass by the Santa Cruz Wastewater Treatment Facility, located near Neary Lagoon Park. Uses along segments 18 and 19 include lumber, construction, and building materials sales and storage; metal fabrication; greenwaste recovery; and automotive repair. The central reach additionally passes through commercial areas in Santa Cruz, Live Oak, Capitola, and Aptos. These areas may include commercial uses such as automotive services, gas stations, dry cleaners, and other uses that utilize hazardous chemicals.

Household Products. The most common hazardous materials are those found or used in the home. Waste oil is a common hazardous material that is often improperly disposed and can contaminate surface water through runoff. Other household hazardous wastes (used paint, pesticides, cleaning products, and other chemicals) are common and often improperly stored in garages and homes.

Other On-Site and Adjacent Hazards. A Phase I Environmental Site Assessment (ESA) was completed for the Davenport and Santa Cruz Branch Rail Lines by Geomatrix Consultants (March 1997) to identify features or historical uses or activities that could be associated with environmental impairment of soil and groundwater along the rail corridor. The Phase I ESA included a site reconnaissance; review of publicly available and Southern Pacific Railroad Company (SPRCo) historical information; review of publicly maintained and available records pertaining to on-site and nearby environmental investigations; review of chemical usage and the possible presence of underground storage tanks along the Santa Cruz Branch Rail Line right-of-way and at facilities immediately adjacent to the right-of-way; interviews with SPRCo personnel regarding general railroad operations; and review of regional geology and hydrogeology. The Phase I ESA subdivided the rail corridor into four sections. The on- and off-site features that could potentially affect environmental conditions along each of these sections are summarized below.

Davenport to the City of Santa Cruz. This section from the Phase I ESA generally corresponds to the MBSST Network northern reach. Several features in this section potentially could affect environmental conditions at the site, including: (1) potential chemical discharge through a drainage tunnel that runs beneath the site and originates at a cement factory in

Davenport (which was closed in 2010); (2) a loading shed and freight depot where chemicals may have been handled at Davenport Station; and (3) an engine house and potential underground storage tank (UST) near the trail's intersection with Scaroni Road. No other potential environmental features were observed in this section of the rail corridor during the Phase I ESA field reconnaissance. However, nearby environmental cases potentially could affect groundwater beneath the rail corridor in this section.

Santa Cruz City Limits. The Phase I ESA identified several features of potential environmental concern along the rail corridor within the City of Santa Cruz. These features include a tool house, roadmasters' car house, scrap bin, and freight house at the Santa Cruz Station (near the intersection of Beach and Cliff Streets), an in-ground oil reservoir near the Casino Station (also near the intersection of Beach and Cliff Streets), and a freight house at the Seabright Station (near the corridor's intersection with Seabright Avenue). Off-site historical features such as the maintenance facilities at the Santa Cruz Station and gas and oil facilities in the Santa Cruz Beach Boardwalk area also could affect groundwater conditions beneath the rail corridor.

The Phase I ESA site reconnaissance observed a well along the rail corridor at the western Santa Cruz City Limits, suggesting that groundwater is being monitored in this area and may be impacted. Atypical soil staining between the railroad tracks and surrounding ballast at West Cliff Drive and Beach Street suggests that a petroleum-based spill occurred in this area. Miscellaneous dumping of debris in this section, and reported dumping along the corridor near Mission Industrial Lands (in the western portion of Santa Cruz), also could affect environmental conditions along the rail corridor. Finally, other nearby environmental cases could affect groundwater beneath the rail corridor in this section.

Capitola and Aptos to Leonard's Gulch. The Phase I ESA historical review showed that a freight house was present near where the rail corridor intersects with 47th Avenue in Capitola. A car repair facility, paint shop, and boat repair facility also historically encroached into the rail corridor near 7th Avenue in the Twin Lakes area. No specific features that suggest potential environmental impacts were observed during the Phase I ESA site reconnaissance of this section; however, nearby environmental cases may affect groundwater beneath the rail corridor.

Leonard's Gulch to Salinas Road near Watsonville Junction. The Phase I ESA historical review showed features of potential environmental concern to the southernmost section of the rail corridor, which generally coincides with the MBSST Network Watsonville reach. These features include two in-ground oil tanks that are potentially within the rail corridor south of the rail line's intersection with Riverside Drive in Watsonville, and numerous nearby off-site features, including a tool house and gasoline tank at the Watsonville Station, oil tanks, utility company facilities, and chemical tanks. Features of potential environmental concern also were observed during the Phase I ESA site reconnaissance, including staining (near the proposed trail corridor's intersection with Beach Street in Watsonville and near the intersection of West Beach Street and Lee Road, west of Highway 1), a discharge onto the corridor of unknown composition from Granite Construction (near Harvest Drive in Watsonville), and evidence of runoff from Drisco Pipe onto the rail corridor (near Industrial Road in Watsonville). Finally, nearby environmental cases could also affect the corridor.

The Phase I report recommended that a Phase II investigative program be performed to evaluate whether historical and current features affect the MBSST Network corridor, including soil sampling, geophysical surveys, and well sampling. A Phase II Investigation was conducted by AMEC Geomatrix, Inc. (December 2009). In addition, because Phase II soil sampling identified high levels of arsenic in the soil, a Human Health Risk Assessment for Arsenic was also prepared (AMEC Geomatrix, Inc., December 2009).

The Phase II investigations consisted of advancing soil borings to collect soil samples at targeted locations along the MBSST Network corridor and at systematic sampling locations for general corridor coverage outside of the targeted sampling locations. In addition, the 2009 investigation included the collection of additional systematic soil samples for arsenic analysis to evaluate the distribution of arsenic in shallow soil along the rail corridor and to calculate a site-specific background concentration of arsenic in support of a preliminary human health risk assessment (HHRA).

The results of the Phase II investigations along the Branch Line right-of-way identified two primary environmental impacts, which are described below.

Petroleum Hydrocarbons. Soil is impacted with elevated concentrations of petroleum hydrocarbons in the drainage ditch along the railroad right-of-way adjacent to the Granite Construction Company facility in Watsonville (located along segment 18 of the Watsonville reach). Based on the analytical results, petroleum hydrocarbon impacts that exceed relative screening levels extend to depths of at least 12 feet below ground surface (bgs), but are generally less than 20 feet bgs. The lateral extent of petroleum hydrocarbon impacts extends over a distance of at least 90 feet along the drainage ditch. Based on the findings, it is likely that the petroleum hydrocarbon impacts are generally confined to the area of the drainage ditch and appear to be related to a discharge pipe emanating from the Granite Construction facility.

Arsenic. The chemical arsenic, while occurring naturally in the soil, is extremely toxic to people. Arsenic can cause acute and long-term health effects and can lead to death. Arsenic does not decompose, biodegrade, or move downward through soils. Arsenic concentrations have increased because of human activities, most notable being the historical usage of arsenical pesticides, which are now outlawed in the United States. Before being outlawed, railroad companies used these arsenical pesticides frequently, and high concentrations of arsenic are often found near railroad tracks. Soils defined as contaminated with arsenic contain concentrations of elements exceeding the existing ambient background levels.

According to the Phase II report, arsenic is generally distributed in shallow soil (less than or equal to 1.5 feet bgs) along the Santa Cruz Branch Rail Line right-of-way above the calculated site-specific background concentration of 14.4 milligrams per kilogram (mg/kg) and is likely a result of railroad operations such as the potential application of arsenical herbicides along the railroad. Although the results of the risk assessment for arsenic in soil indicate that the incremental cancer risk to construction workers and recreational users is within the U.S. EPA's target cancer risk range, arsenic was detected at some locations at concentrations that could require special handling during construction activities (e.g., disposal classification).

Additionally, chromium, lead, and pesticides were detected in some samples at concentrations that exceeded the hazardous waste screening criteria. Soil at these areas could require special handling (e.g. disposal classification as a State or Federal hazardous waste) during construction activities.

c. Other Potential Hazards. Other hazards that have the potential to impact the proposed MBSST Network and its users are hazardous materials transported on rail or roadways and underground utilities.

Hazardous Materials Transport. Both the U.S. EPA and the U.S. Department of Transportation (DOT) regulate the transportation of hazardous waste and material, including transport via rail and highway. The U.S. EPA administers permitting, tracking, reporting, and operations requirements established by the Resource Conservation and Recovery Act (RCRA). DOT regulates the transportation of hazardous materials through implementation of the Hazardous Materials Transportation Act. This Act administers container design, and labeling and driver training requirements. These established regulations are intended to track and manage the safe interstate transportation of hazardous materials and waste.

The Santa Cruz Branch Rail Line historically transported lumber, quarried material, and agricultural products out of the Santa Cruz area. Incoming freight included coal and gypsum for delivery to the cement factory located in Davenport. Following the closure of the cement plant in 2010, freight business on the rail line was reduced by 90 percent. Currently, there is no daily freight service on the rail line outside of the Watsonville/Pajaro area. There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach, south of Davenport and the City of Watsonville to east of Manresa State Beach. This seasonal service operates two to four passenger trains per day, with a higher number of trips on weekends. Within the Watsonville/Pajaro area, there are freight trips every weekday, and weekends as needed. These trips are localized and do not extend outside of the Watsonville/Pajaro area. The rail line in Watsonville is used to transport perishables (including raspberries, strawberries, and other agricultural products), lumber and biofuels. There is currently no rail operation between Watsonville and Santa Cruz, except when needs arise for a special movement of equipment.

There is the possibility an accidental spill of hazardous materials could have occurred in the past, during the time when the railway was more active. According to the Phase I ESA, trains along the Santa Cruz Branch Rail Line have occasionally derailed; however, only one derailment was reported to have resulted in chemical spillage. This derailment, on December 2, 1987, spilled 200 to 300 gallons of diesel fuel at Murray Street and Brooke Avenue between Seabright Avenue and East Cliff Drive. The Santa Cruz Sentinel reported that the Santa Cruz County Health Services Agency, Environmental Health Service (SCHSA) was monitoring the cleanup of the diesel-affected soil, and that samples would be taken to confirm that the cleanup was completed. Several derailments occurred along the rail corridor after the Phase I report was completed. According to the Phase II report, no chemicals or hazardous materials were released during these derailments.

Transportation of hazardous materials on highways falls under federal legislation; however, authority is relegated to various state and local agencies that are focused on specific aspects of

hazardous materials and transportation. The Hazardous Waste Control Act establishes the California Department of Health Services as the lead agency in charge of the implementation of the RCRA program. State and local agencies such as the California Highway Patrol (CHP), State of California Department of Transportation (Caltrans), and City and County Fire Departments are responsible for the enforcement of state and federal regulations and responding to hazardous materials transporting emergencies. The CHP establishes state and federal hazardous material truck routes and has lead responsibility over hazardous material spills on State highways.

Truck routes are designed to provide access to areas that utilize truck service (primarily commercial and industrial areas). State-designated truck routes within the Santa Cruz County include Highway 1 and Highway 129 (Caltrans, 2012). In addition, the City of Santa Cruz has designated Highway 1/Mission Street, Highway 17, Bay Street north of Mission, Empire Grade west of Bay, Highway 9, Morrissey Boulevard, and Soquel Avenue as truck routes. The City of Capitola Municipal Code Section 10.48.010 designates any street or portion of a street that is permitted to carry vehicles exceeding three tons as a truck route. The City of Watsonville designates the following roadways as truck routes:

- *Airport Boulevard from Highway 152 to City Limit;*
- *Highway 152 (Main Street) from Airport Boulevard to City Limit;*
- *West Lake Avenue from Walker Street to Main Street;*
- *Highway 152 (East Lake Avenue) from Main Street to City Limit;*
- *Highway 1 (Cabrillo Highway) from Highway 52 to Highway 129;*
- *South Green Valley Road from Highway 1 to Highway 152;*
- *West Beach Street from Lee Road to Lincoln Street to Highway 152;*
- *Lee Road across City Limits;*
- *Industrial from West Beach Street to Highway 129;*
- *Harvest Drive from West Beach Street to Highway 129;*
- *Walker Street from Ford to West Front;*
- *Ford and Kearney from Walker Street to Walker Street; and*
- *Highway 129 (Riverside Drive) from Highway 1 to City Limit.*

Under current State regulations, trucks transporting hazardous materials or wastes are allowed to use normal truck routes.

Underground Utilities. Existing surface and subsurface utilities within the Santa Cruz Branch Rail Line right-of-way include active and abandoned railroad communications cable, signal and communication boxes, fiber-optic cables, water and sewer lines, and telephone lines. In addition, the proposed trail may cross over utility lines buried beneath any of the 84 roadway crossings. A rupture of the pipelines could expose trail users, maintenance workers, and nearby residences to flammable and toxic substances (natural gas or oil).

Wildland Fire Hazards. Wildfires are large-scale brush and grass fires in undeveloped areas. Wildfires are usually caused by human activities such as equipment use and smoking, and can result in loss of valuable wildlife habitat, soil erosion, and damage to life and property. The MBSST Network corridor travels through areas of open space and wildland areas, which pose potential fire hazard to adjacent development.

The level of wildland fire risk is determined by a number of factors, including:

- *Frequency of critical fire weather;*
- *Percentage of slope;*
- *Existing fuel (vegetation, ground cover, building materials);*
- *Adequacy of access to fire suppression services; and*
- *Water supply and water pressure.*

The California Department of Forestry and Fire Protection (CalFire) has mapped the relative wildfire risk in areas of significant population by intersecting residential housing density with proximate fire threat. The CalFire Fire Hazard Severity Zone map for state responsibility areas (SRAs) in Santa Cruz County (CalFire, November 2007) shows three risk levels: moderate, high, and very high. According to this map, the northern reach contains a mix of moderate and high hazard severity designations. The central and Watsonville reaches are both designated as local responsibility areas. The CalFire Fire Hazard Severity Zone map for local responsibility areas (LRAs) in Santa Cruz County (CalFire, October 2007) shows four designations: moderate, high, very high, and unzoned. According to this map, the central reach contains both moderate and high fire hazard designations through segment 6, part of segment 7 and segment 11 near New Brighton State Beach, while the remainder of the reach (which is more urbanized) is unzoned. The Watsonville reach is primarily designated as having moderate and high fire hazards, while the portion of the trail within the City of Watsonville is unzoned.

Asbestos and Lead. The proposed MBSST Network project would include numerous railroad bridge/trestle crossings. Bridge crossing treatment types could include retrofitting existing bridges or constructing new separate trail bridges parallel to the existing rail bridge structure.

All of the existing railroad bridges and trestles along the MBSST Network corridor were constructed between 1903 and 1977 (RTC, 2012). Due to their age, many of these bridges may have been built with materials containing friable asbestos and lead-based paint. Asbestos is made up of microscopic bundles of fibers that may become airborne when asbestos-containing materials (ACMs) are damaged or disturbed. When these fibers get into the air they may be inhaled into the lungs, where they can cause significant health problems (U.S. EPA, September 2008). Beginning in the late 1970s, asbestos was phased out for building and construction purposes. If present in the existing bridge structures, these ACMs would require abatement prior to renovation. If not properly abated in advance of renovation, workers and surrounding receptors may be exposed to friable asbestos.

Lead is a highly toxic metal which was used for many years as a component of consumer products. Sources of lead include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, urban dust, and secondary lead smelters. Lead is one of the most common hazards that humans are exposed to in their daily lives and may be present in hazardous concentrations in food, water, and air. Excessive exposure can result in the accumulation of lead in the bloodstream, soft tissues and bones. Children are particularly susceptible to lead-related health problems as it is easily absorbed into developing systems and organs. Lead poisoning is the leading environmentally induced illness in children and

continues to pose a potential public health risk. In 1978, the federal government required the reduction of lead in house paint to less than 0.06 percent (600 parts per million). However, some paints manufactured after 1978 for industrial or marine uses legally contain more than 0.06 percent lead. Lead paint used on older structures continues to pose a public health hazard unless and until it is abated. Inspection, testing, and removal (abatement) of lead-containing building materials must be performed by State-certified contractors who are required to comply with applicable health and safety and hazardous materials regulations.

Historic travel on heavily traveled highways can result in hazardous concentrations of aerially deposited lead (ADL) in soils adjacent to the highways. Even though leaded fuel has been prohibited in California since the 1980's, ADL can still be found along highways that were in use prior to that time. In California, soil within Caltrans right of way that contains hazardous waste concentrations of ADL can be reused under the authority of a variance issued by the Department of Toxic Substances Control (DTSC). The current variance applies to all 12 Caltrans districts.

The most heavily traveled roadway near the MBSST Network project is Highway 1. Annual average daily trips (AADT) along this Highway range from a low of 4,000 (near the San Mateo County line) to a high of 98,000 (through the City of Capitola) (California Department of Transportation, December 2012). At this level of travel, aerially deposited lead concentrations near Highway 1 would not be expected to exceed public health standards.

d. Regulatory Setting. The management of hazardous materials and hazardous wastes is regulated at federal, state, and local levels through programs administered by the U.S. Environmental Protection Agency (U.S. EPA), agencies within the California Environmental Protection Agency (CalEPA), such as the Department of Toxic Substances Control (DTSC), federal and state occupational safety agencies, Monterey Bay Unified Air Pollution Control District (MBUAPCD), and Santa Cruz County Environmental Health Services.

Federal. The U.S. EPA is responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. The federal regulations are codified primarily in Title 40 of the Federal Code of Regulations. The primary legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and the Emergency Planning and Community Right-to-Know (SARA Title III). These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, transport, or dispose of hazardous materials.

The Hazardous Materials Transportation Act of 1975 (HMTA) is the major transportation-related statute regulating the transportation of hazardous cargo. The HMTA empowers the U.S. Department of Transportation (DOT) with regulatory and enforcement authority to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce. For materials that are designated as hazardous, specific requirements pertaining to the packaging, labeling, and transportation apply to any person or business transporting a hazardous material.

The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) is responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. OSHA requires training for hazardous materials operators, which includes personal safety, hazardous materials storage and handling procedures, and emergency response procedures.

Other relevant federal laws include the Hazardous and Solid Waste Amendments Act (HSWA) regarding hazardous waste management, the Toxic Substances Control Act (TSCA), pertaining to the tracking and screening of industrial chemicals, and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which controls pesticide distribution, sale and use.

State. In California, the DTSC is authorized by the U.S. EPA and CalEPA to enforce and implement federal hazardous waste laws and regulations. Requirements place "cradle-to-grave" responsibility for hazardous waste disposal on the shoulders of hazardous waste generators. Generators must ensure that their wastes are disposed properly, and legal requirements dictate the disposal requirements for many waste streams (e.g., banning many types of hazardous wastes from landfills).

California regulations pertaining to hazardous materials equal or exceed federal regulations. In January 1996, Cal EPA adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program governing (1) hazardous waste generators and hazardous waste onsite treatment, (2) underground storage tanks, (3) above-ground storage tanks, (4) hazardous materials release response plans and inventories, (5) risk management and prevention programs, and (6) Unified Fire Code hazardous materials management plans and inventories. The program is implemented at the local level by a designated local agency – the Certified Unified Program Agency (CUPA). The CUPA is responsible for consolidating the administration of the six program elements within its jurisdiction. The Santa Cruz County Environmental Health Services is the designated CUPA for the Santa Cruz County, including all cities within the County.

State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed, and in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. California's Hazardous Materials Release Response Plans and Inventory Law, sometimes called the "Business Plan Act," aims to minimize the potential for accidents involving hazardous materials and to facilitate an appropriate response to possible hazardous materials emergencies. The law requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies, to illustrate on a diagram where the materials are stored on site, to prepare an emergency response plan, and to train employees to use the materials safely.

Along with DTSC, the Regional Water Quality Control Board (RWQCB), which operates under the jurisdiction of Cal EPA, is responsible for implementing regulations pertaining to management of soil and groundwater investigation and cleanup. RWQCB regulations applicable to hazardous materials are contained in Title 27 of the California Code of Regulations (CCR). Additional state regulations applicable to hazardous materials are contained in Title 22

of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials.

Transportation of hazardous materials and wastes is regulated by Title 26 of the CCR. The California Department of Transportation (Caltrans) is the primary regulatory authority for the interstate transport of hazardous materials and establishes safe handling procedures for packaging, marking, labeling, routing, etc. The California Highway Patrol and Caltrans enforce federal and State regulations and respond to hazardous materials transportation emergencies.

A "Uniform Hazardous Waste Manifest" is required by DTSC and must accompany most hazardous waste before transporting any waste off site. The manifest travels with the hazardous waste from the point of generation, through transportation, to the final treatment, storage and disposal facility. If a discharge or spill of hazardous waste occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (i.e., notify local authorities, dike the discharge area), and shall be responsible for the discharge/cleanup, pursuant to Title 22 of the California Code of Regulations, Sections 66263.30 and 66263.31.

With respect to worker safety regulations at the state level, the California Department of Industrial Relations, Division of Occupational Safety and Health, formerly known as Cal/OSHA, is charged with enforcement of state regulations and supervision of workplaces in California that are not under direct federal jurisdiction. State worker health and safety regulations applicable to construction workers include training requirements for hazardous waste operations and emergency response, all of which equal or exceed their federal counterparts.

Although there are numerous state policies dealing with hazardous waste materials, the most comprehensive is the Tanner Act (Assembly Bill [AB] 2948) adopted in 1986. The Tanner Act governs the preparation of hazardous waste management plans and the siting of hazardous waste facilities in the state. The act also mandates the adoption of a Hazardous Waste Management Plan by every county in the state that must include provisions defining: (1) the planning process for waste management; (2) the permit process for new and expanded facilities; and (3) the appeal process to the state available for certain local decisions.

Regional.

Monterey Bay Unified Air Pollution Control District (MBUAPCD). Regarding hazardous air emissions, the MBUAPCD implements the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Achievable Control Technology (MACT) requirements through the federal operating permit program, pursuant to MBUAPCD Rule 218. In addition, MBUAPCD's permitting program includes a "Best Control Technology" (BCT) review under MBUAPCD Rule 1000, Permit Guidelines and Requirements for Sources Emitting Toxic Air Contaminants. This rule covers proposed new or reconstructed major sources of federal hazardous air pollutants, toxic air contaminants, and carcinogenic toxic air contaminants.

In compliance with state law, the MBUAPCD also administers the AB 2588 Air Toxics "Hot Spots" Program. Facilities must report their toxic air contaminant emissions and if the

MBUAPCD determines the facility poses a potential public health risk, the facility must perform a health risk assessment (HRA). An HRA includes an analysis of toxic air contaminant emissions and characterizes human health risks as a result of the estimated exposures. If the estimated health risks exceed threshold levels, the public in the affected area must be notified and steps taken to reduce emissions.

Santa Cruz County.

Santa Cruz County Environmental Health. Santa Cruz County Environmental Health Services is designated by Cal EPA as the Certified Unified Program Agency (CUPA) within the geographic boundaries of the County and is responsible for enforcing the local ordinance and state laws pertaining to use and storage of hazardous materials, including the issuance and administration of Hazardous Materials Management Plans (HMMPs).

Santa Cruz County Agricultural Commissioner. The Santa Cruz County Agricultural Commissioner's office regulates and enforces Cal EPA Department of Pesticide Regulations (DPR) requirements through site visits and the permitting process. The Santa Cruz County Agricultural Commissioner's office has not established recommendations for land use setbacks, or buffers, between the land on which other pesticides are applied and surrounding land uses. However, the Agricultural Commissioner does require that all pesticides be used pursuant to the manufacturers' label requirements unless more restrictive California or Santa Cruz County conditions apply. Pesticides must be sprayed so as to prevent drift onto nearby properties.

Santa Cruz County General Plan. The Public Safety and Noise Element of the Santa Cruz County General Plan contains objectives and policies related to hazardous and toxic materials, hazardous waste management, and fire hazards. The Conservation and Open Space Element additionally contains objectives and policies related to pesticides. Objectives and policies applicable to the MBSST Network project are listed below.

Policy 5.13.23	*Agricultural Buffers Required. Require a 200 foot buffer area between commercial agricultural and non-agricultural land uses to prevent or minimize potential land use conflicts, between either existing or future commercial agricultural and non-agricultural land uses.*
Policy 5.13.26	*Windbreaks. Buffers shall include windbreaks designed to reduce or eliminate the hazard of pesticide drift or other conflicts based on prevailing wind direction.*
Objective 6.5	*Fire Hazards. To protect the public from hazards of fire through citizen awareness, mitigating the risks of fire, responsible fire protection planning and built-in systems for fire detection and suppression.*
Policy 6.5.7	*Certification of Adequate Fire Protection Prior to Permit Approval. Require all land divisions, multi-unit residential complexes, commercial and industrial complexes, public facilities and critical utilities to obtain certification from the appropriate fire protection agency that adequate fire protection is available, prior to permit approval.*

Policy 6.5.8 *Public Facilities Within Critical Fire Hazard Areas. Discourage location of public facilities and critical utilities in Critical Fire Hazard Areas. When unavoidable, special precautions shall be taken to ensure the safety and uninterrupted operation of these facilities.*

Objective 6.6 *Hazardous and Toxic Materials. To eliminate, to the greatest degree possible, the use of hazardous and toxic materials, and where it is not feasible to completely eliminate the use of such materials, then to minimize the reduction in the use of such materials, so as to ensure that such materials will not contaminate any portion of the County's environment, including the land, water, and air resources of the County.*

Policy 6.6.1 *Hazardous Materials Ordinance. Maintain the County's Hazardous Materials ordinance, placing on the users of hazardous and toxic materials the obligation to eliminate or minimize the use of such materials wherever possible, and in all cases to minimize the release, emission, or discharge of hazardous materials to the environment, and properly handle all hazardous materials and disclose their whereabouts. Further, maintain the County's ordinance relating to ozone-depleting compounds. Ensure that any amendment of existing ordinance provisions is based on a finding that the amendments will provide protection to the environment and the community against toxic hazards that is equal to or stronger than existing provisions.*

Policy 6.7.4 *Conformance to Federal, State and Local Siting Standards. Require all hazardous waste land disposal facilities to conform to the siting standards contained in state statutes as well as conform to the General Plan and LCP Land Use Plan and Zoning ordinances of the County of Santa Cruz.*

Policy 6.7.12 *Emergency Response/Safe Transportation Routes. Locate facilities of any type so as to minimize distances to major transportation services. Locate all facilities in areas where the fire departments are trained to respond to hazardous materials accidents. Road networks leading to major transportation routes should not pass through residential neighborhoods, should minimize residential frontages in other areas, and shall be demonstrated to be safe with regard to road design and construction, weight allowances, accident rates, excess traffic, etc.*

Santa Cruz County Municipal Code. Chapter 7.100 of the Santa Cruz County Municipal Code regulates hazardous materials, hazardous waste, and underground storage tanks. The ordinance is intended to protect human health, safety, and the environment by promoting best available industrial processes and best available practical control technology to minimize or eliminate the use of hazardous materials in the County, and minimize or eliminate potential contamination by hazardous materials. The ordinance requires that any permitted use of hazardous materials is obligated to strictly control discharges and releases. The ordinance further requires that hazardous materials users monitor any discharges into the environment and keep records on the effectiveness of their hazardous materials management practices as a means of enforcing the obligations established by this chapter. The Santa Cruz County Environmental Health Services is the Certified Unified Program Agency (CUPA) responsible for

enforcing the Hazardous Materials-Hazardous Waste-Underground Storage Tanks Ordinance, as well as state and federal regulations.

City of Santa Cruz.

City of Santa Cruz General Plan 2030. The Hazards, Safety, and Noise chapter of the City of Santa Cruz General Plan contains one goal, four policies, and 13 specific actions related to reducing impacts related to hazardous materials and regulating hazardous wastes. The goal, policies, and actions relevant to the MBSST Network project are listed below.

Goal HZ4	*Reduced danger and impacts from hazardous materials.*
Policy HZ4.1	*Regulate hazardous wastes with respect to potential leakage, explosions, fires, escape of harmful gases, or formation of new hazardous substances.*
Action HZ4.1.4	*Reduce the use of toxic materials in the community and prevent their disposal into the air, water, or soil.*
Policy HZ4.2	*Ensure proper handling and disposal of hazardous waste.*
Policy HZ4.4	*Reduce the risk of exposure to hazardous materials from sites being developed or redeveloped.*

City of Santa Cruz Municipal Code. The City's Hazardous Materials Ordinance regulates and enforces the proper storage and handling of hazardous materials. Santa Cruz City Municipal Code Chapter 6.50, Hazardous Materials, outlines procedures for any person or business that uses hazardous materials within the City. Each user is required to obtain and keep current a hazardous materials permit and is required to handle, control, and store hazardous materials in accordance with an approved Hazardous Materials Management Plan (HMMP). Depending on the quantity of solid, liquid and gaseous hazardous materials, a user would submit either a short or standard form HMMP. A standard form HMMP requires more detailed information be provided, including monitoring and inspections. In addition to the HMMP, the health officer may request additional information deemed necessary to protect the public health.

The City's Fire Department works in conjunction with County Environmental Health in responding to reports of hazardous materials spills and accidents, enforcing hazardous materials regulations and enforcing the City's fire code as it relates to the use and storage of hazardous materials.

City of Capitola.

City of Capitola General Plan. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. The Safety Element of the existing Capitola General Plan contains three policies related to hazards and hazardous materials. None of these policies are applicable to the proposed MBSST Network project. The Safety Element contains the following policies related to fire hazards.

Policy 7 *Fire hazards shall be mitigated where appropriate with proper siting, use of fire-resistant materials and landscaping, and/or installation of early warning systems (alarms and sprinklers).*

Capitola Municipal Code. The City of Capitola has adopted a Hazardous Materials Ordinance (Chapter 8.42) which requires that the City be notified of all use, storage, and transport of hazardous materials. The City also cooperates with the County of Santa Cruz and the Central Fire District in responding to an emergency hazardous material spill. Under the first response system, the Central Fire District personnel would respond to a hazardous material spill in the City.

City of Watsonville.

City of Watsonville General Plan. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, includes an Environmental Resource Management Element which contains goals, policies, and implementation measures related to hazardous materials. The goals and policies applicable to this project are discussed below.

Goal 9.11 *Hazardous Materials. Protect the air, water, soil, and biotic resources from damage by exposure to hazardous materials through aggressive management of hazardous materials.*

Policy 9.I *Hazardous Materials. The City shall protect the natural environment through aggressive enforcement and compliance with hazardous materials plans.*

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.8.2 Impact Analysis.

a. Methodology and Significance Thresholds. Assessment of impacts is based on: 1) review of site information and conditions; 2) a review of the Phase I ESA for the Davenport and Santa Cruz Branch Rail Lines (Geomatrix Consultants, March 1997) and the Phase II Investigation and Human Health Risk Assessment for Arsenic (AMEC Geomatrix, Inc., December 2009); 3) review of pesticide application records; and 4) review of the Santa Cruz County General Plan, the City of Santa Cruz General Plan 2030, the Capitola General Plan, the City of Watsonville General Plan and other County or city information regarding hazards and hazardous materials issues.

Evaluation Criteria. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. A significant impact would occur if the proposed MBSST Network project would result in any of the following conditions:

1) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;*
2) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;*
3) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment; and/or*
4) *Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

It should be noted that the proposed MBSST Network project would not routinely transport, use, or dispose of hazardous materials, nor would it emit hazardous emissions. In addition, although the Watsonville Municipal Airport is located approximately 1.5 miles northeast of segment 17 and a private air strip is located approximately 100 feet from the existing sandy beach access route portion of the Watsonville reach, the proposed MBSST Network would not facilitate any activities that could pose a safety hazard to people residing or working in the area. Hazards to trail users would also be minimal as trail users would be moving along the trail and only exposed to airport safety areas for brief periods of time. Lastly, the proposed Master Plan would not interfere with any existing emergency or evacuation plan, as no project element would alter existing routes. Impacts related to hazards near schools, airports, private air strips, and emergency access would therefore be less than significant. As a result, the checklist items related to these conditions were excluded from the above list and further discussion can be found in the Initial Study (Appendix A of this document).

Operational conflicts between the proposed trail and agricultural operations (other than pesticide hazards) are discussed in Section 4.2, *Agricultural Resources*. Hazards related to conflicts between trail users and automobiles and railroad operations are addressed in Section 4.9, *Transportation/Traffic.* Hazards related to conflicts among and between different types of trail users and emergency access to the trail network are addressed in Section 4.14, *Public Safety and Services.*

b. Project Impacts and Mitigation Measures.

Impact HAZ-1 **Grading associated with MBSST Network construction could expose construction workers to health hazards by releasing contaminants that could be present in the soil. This construction-related hazard is a Class II, *significant but mitigable* impact**.

Construction of the proposed MBSST Network would involve grading. The project corridor primarily aligns with the Santa Cruz Branch Rail Line right-of-way, which extends for 32 miles of the approximately 50-mile trail. The long term use as a railroad line presents the potential

that the corridor is contaminated with metals, herbicides, polynuclear aromatics, petroleum hydrocarbons, and other contaminants associated with rail operations. In addition, land adjacent to the northern and Watsonville reaches is currently used for agricultural production. The historic and continuing agricultural use adjacent to the corridor presents the potential that the property contains residual pesticides or other chemicals routinely used in agricultural production. Construction workers could therefore be exposed to these substances in on-site soils during construction of MBSST Network segments.

A Phase I Environmental Site Assessment (ESA) was completed for the Davenport and Santa Cruz Branch Rail Lines by Geomatrix Consultants (March 1997) to identify features or historical uses or activities that could be associated with environmental impairment of soil and/or groundwater along the rail corridor. As described in Section 4.8.1(b) (Hazards Associated with Adjacent Land Uses), the Phase I report identified several hazards along or adjacent to the rail line, including, but not limited to: a potential chemical discharge through a drainage tunnel that originates at the (now closed) cement factory in Davenport (near segment 4 and sub-segment 5.1), a potential UST near the rail line's intersection with Scaroni Road (near sub-segment 5.3), soil staining along the trail in the City of Santa Cruz (near segment 8), in-ground oil tanks near Riverside Drive in Watsonville (near segment 19), and a discharge onto the corridor of unknown composition from Granite Construction (near segment 18).

As recommended in the Phase I report, a Phase II Investigation and Human Health Risk Assessment for Arsenic was conducted by AMEC Geomatrix, Inc. (December 2009) to evaluate whether historical and current features affect the MBSST Network corridor. According to the Phase II report, arsenic is generally distributed in shallow soil (less than or equal to 1.5 feet bgs) along the Santa Cruz Branch Rail Line right-of-way above the calculated site-specific background concentration of 14.4 mg/kg and is likely a result of railroad operations such as the application of arsenical herbicides along the railroad. Although the results of the risk assessment for arsenic in soil indicate that the incremental cancer risk to construction workers and recreational users is within the U.S. EPA's target cancer risk range, arsenic was detected at some locations at concentrations that could require special handling during construction activities (e.g., disposal classification). Additionally, chromium, lead, and pesticides were detected in some samples at concentrations that exceeded the hazardous waste screening criteria. The Phase II investigation also determined that soil is impacted with elevated concentrations of petroleum hydrocarbons in the drainage ditch along the railroad right-of-way adjacent to the Granite Construction Company facility in Watsonville (located along segment 18 of the Watsonville reach).

Ground disturbing activities during construction could result in contaminants being spread via dust particulates. Improper handling and disposal of contaminated soils would result in a health risk to people which could be a potentially significant impact unless mitigation is incorporated. Mitigation is required to ensure proper handling during construction and reduce risks associated with identified hazardous materials in the soil. In addition, because some segments of the trail will not be constructed for several years, the potential for previously unidentified hazardous conditions to be identified could arise. Therefore, segment-specific due diligence is required to ensure that future hazards are mitigated to a less than significant level.

Mitigation Measures. The following mitigation measures are required to reduce human health impacts during MBSST Network construction and apply to construction of all trail segments .

HAZ-1(a) **Soil Sampling and Remediation**. Prior to construction of each trail segment, a soil assessment shall be completed for that segment under the supervision of a professional geologist or professional civil engineer to determine the presence or absence of contaminated soil along the proposed trail. If soil sampling indicates the presence of any contaminant in quantities not in compliance with applicable laws or regulations, the RTC and/or implementing entity shall coordinate with Santa Cruz County Environmental Health Services to develop and implement a program to remediate or manage the contaminated soil during construction. Disposal shall occur at an appropriate facility licensed to handle such contaminants and remedial excavation shall proceed under the supervision of an environmental consultant licensed to oversee such remediation. The remediation/disposal program shall be approved by Santa Cruz County Environmental Health Services. The RTC and/or implementing entity shall submit all correspondence to Santa Cruz County Environmental Health Services prior to issuance of grading permits. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation/disposal, a qualified environmental consultant shall prepare a report summarizing the project, the remediation/disposal approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.

HAZ-1(b) **Arsenic Management Plan.** A management plan to address arsenic-containing soil during construction of individual segments along the MBSST Network corridor shall be prepared and implemented. This plan shall include soil excavation, stockpiling, disposal procedures (considering profiling of arsenic and other constituents), and construction monitoring guidelines.

HAZ-1(c) **Granite Construction Company Petroleum Remediation and Mitigation**.[1] An analysis shall be conducted to determine whether petroleum present in the soil near the Granite Construction facility is impacting groundwater. If groundwater is determined to have been affected by on-site contamination, or if soil contamination is detected at depths of 30 feet below grade or greater, then a groundwater sampling assessment shall be performed. If contaminants are detected in

[1] *Granite Construction has initiated the process of remediating petroleum contamination at the Granite Construction site (866 West Beach Street, Watsonville). A Human Health Risk Assessment (HHRA) has been prepared for the site and is currently under review by the Regional Water Quality Control Board and the Regional Transportation Commission. For access to documents related to this site, please visit: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000002086. At such time as segment 18 is being considered for implementation, the RTC and/or implementing entity shall contact Santa Cruz County Environmental Health Services to determine the status of clean-up. If the site has been remediated and the case closed, mitigation may not be required.*

groundwater at levels that exceed maximum contaminant levels for those constituents in drinking water, then the results of the groundwater sampling shall be forwarded to the appropriate regulatory agency (Santa Cruz County Environmental Health Services, Central Coast Water Quality Control Board, or the State of California Environmental Protection Agency Department of Toxic Substances Control). The agency shall review the data and sign off on the property or determine if any additional investigation or remedial activities are deemed necessary.

Contaminated soils near the Granite Construction Facility in Watsonville shall also be profiled for disposal at the appropriate facility licensed to handle such contaminants and remedial excavation shall proceed under the supervision of an environmental consultant licensed to oversee such remediation.

The remediation/disposal program shall be approved by Santa Cruz County Environmental Health Services prior to issuance of grading permits for segment 18. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation/disposal, a qualified environmental consultant shall prepare a report summarizing the project, the remediation/disposal approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.

Significance After Mitigation. With implementation of the above measures, impacts related to exposure of hazardous materials during construction would be reduced to a less than significant level.

Impact HAZ-2 **Based on the age of existing railroad bridge/trestle structures, it is possible that existing facilities contain asbestos or lead-based paint. Retrofitting or replacement of these existing structures would create the potential for exposure to these hazardous materials. However, compliance with applicable regulations regarding the removal, handling and disposal of asbestos and lead-based paint would reduce impacts to a Class III, *less than significant* level**.

The proposed MBSST Network project would include numerous railroad bridge/trestle crossings. All of the existing railroad bridges and trestles along the MBSST Network corridor were constructed between 1903 and 1977 (RTC, 2012). Bridge crossing treatment types could include retrofitting existing bridges or construction of new, separate trail bridges parallel to existing rail bridge structures. Most crossings would be new pre-engineered pedestrian/bicycle bridges of varying spans, parallel to existing structures. However, in some locations, existing bridges constructed prior to the 1970s may be retrofitted. In these instances, construction personnel and surrounding receptors may be exposed to friable asbestos and/or lead-containing building materials if not properly abated.

Existing regulations, including Monterey Bay Unified Air Pollution Control District (MBUAPCD) Rule 424 (National Emission Standards for Hazardous Air Pollutants [NESHAPS]) require that the owner or operator of any demolition or renovation activity has an asbestos survey performed prior to demolition. The asbestos containing material (ACM) survey is required to be performed by a licensed asbestos sampling company. Under these regulations, all testing procedures would be required to follow California and Federal protocols. Pursuant to California and Federal standards, an asbestos survey report would be required to quantify the areas of ACMs. If the existing structures are found to contain ACMs, Rule 424 requires that the ACMs must be removed according to proper abatement procedures. All abatement activities would be required to be in compliance with California and Federal OSHA and MBUAPCD requirements. All ACMs removed from existing rail bridges would be required to be hauled to a licensed receiving facility and disposed under proper manifest, if needed, by a transportation company certified to handle asbestos containing materials. Following completion of asbestos abatement, the asbestos consultant would be required to provide a report to the MBUAPCD documenting the abatement procedures used, the volume of ACM removed, where the material was moved, and the transportation and disposal manifests or dump tickets.

In addition, all construction activities associated with the proposed MBSST Network project would be required to comply with California and Federal OSHA requirements relating to lead-based paint abatement. Under these requirements, only lead-based paint trained and certified abatement personnel would be allowed to perform abatement activities. All lead-based paint removed from these structures would be hauled by a transportation company licensed to transport this type of material, and the material would be taken to a landfill or receiving facility licensed to accept the waste. Following completion of the lead-based paint abatement, the lead based paint consultant would be required to provide a report to the implementing entity documenting the abatement procedures used, the volume of lead-based paint materials removed, where the material was moved, and the transportation and disposal manifests or dump tickets.

With the required evaluation and abatement in accordance with existing regulations, impacts related to asbestos and lead-based paint would be less than significant.

Mitigation Measures. With adherence to MBUAPCD, California, and federal requirements, further mitigation is not required.

Significance After Mitigation. Impacts would be less than significant.

Impact HAZ-3 **Adjacent agricultural, commercial, and industrial activities may include the use of pesticides, herbicides, petroleum-based fuels, chlorinated solvents, or other chemicals considered to be a human health threat. Trail users and maintenance personnel could be exposed to these chemicals during and after their application to the adjacent orchards and row crops, or in the event of soil contamination or emission of hazardous materials into the air. This is a Class II, *significant but mitigable* impact.**

Northern Reach. The northern reach of the MBSST Network begins at the San Mateo/Santa Cruz county line on Highway 1, just north of the Waddell Bluffs, and continues south to the northern Santa Cruz city limits near Schaffer Road (refer to Figure 2-5 in Section 2.0, *Project Description*). Currently, the northern reach consists primarily of narrow steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coastal Dairies, transitioning to rural agricultural land and natural coastal mesas south to Schaffer Road. The northern half of the northern reach (approximately segments 1 and 2) would not be exposed to hazardous chemicals from agricultural operations, as no agricultural activity is located in this area. However, the southern half of the northern reach (approximately segments 3 through 5) would be located adjacent to agricultural activity in some areas.

Agricultural operations in the northern reach could include the use of hazardous chemicals. The Santa Cruz County Agricultural Commissioner's office has not established recommendations for land use setbacks, or buffers, between the land on which pesticides are applied and surrounding land uses. However, the Agricultural Commissioner requires that all pesticides be used pursuant to the manufacturers' instructions and that the pesticides are sprayed so as to prevent drift onto nearby properties. In addition, the County of Santa Cruz requires a 200 foot buffer area between commercial agriculture and non-agricultural land uses (General Plan Policy 5.13.23). However, because the proposed project is a transient recreational and transportation use, these setback requirements may not apply. The County of Santa Cruz Planning Department indicates that a reduced agricultural buffer would be allowed, and would not require discretionary approval (S. Haschert, personal communication, March 1, 2013).
Users of the trail would be exposed to agricultural chemicals through ingestion, inhalation, and dermal contact. The most likely paths of exposure are ingestion and inhalation of the chemicals during and after they are applied to the crops. Each of the chemicals applied to the crops and orchards has a certain "breakdown period" which is the time it takes for the chemical to dissipate. Regulations for some chemicals do not permit any human contact with the area sprayed until the chemical has dissipated down to acceptable levels. The re-entry periods (i.e., the period of time after which an employee may re-enter the area in which the chemical was applied) following application of the chemical are specified on the chemical label and by regulation. The Santa Cruz County Agricultural Commissioner's office requires that pesticide users strictly adhere to the chemical label and other applicable regulations.

Regardless of whether agricultural operators follow all restrictions on the pesticide label, the potential exists for trail users to trespass onto adjacent agricultural property after pesticides have been applied, thereby becoming exposed to potentially dangerous chemicals, possibly including methyl bromide. In addition, pesticide spraying requirements are generally less restrictive near transit facilities such as trails because people using them typically move through the area quickly; however, trail users may choose to linger on portions of the trail, either stopping to talk or resting. This has the potential to increase pesticide exposure to trail users.

Central Reach. The central reach begins at the northern boundary of the City of Santa Cruz and extends southeast to just south of Aptos (refer to Figure 2-7 in Section 2.0, *Project Description*). This reach of the MBSST Network corridor traverses through densely populated coastal urban areas, and does not travel through or near agricultural areas. As such, exposure to hazardous chemicals as a result of agricultural operations would not be anticipated.

Because it travels through dense urban areas, the central reach abuts numerous commercial uses, including dry cleaners, gas stations, automotive businesses and similar businesses that may utilize hazardous materials in their operations. Segment 7 of the central reach additionally passes through an industrial area. Industrial uses along segment 7 include construction and auto storage. Segment 7 would also pass by the Santa Cruz Wastewater Treatment Facility, located near Neary Lagoon Park.

Development of the proposed trail in proximity to commercial or industrial uses that utilize or store hazardous materials could increase the risk of exposure to harmful chemicals. By allowing for trail development in commercial and industrial areas where there may have been past use or there may be current use of hazardous materials, the potential for exposure may increase due to: (1) potential soil contamination resulting from past practices; and (2) the proximity of the proposed MBSST Network project to ongoing activity involving the use of hazardous materials. Development in these areas would have the potential for exposure of hazardous materials to the public.

Watsonville Reach. The Watsonville reach of the MBSST Network begins at railroad mile marker 10 near Seascape Village Park and ends at Railroad Avenue in Monterey County (refer to Figure 2-9 in Section 2.0, *Project Description*). The northern portion of the Watsonville reach (approximately segments 16 and 17) would be located adjacent to agricultural activity, while segments 18 through 20 would pass through industrial and commercial areas in the City of Watsonville and unincorporated Monterey County. Industrial uses along segments 18 through 20 include lumber, construction, and building materials sales and storage; metal fabrication; greenwaste recovery; and automotive repair. These segments additionally pass through commercial areas, which may include commercial uses such as automotive services, dry cleaners, and other uses that utilize hazardous chemicals. Trail users along the Watsonville reach may, therefore, be exposed to hazards from agricultural uses as well as hazards from commercial and industrial uses. These hazards are described in the discussions for the northern and central reaches, respectively.

Specific hazards related to elevated concentrations of petroleum hydrocarbons in the drainage ditch along the railroad right-of-way adjacent to the Granite Construction Company facility in Watsonville (located along segment 18 of the Watsonville reach) are discussed in Impact HAZ-1 above.

Mitigating Design Features. The proposed MBSST Network Master Plan contains several design and operational features intended to limit the exposure of trail users to pesticides and other agricultural chemicals. These include posting notices at entrances to the trail advising of ongoing agricultural activities, stating that the trail user agrees to using the trail at his/her own risk. In addition, trail users would be advised that agricultural operations will be occurring and may include pesticide spraying, agricultural dust and debris, and burning activities in accordance with State and local laws and ordinances. Finally, notices would state that the trail may be subject to closure without notice to accommodate such activities.

The trail would be designed with the ability for its physical closure (of isolated segments) in the event it becomes necessary to facilitate permitted spraying. The Trail Manager would work to establish a plan for receiving notices of impending spraying activity and follow-up actions, as

appropriate. To limit the extent of impacts when the trail is open, the MBSST Network Master Plan includes the installation of continuous fencing between the trail and most adjacent agricultural properties, which would discourage access to neighboring lands. In addition, in the event of a chemical or pesticide spill on an agricultural property adjacent to the trail, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with the responding agency's direction, and would only reopen the trail after the responding agency with jurisdiction over the spill indicates that it is safe to do so.

The Santa Cruz County Agricultural Commissioner's office is responsible for issuing pesticide spraying permits and regulating the use of pesticides and other agricultural chemicals. The implementing entity for each trail segment would work with the Agricultural Commissioner's office to minimize impacts to agricultural operators because of the development of the adjacent trail as long as pesticides and other agricultural chemicals are applied in compliance with the label, worker safety requirements, weather conditions, drift restrictions, and all other safety requirements as required by federal, state and local laws.

In addition to the above design features, there are numerous federal, state, and local regulations regarding use, storage, transportation, and disposal of hazardous materials and waste, as outlined in Section 4.8.1(d) (Regulatory Setting). In addition, the General Plans for the four trail jurisdictions contain policies that aim to minimize adverse impacts to health and quality of life associated with exposure to hazardous materials. Compliance with federal, state, and local regulations would reduce hazards from adjacent commercial and industrial operations.

Mitigation Measures. Mitigation measure AG-~~2~~3(c) (Chemical Spraying Impact Reduction Options) in Section 4.2, *Agricultural Resources*, requires that the Trail Manager work with the Agricultural Commissioner's office and farmers adjacent to the trail corridor to reduce impacts to trail users from agricultural spraying, including pesticides. Non-buffer options shall be considered, including the use of alternative methods of pest and weed control and/or an agreement that farmers notify the Agricultural Commissioner's office of proposed spraying within 100 feet of the trail. This would allow the Agricultural Commissioner's office to inform RTC and/or implementing entities of all spraying within 100 feet of the trail so that the RTC and Trail Manager and/or Trail Ranger could take appropriate action (e.g., closure of that segment of the trail to prevent access and exposure).

In addition, the following mitigation measure is required to further reduce human health impacts during operation of the proposed trail.

HAZ-3(a) **Trail Closure.** A communication system shall be established between the Santa Cruz County Agricultural Commissioner's office, the RTC and/or implementing and managing entities, to convey any notices of intent to spray chemicals in a timely manner. The Trail ~~Manager~~ Ranger or its designee shall be responsible for closing trail segments during and following application of agricultural chemicals, and posting additional warning signs, as appropriate.

Significance After Mitigation. Proposed trail design measures, compliance with existing regulations, and implementation mitigation measures AG-2(c) and HAZ-3(a) would reduce impacts related to exposure of toxic chemicals to trail users to a less than significant level.

Impact HAZ-4 **Railway and roadway accidents that involve hazardous materials could potentially create a public safety hazard by exposing people to contaminants. Due to the infrequency of train operations, the transient nature of trail use, and regulations already in place, impacts would be Class III, *less than significant*.**

The MBSST Network corridor would primarily align with the Santa Cruz Branch Rail Line right-of-way, a 32-mile, continuous travel corridor, 31-miles of which is now owned by the RTC. The active rail line is currently used very infrequently for seasonal passenger services from Santa Cruz to the northern reach, south of Davenport and the City of Watsonville to east of Manresa State Beach, and to transport perishables (including raspberries, strawberries, and other agricultural products), lumber, and biofuels within Watsonville. However, hazardous materials (e.g. fertilizers) could be transported along the rail line in the future. A railway accident involving hazardous materials could potentially create a public safety hazard by exposing people to contaminants. In addition, the proposed MBSST Network corridor would pass through public roadways in 84 locations and would travel adjacent to roadways in some areas (e.g. in the northernmost segments the trail would abut Highway 1). A roadway accident involving hazardous materials could also create a hazard to trail users.

Under authority delegated by the Secretary of Transportation, the Federal Railroad Administration administers a safety program that oversees the movement of hazardous materials throughout the United States rail transportation system. Regulations pertaining to the transport of hazardous materials on railroads include specialized training, container sealing and movement, labeling, and emergency response. While railroad accidents related to hazardous materials spills are rare, railroad accidents are a possibility. However, implementation of existing federal, state, and local regulations pertaining to the use, containment, and transport of hazardous materials would minimize the possibility of an accident. In addition, due to the infrequency of train operations and the transient nature of trail use, the probability of an accident occurring when trail users are present would be low. Regulations already in place and the low probability of a railway accident would render impacts associated with exposure to hazardous materials from railway accidents less than significant.

As described in Section 4.8.1(c) (Other Potential Hazards), a number of roadways along the trail corridor are state- or locally-designated truck routes. The MBSST Network would cross the following designated routes: Highway 1 in the northern and Watsonville reaches; and West Lake Avenue, West Beach Street, Lee Road, Walker Street, and Highway 129 in the Watsonville reach. None of the designated routes in the City of Santa Cruz would be crossed by the trail. The City of Capitola designates any street or portion of a street that is permitted to carry vehicles exceeding three tons as a truck route. Thus, the trail may cross a number of truck routes in the central reach through Capitola.

Trucks commonly carry a variety of hazardous materials, including gasoline and various crude oil derivatives, and other chemicals known to cause human health problems. In the event of an

accident, such materials may be released, resulting in a public safety hazard. Implementation of existing federal, state, and local regulations pertaining to the use, containment, and transport of hazardous materials would minimize the possibility of an accident. State and local agencies such as the CHP, Caltrans, and City and County Fire Departments would respond to hazardous materials transporting emergencies. The Trail Manager is responsible for managing and responding to issues and incidents along the trail (refer to Section 2.0, *Project Description*). In the case of a railway or roadway accident involving hazardous materials in the vicinity of the MBSST Network, the Trail ~~Manager~~ Ranger would be responsible for closing the trail in the vicinity of the accident, in accordance with Fire Department direction, and would only reopen the trail after the appropriate entity (CHP, Caltrans, or Fire Department) indicates that it is safe to do so.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Compliance with applicable federal, state and local laws would ensure less than significant impacts.

Impact HAZ-5 **Underground utility lines may be located beneath the proposed MBSST Network. Construction and design of the proposed trail would be affected by the presence of these lines. This is a Class II, *significant but mitigable* impact.**

Existing surface and subsurface utilities within the Santa Cruz Branch Rail Line right-of-way include active and abandoned railroad communications cable, signal and communication boxes, fiber-optic cables, water and sewer lines, and telephone lines. In addition, the proposed trail may cross over utility lines buried beneath any of the 84 roadway crossings. A rupture of certain types of pipelines could expose trail users, maintenance workers, and nearby residences to flammable and toxic substances.

The Trail Manager and Trail Ranger ~~is~~ are responsible for managing and responding to issues and incidents along the trail (refer to Section 2.0, *Project Description*). In the case of a pipeline rupture in the vicinity of the MBSST Network, the Trail ~~Manager~~ Ranger would be responsible for closing the trail in the vicinity of the accident, in accordance with Fire Department direction, and would only reopen the trail after the appropriate entity (CHP, Caltrans, or Fire Department) indicates that it is safe to do so.

Mitigation Measures. The following mitigation measure is required to reduce impacts related to transmission lines in the MBSST Network project area.

HAZ-5(a) **Utility Line Location and Consultation.** Prior to construction of each segment, the implementing entity shall determine the presence and exact location of any underground utility lines that correspond to the trail alignment. In addition, the presence of any above-ground utility lines in close proximity to the proposed alignment shall be determined.

If any utility lines are found to be in proximity to the trail alignment, the implementing entity shall contact the utility line operator regarding any regulations for grading and construction activities near the lines. The trail alignment shall be constructed and designed in compliance with all regulations and policies set forth by the operating entity.

Significance After Mitigation. With implementation of the above mitigation measure, impacts related to utility lines in the MBSST Network area would be reduced to a less than significant level.

Impact HAZ-6 **The proposed MBSST Network project would introduce a recreational use into areas designated as moderate and high wildland fire hazard areas. However, compliance with existing policies and state and local regulations would ensure Class III, *less than significant* impacts.**

Northern Reach. According to the CalFire Fire Hazard Severity Zone map for SRAs in Santa Cruz County (CalFire, November 2007), the northern reach contains a mix of moderate and high hazard severity designations. The proposed MBSST Network project would not include the construction of any buildings in the northern reach. Therefore, the project would not expose structures to a significant wildland fire risk. However, development of a multi-use trail in this area could expose trail users to risk of loss, injury or death involving wildland fire hazards. As discussed in Section 4.12, *Public Safety and Services,* emergency service providers with jurisdiction over the northern reach would have sufficient access to the trail in the case of an emergency, such as a wildfire, and the proposed MBSST Network project would not be expected to lengthen existing emergency response times. In addition, due to the relative infrequency of wildfires and the transient nature of trail use, the potential for exposing trail users to a significant wildland fire hazard would be low. In the event of a wildland fire near the northern reach, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with Fire Department direction, and would only reopen the trail after the Fire Department with jurisdiction over the fire indicates that it is safe to do so.

Central Reach. According to the CalFire Fire Hazard Severity Zone map for LRAs in Santa Cruz County (CalFire, October 2007), the central reach contains both moderate and high fire hazard designations through segment 6, part of segment 7 and segment 11 near New Brighton State Beach, while the remainder of the reach (which is more urbanized) is unzoned. In the urban areas of the central reach, the potential for exposure of trail users to wildland fire hazards is minimal. In addition, the proposed MBSST Network project would not include the construction of any buildings in the central reach. Therefore, the project would not expose structures to a significant wildland fire risk. However, in the less developed areas designated as having moderate to high fire hazards, development of a multi-use trail could expose trail users to wildland fire hazards. As discussed in Section 4.12, *Public Safety and Services,* emergency service providers with jurisdiction over the central reach would have sufficient access to the trail in the case of an emergency, such as a wildfire, and the proposed MBSST Network project would not be expected to lengthen existing emergency response times. As noted under the *Northern Reach* discussion above, due to the relative infrequency of wildfires and the transient

nature of trail use, the potential for exposing trail users to a significant wildland fire hazard would be low. In the event of a wildland fire near the central reach, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with Fire Department direction, and would only reopen the trail after the Fire Department with jurisdiction over the fire indicates that it is safe to do so.

Watsonville Reach. According to the CalFire Fire Hazard Severity Zone map for LRAs in Santa Cruz County (CalFire, October 2007), the Watsonville reach is primarily designated as having moderate and high fire hazards, while the portion of the trail within the City of Watsonville is unzoned. In the urban areas of the Watsonville reach, the potential for exposure of trail users to wildland fire hazards is minimal. However, in the rural and agricultural areas designated as having moderate to high fire hazards, development of a multi-use trail could expose trail users to wildland fire hazards. In addition, as discussed in Section 2.0, *Project Description*, a new public restroom facility would be constructed within the Watsonville reach. This structure may also be exposed to a risk of loss in the event of a wildland fire. As discussed in Section 4.12, *Public Safety and Services,* emergency service providers with jurisdiction over the Watsonville reach would have sufficient access to the trail in the case of an emergency, such as a wildfire, and the proposed MBSST Network project would not be expected to lengthen existing emergency response times. As noted under the *Northern Reach* discussion above, due to the relative infrequency of wildfires and the transient nature of trail use, the potential for exposing trail users to a significant wildland fire hazard would be low. In the event of a wildland fire near the Watsonville reach, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with Fire Department direction, and would only reopen the trail after the Fire Department with jurisdiction over the fire indicates that it is safe to do so.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Compliance with applicable federal, state and local laws would ensure less than significant impacts.

d. Cumulative Impacts. Additional development resulting from buildout of Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville will cumulatively increase the potential for exposure to existing soil contamination and wildland fire hazards. Cumulative development in the area would also increase the interface among recreational, agricultural, commercial, and industrial uses, and may include removal and/or replacement of existing bridges along the MBSST Network corridor, including bridges that may contain asbestos or lead-based paint. Therefore, an overall increase in the potential for exposure to hazards, hazardous materials, and wildland fires will occur as urbanization occurs. The proposed MBSST Network and other facilities would incrementally contribute to this cumulative effect. However, all new development would be subject to review by the relevant jurisdiction and as well as to any regulations in place to minimize any potential hazards. Impacts associated with individual developments would be addressed on a case-by-case basis and appropriate mitigation would be designed to mitigate impacts resulting from individual projects, depending upon the type and severity of hazards present. Assuming that all hazards are adequately addressed for each individual development proposal, cumulative impacts related to hazards and hazardous materials are would be less than significant.

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Setting

a. Regional Hydrology.

Watersheds. The MBSST Network would traverse through nearly every watershed in Santa Cruz County, and be located where the watersheds drain, due to its coastal location. A list of the watersheds within the MBSST Network is provided below. Because several watersheds fall within more than one reach of the MBSST Network, the watersheds are listed in order from north to south, rather than by reach.

- *Waddell*
- *Swanton Bluffs*
- *Scott Creek*
- *Davenport*
- *San Vicente Creek*
- *Liddell Creek*
- *Laguna Creek*
- *Majors*
- *Baldwin Wilder*
- *San Lorenzo River*
- *Arana Gulch – Rodeo*
- *Soquel Creek*
- *Aptos Creek*
- *Pajaro River*
- *Watsonville Slough*
- *San Andreas*

The watersheds cover almost all of Santa Cruz County, except for the less than 20 acres that are within the Año Nuevo Creek Watershed and the Pescadero Watershed. Each watershed consists of numerous tributaries, with over 50 tributaries combined.

All of these watersheds are within the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB). The RWQCB establishes requirements prescribing the quality of point and nonpoint sources of discharge and establishes water quality objectives through the Water Quality Control Plan for the local basin. A point source is defined as waste emanating from a single, identifiable point such as a wastewater treatment plant. A nonpoint source of discharge results from drainage and percolation of activities such as agriculture and stormwater runoff.

Groundwater. Groundwater supplies account for approximately 80 percent of the countywide water supply. Most groundwater is contained in permeable geologic basins, typically referred to as aquifers. There are three major groundwater basins in the County: the Santa Margarita, Purisima, and Aromas Basins. In the Pajaro Valley (Aromas Groundwater Basin), agricultural water use far exceeds sustainable yield (County of Santa Cruz, 2012). In other parts of the County, development contributes to the overdraft through demand, but also because development covers the ground surface with impervious layers that greatly reduce groundwater recharge. Negative consequences of overdraft include declining groundwater levels, a decrease in groundwater quality, reduced streamflow, and seawater intrusion along the coast that destroys wells (County of Santa Cruz, 2012).

Typically, an aquifer receives most of its water inflow from areas known as recharge areas. These are the areas where the aquifer is exposed at the ground surface and the water moves more freely downward through the aquifer materials. This is in contrast to locations where aquifers underlie layers of finer sediment (such as clay). The County of Santa Cruz designates

the areas where an aquifer is exposed at the ground surface and allows water to move downward into the aquifer as Primary Groundwater Recharge (PGR) zones (County of Santa Cruz, 2012). As such, these areas are given special consideration and protection from development. This protection allows the aquifers to maintain an adequate quantity and quality of groundwater recharge. No section of the MBSST Network falls within a PGR zone.

b. Flood Hazards.

FEMA Flood Hazard Zones. The Federal Emergency Management Agency (FEMA) establishes base flood heights for the 100-year flood zone. The 100-year flood zone is defined as the area that could be inundated by the flood which has a one percent probability of occurring in any given year. Figures 4.9-1a through 4.9-1c show the FEMA 100-year flood hazard zones in each reach of the MBSST Network and a discussion of these areas is provided below.

Northern Reach. There are several areas within the 100-year flood hazard zone throughout the northern reach of the MBSST Network. The various flood hazard zones in the northern reach emanate from the various streams that cut down through the Santa Cruz Mountains and outlet in the Pacific Ocean, as shown in Figure 4.9-1a.

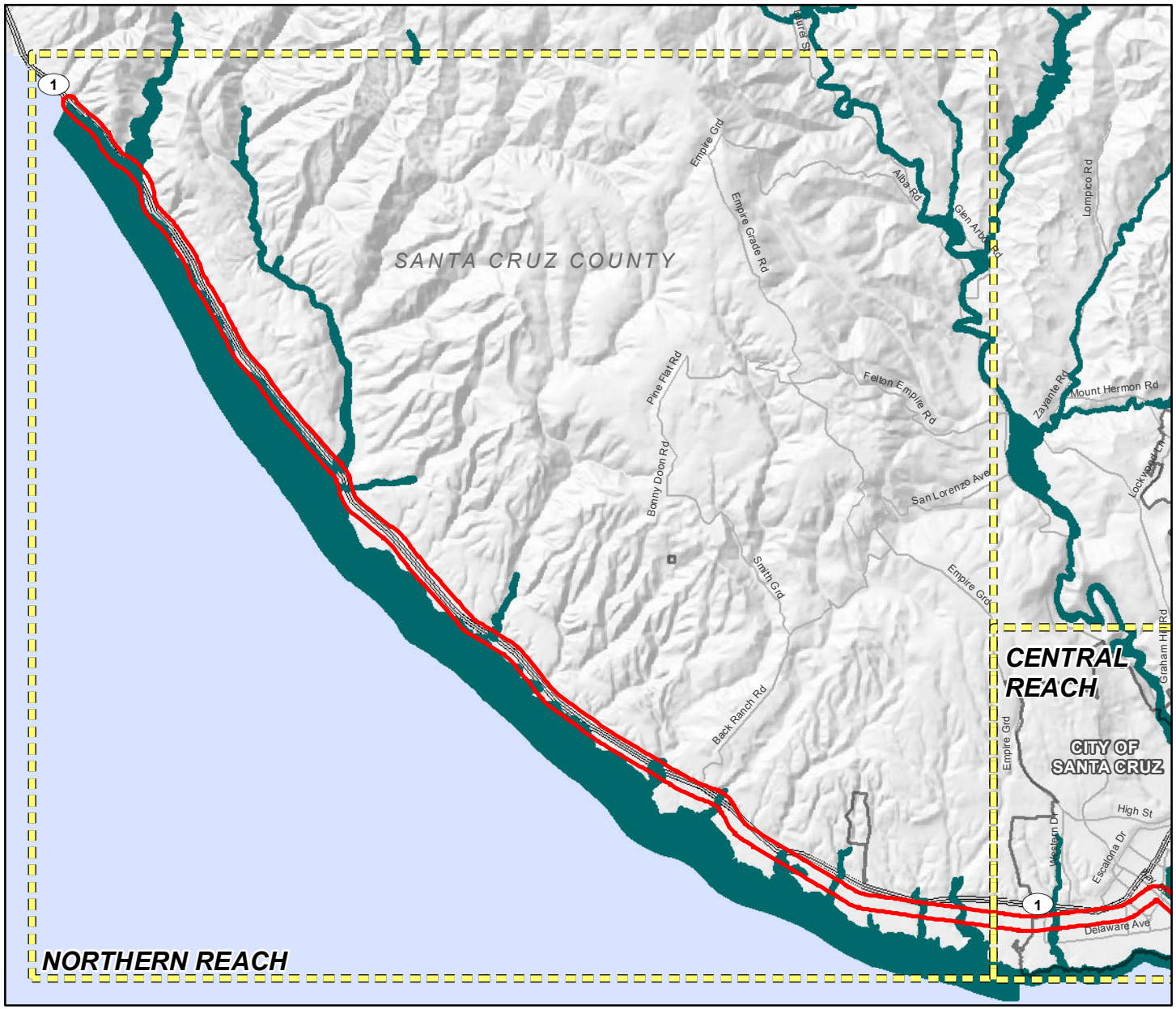
Central Reach. There are very few areas of the central reach that are within the 100-year flood hazard zone. These areas are primarily limited to the river mouths of the San Lorenzo River, Arana Gulch, and Soquel Creek, as shown in Figure 4.9-1b.

Watsonville Reach. A large portion of the Watsonville reach falls within the 100-year flood hazard zone surrounding the Pajaro River, between the Pajaro Dunes area and the City of Watsonville, as shown in Figure 4.9-1c.

Tsunami and Seiche. A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during very large earthquakes. Sudden vertical movement of the ocean floor by fault movement displaces the overlying water column, creating a wave that travels outward from the earthquake source. An earthquake anywhere in the Pacific can cause tsunamis around the entire Pacific basin. Since the Pacific Rim is highly seismically active, tsunamis are not uncommon (City of Santa Cruz, September 2011).

California is at risk from both local and distant source tsunamis. Eighty-two possible or confirmed tsunamis have been observed or recorded in California since recording of such events began. Most of these events were small and only detected by tide gages. Eleven were large enough to cause damage and four events resulted in deaths. Two tsunami events caused major damage (City of Santa Cruz, September 2011).

Even though the potential for a large tsunami may be low or possibly uncertain, the potential outcome of such a tsunami could be substantial damage and loss of life. Several active and potentially active earthquake faults are located within or near Santa Cruz County (refer to Figure 4.6-1 in Section 4.6, *Geology/Soils*). Even a moderate earthquake occurring in or near any of the nearby faults could result in local source tsunamis from submarine landsliding in Monterey Bay (City of Santa Cruz, September 2011). Figures 4.9-2a through 4.9-2c illustrate



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- 100 Year Flood Zone

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

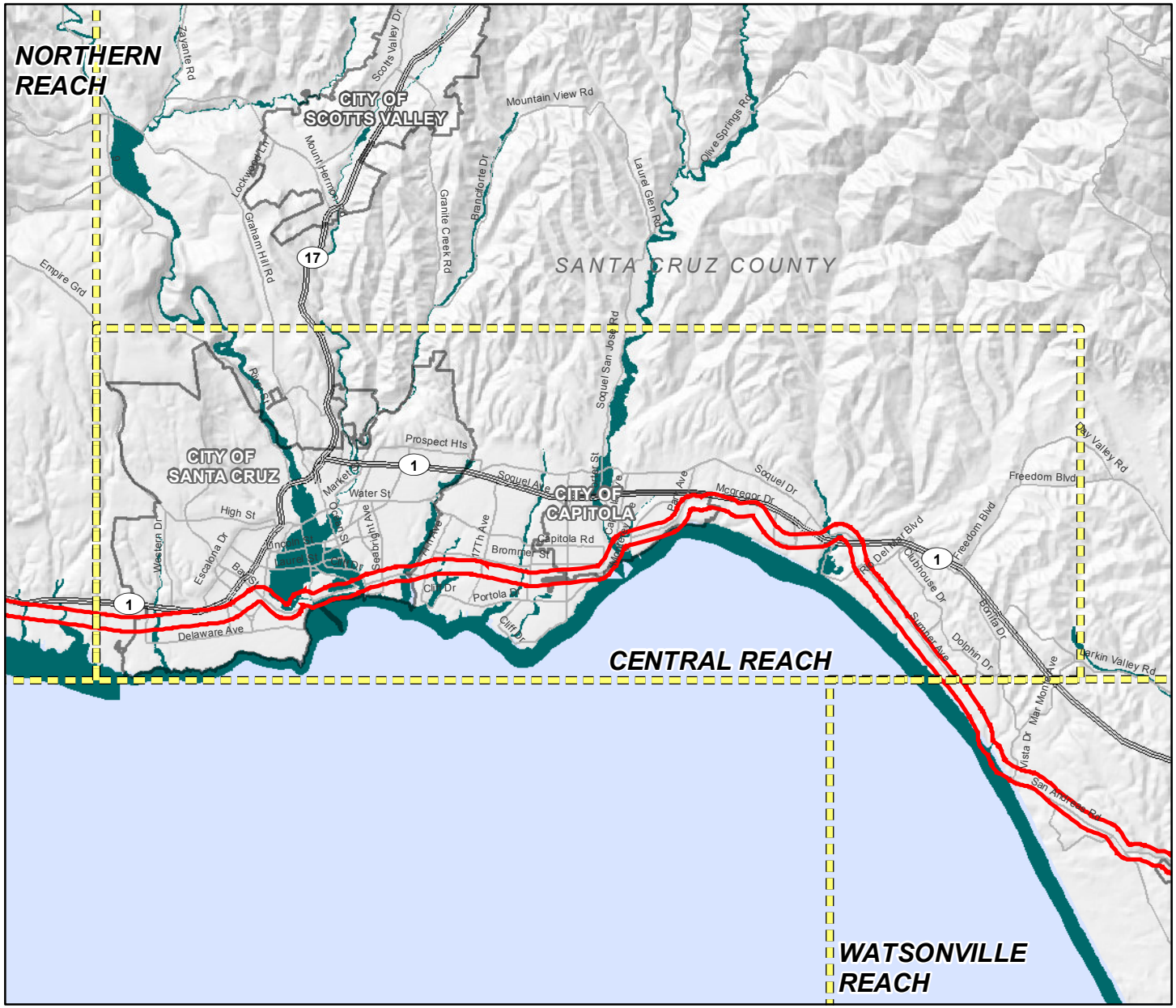
N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Flooding Hazards: Northern Reach

Figure 4.9-1a



Legend

- Monterey Bay Sanctuary Scenic Trail Network Corridor*
- Reaches
- 100 Year Flood Zone

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

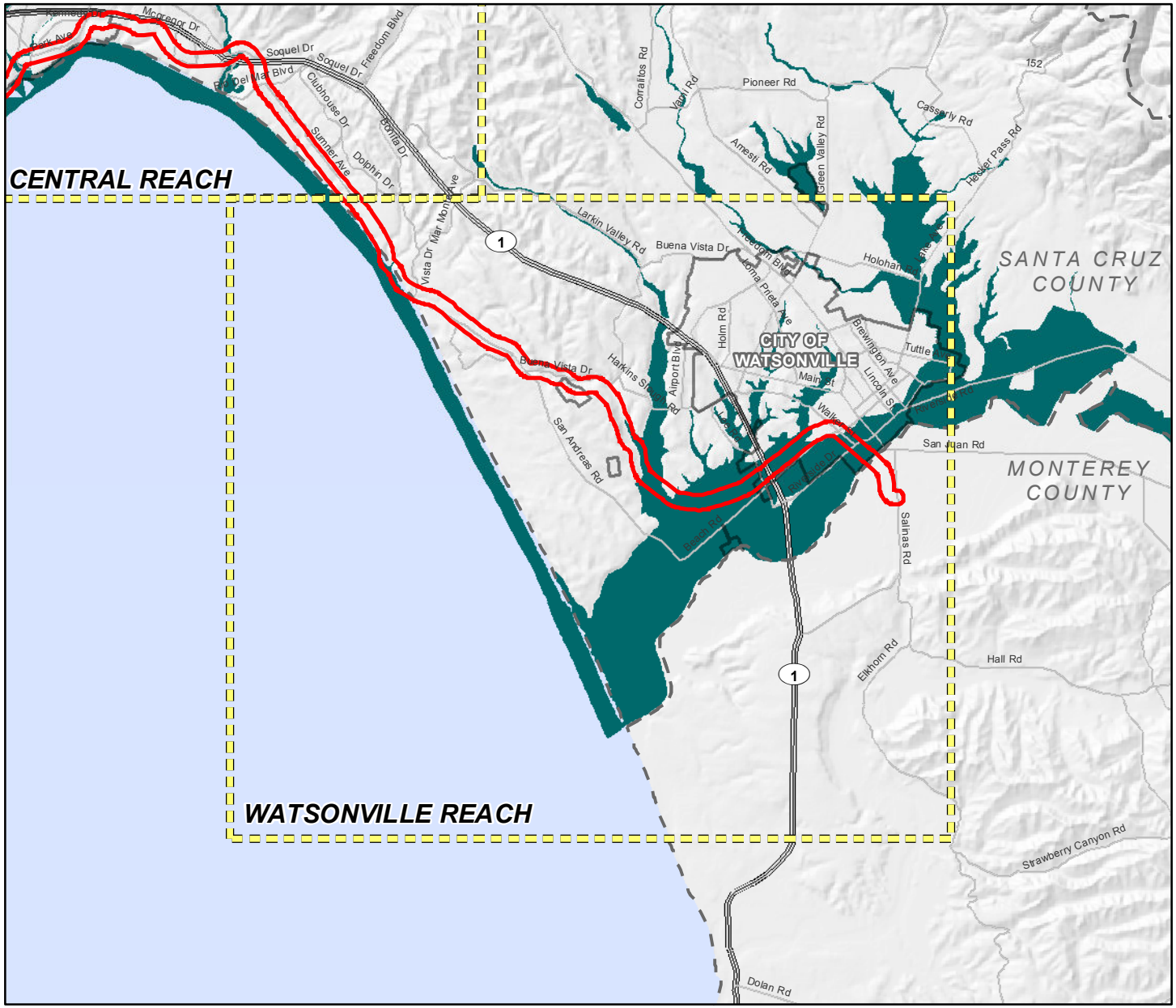
N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Flooding Hazards: Central Reach

Figure 4.9-1b



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- 100 Year Flood Zone

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the County of Santa Cruz 2012.

Flooding Hazards: Watsonville Reach

Figure 4.9-1c

tsunami inundation zones in Santa Cruz County. A description of the zones within each reach of the MBSST Network is provided below.

Northern Reach. There are two small areas subject to flooding from tsunamis in the northern reach, located in the Waddell Creek and Scott Creek areas (refer to Figure 4.9-2a).

Central Reach. There are a several areas of the MBSST Network in the tsunami run-up zone in the central reach, including the areas near the San Lorenzo River and the Arana and Rodeo Gulches (refer to Figure 4.9-2b).

Watsonville Reach. Only a small segment of the Watsonville reach is near a tsunami run-up zone in the La Selva Beach area (refer to Figure 4.9-2c).

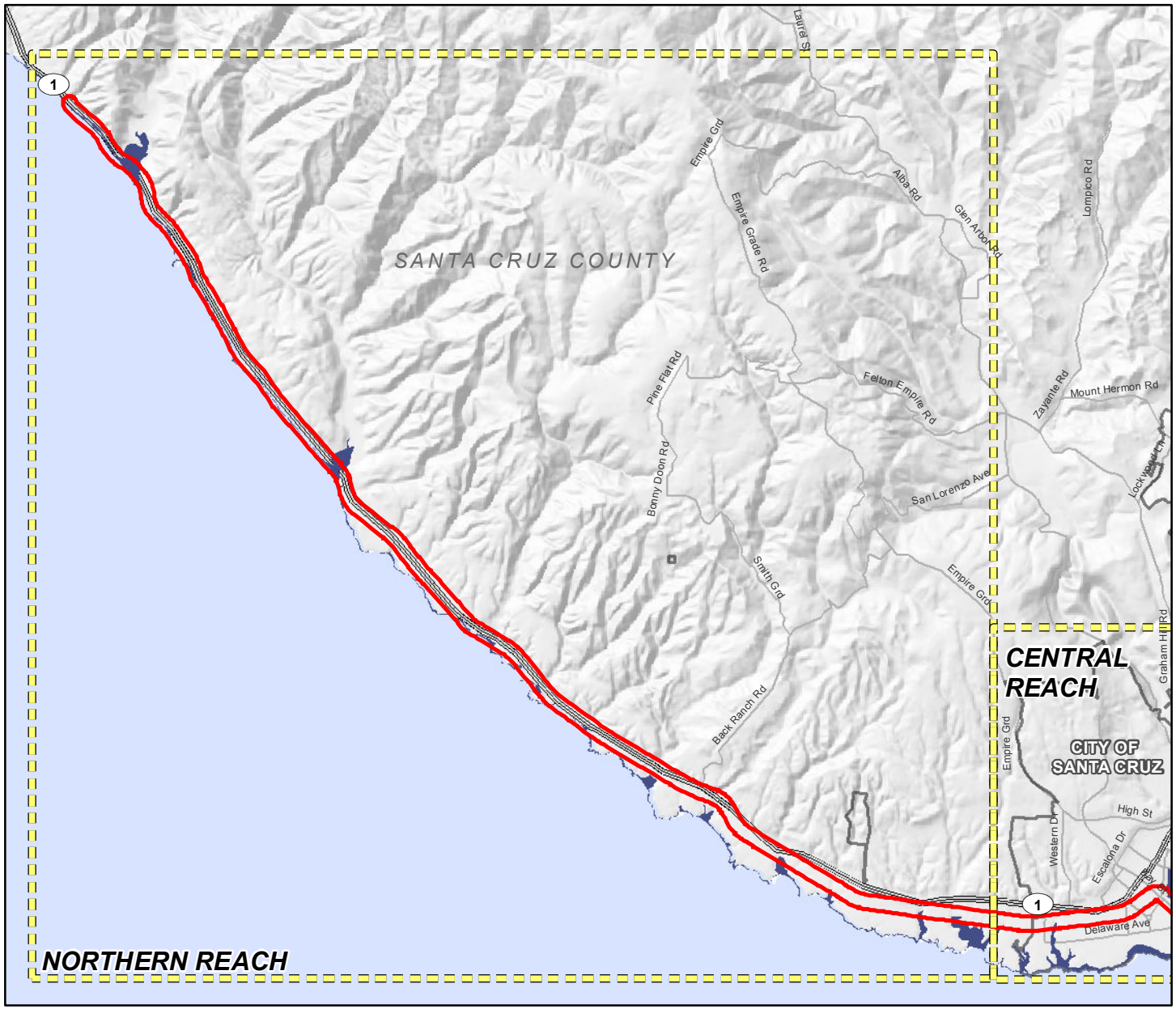
Seiches are also a potential hazard in Monterey Bay. Seiches are standing waves in an enclosed or partially enclosed body of water, such as a bay. Seiches are caused by a disturbance to the body of water, such as wind or barometric pressure changes, seismic activity, or tsunamis. Oscillations induced by seiches can cause larger than normal waves, resulting in flooding along coastal areas. Seiche hazards are limited to the central and Watsonville reaches of the MBSST Network, which are within the Monterey Bay. Because the northern reach does not abut an enclosed water body, seiche would not be considered a potential hazard.

Sea Level Rise. According to *The Impacts of Sea-Level Rise on the California Coast*, prepared by the California Climate Change Center (CCCC) (May 2009), climate change has the potential to induce substantial sea level rise in the coming century. The rising sea level increases the likelihood and risk of flooding. The study identifies a sea level rise on the California coast over the past century of approximately eight inches. Based on the results of various global climate change models, sea level rise is expected to continue. The California Climate Adaptation Strategy (December 2009) estimates a sea level rise of up to 55 inches by the end of this century. The majority of the MBSST Network is located along coastal areas that could be subject to sea level rise. Figures 4.7-1a through 4.7-1c in Section 4.7, *Greenhouse Gas Emissions/Climate Change,* illustrate the predicted effects of sea level rise on the 100-year flood zone. Impacts related to sea level rise are discussed therein.

c. Stormwater Drainage.

Storm water runoff is one of the leading causes of pollution in surface waters. In fields and forests, most rain is absorbed by the soil or is taken up by plants and trees. Rainwater that flows overland is called storm water runoff. However, developed urban areas contain many impervious surfaces like roofs, parking lots, and streets. This increase in impervious coverage can cause both water quantity and quality problems. The added impervious coverage prevents rain from infiltrating into the ground and concentrates the runoff so that most of the water rapidly runs off the property and into storm drain systems, creeks or the ocean in unnaturally large amounts.

Storm water can quickly become polluted by picking up chemicals, fertilizers, soil, and litter while traveling overland. Even low concentrations of pollutants that accumulate on roads, parking lots, and sidewalks can be transported into nearby streams, rivers, wetlands, and the



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- Tsunami Hazard Area

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

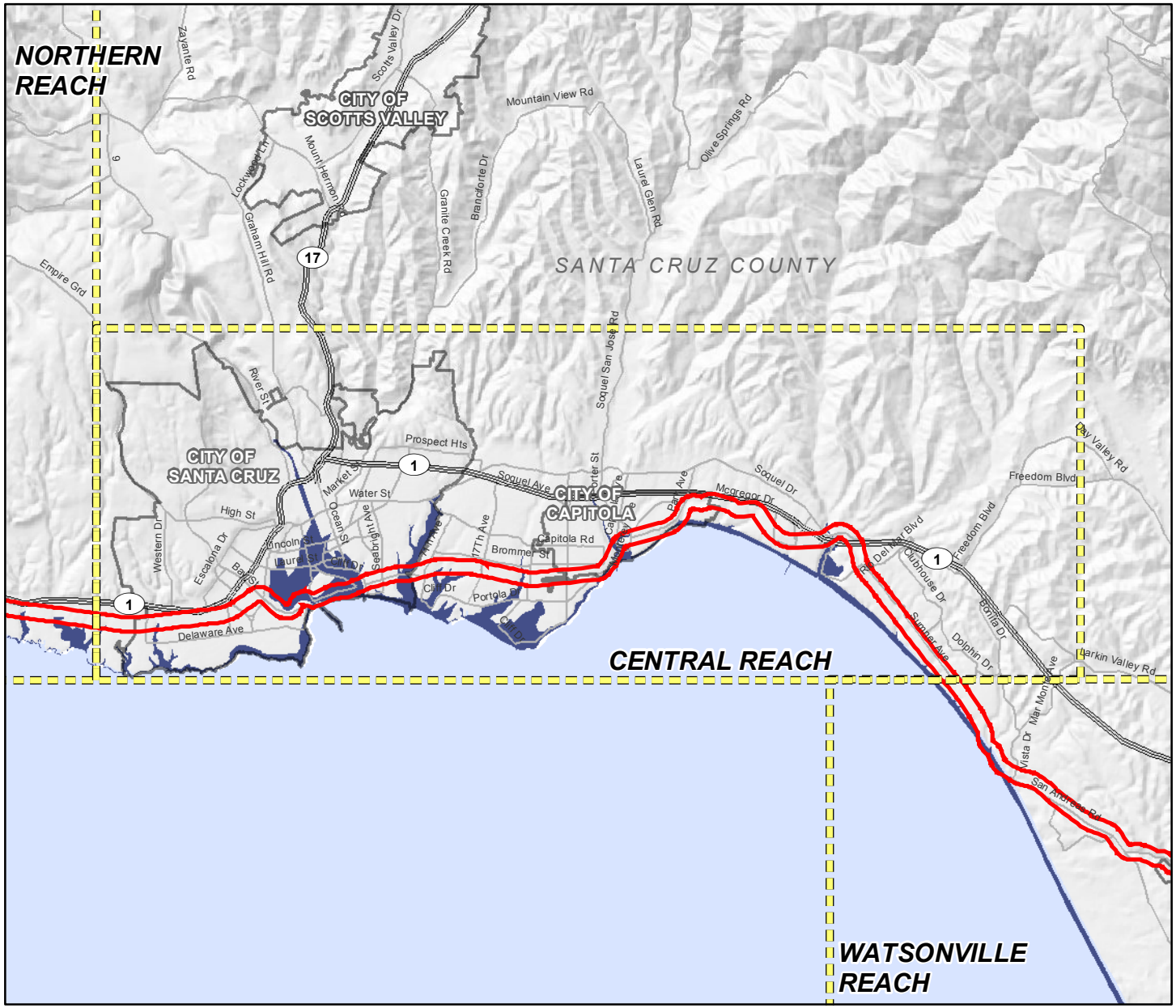
N

0 1 2 Miles

Tsunami Hazards: Northern Reach

Base map source: RRM Design Group, 2012. Additional data provided by the California Natural Resources Agency, 2012.

Figure 4.9-2a



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- Tsunami Hazard Area

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

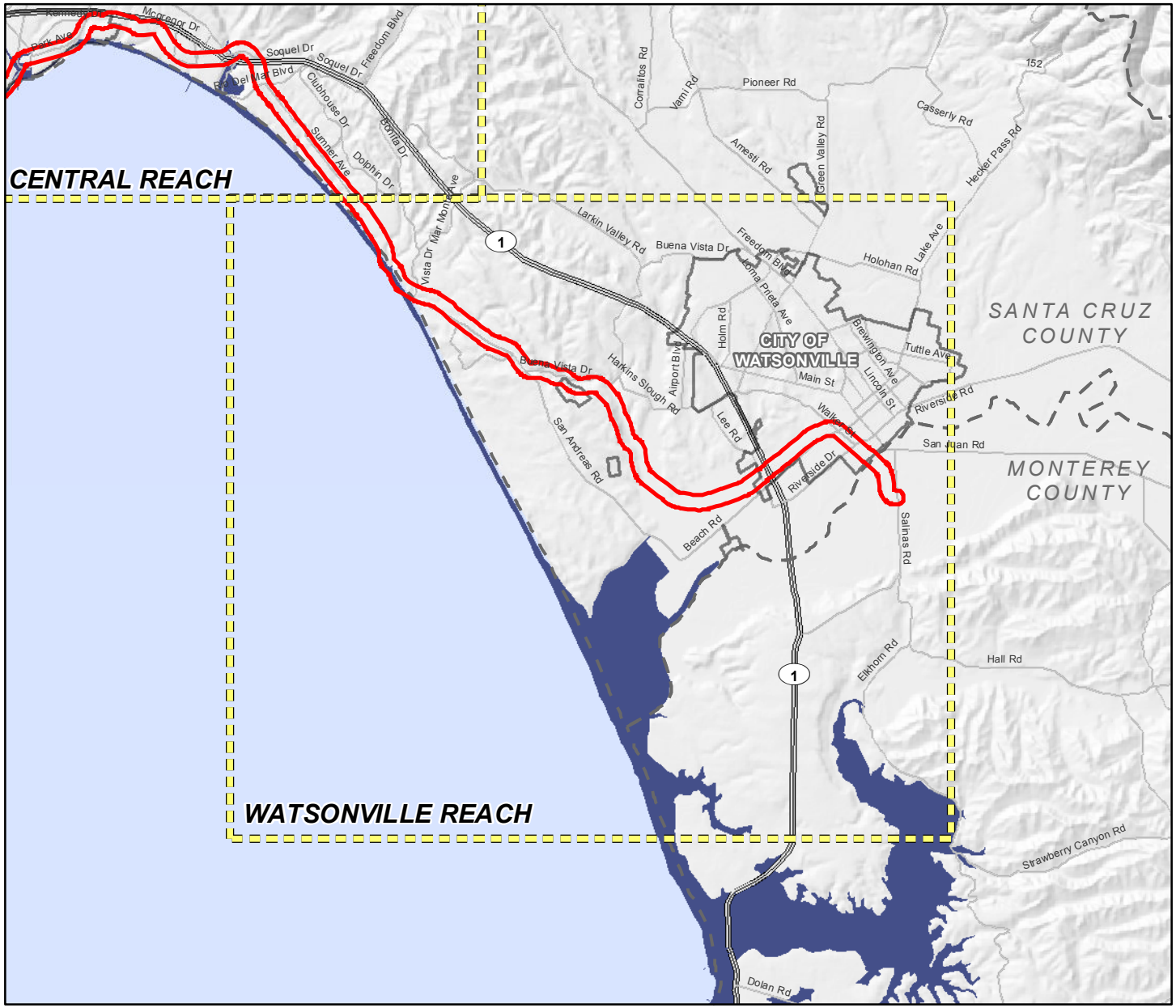
N

0 1 2 Miles

Base map source: RRM Design Group, 2012. Additional data provided by the California Natural Resources Agency, 2012.

Tsunami Hazards: Central Reach

Figure 4.9-2b



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor*
- Reaches
- Tsunami Hazard Area

**NOTE - Monterey Bay Sanctuary Scenic Trail Network corridor width is exaggerated in order to better view underlying features.*

N

0 1 2 Miles

Tsunami Hazard: Watsonville Reach

Base map source: RRM Design Group, 2012. Additional data provided by the California Natural Resources Agency, 2012.

Figure 4.9-2c

ocean potentially causing water quality problems. Storm water pollution is non-point source pollution, meaning the sources are varied and widespread.

Northern Reach. The northern reach consists largely of coastal bluffs and rural areas within unincorporated Santa Cruz County. Stormwater drainage in this area is controlled by the numerous streams and natural drainages to the Pacific Ocean. According to the County of Santa Cruz GISWeb Application (2012), there is no storm drainage infrastructure in this reach.

Central Reach. The central reach of the MBSST Network is an urbanized area of the trail corridor. Drainage infrastructure is present throughout this urban area, with drainage directed toward natural drainage features, including the San Vicente Creek, the San Lorenzo River, Soquel Creek, and Aptos Creek (County of Santa Cruz, 2012). These natural drainages outlet into Monterey Bay.

Watsonville Reach. Similar to the northern reach, the Watsonville reach includes many rural areas where the natural drainages serve to conduct stormwater to their outlet in Monterey Bay. There is some stormwater drainage infrastructure in the more urbanized areas of this reach, such as the City of Watsonville (County of Santa Cruz, 2012). Stormwater infrastructure conveys stormwater to natural drainages, such as the Pajaro River and its tributaries.

d. Regulatory Setting.

Federal.

Clean Water Act (CWA). The CWA, enacted in 1972, regulates the discharge of pollutants to waters of the United States from any point source. Section 401 of the CWA requires water quality certification for any activity, including the construction or operation of a facility, which may result in any discharge into navigable waters (Title 33 CFR §1341). Section 404 of the CWA requires a permit for the discharge of dredged fill material into navigable waters at specified disposal sites (Title 33 CFR §1344). In 1987, amendments to the CWA added Section 402(p), which establishes a framework for regulating non-point source stormwater discharges under the National Pollutant Discharge Elimination System (NPDES). The NPDES stormwater program is further described below under the "State Regulations" subsection.

Federal Emergency Management Agency (FEMA). FEMA is a former independent agency that became part of the new Department of Homeland Security in March 2003 and is tasked with responding to, planning for, recovering from, and mitigating against disasters. Formed in 1979, FEMA is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers studies and approved agencies studies and for coordinating the federal response to floods, earthquakes, hurricanes, and other natural or man-made disasters. FEMA also provides disaster assistance to states, communities and individuals. FEMA distributes the Flood Insurance Rate Maps (FIRMS), which identify the locations of special flood hazard areas (SFHAs), including the 100-year flood zone. Executive Order 11988 (Flood Plain Management) links the need to protect lives and property with the need to restore and preserve natural and beneficial flood plain values. Specifically, federal agencies are directed to avoid conducting, allowing, or supporting actions on the base floodplain unless the agency finds that the base floodplain is the only practicable alternative location. Similarly, Department of Transportation (DOT) Order 5650.2, which implements Executive Order 11988 and was issued

pursuant to the National Environmental Policy Act of 1969, the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973, prescribes policies and procedures for ensuring that proper consideration is given to avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests.

State.

Water Board. The California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) have the responsibility in California to protect and enhance water quality, both through their designation as the lead agencies in implementing the Section 319 non-point source program of the federal Clean Water Act, and through the state's primary water pollution control legislation, the Porter-Cologne Water Quality Control Act. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The RWQCBs develop and implement Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and are required to obtain approval of Waste Discharge Requirements (WDRs) by the RWQCBs. Land and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of privately or publicly treated domestic wastewater and process and wash-down wastewater. WDRs for discharges to surface waters also serve as NPDES permits, which are further described below.

The Central Coast (Region 3) office of the RWQCB guides and regulates water quality in streams and aquifers throughout the central coast of California and the Monterey Bay region through designation of beneficial uses, establishment of water quality objectives, and administration of the NPDES permit program for stormwater and construction site runoff. The RWQCB is also responsible for providing permits and water quality certifications (Section 401) pursuant to the CWA.

All dischargers of waste to waters of the State are subject to regulation under the Porter-Cologne Act and the requirement for WDRs is incorporated into the California Water Code. This includes both point and non-point source (NPS) dischargers. All current and proposed NPS discharges to land must be regulated under WDRs, waivers of WDRs, a basin plan prohibition, or some combination of these administrative tools. Dischargers of waste directly to state waters would be subject to an individual or general NPDES permit, which also serve as WDRs. The RWCQBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders or Cease and Desist Orders, assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief. Construction activity on projects that disturb one or more acres of soil, or less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Construction activity subject

to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Program (SWPPP). The SWPPP should identify stormwater collection and discharge points, drainage patterns across the project, and best management practices (BMPs) that the discharger will use to protect stormwater runoff and the placement of those BMPs.

As mandated by Section 303(d) of the federal Clean Water Act, the SWRCB maintains and updates a list of "impaired water bodies" (i.e., water bodies that do not meet State and Federal water quality standards). This list is known as the Section 303(d) list of impaired waters. The State is then required to prioritize waters/watersheds for development of Total Maximum Daily Load (TMDL) regulations. This information is compiled in a list and submitted to the U.S. Environmental Protection Agency for review and approval. The SWRCB and RWQCBs monitor and assess water quality on an ongoing basis. According to the 2010 Integrated Report [CWA Section 303(d) List/305(b) Report], the following water bodies in the MBSST Network vicinity currently do not meet water quality standards:

- *Pacific Ocean from Point Año Nuevo to Soquel*
- *San Vicente Creek*
- *Moore Creek*
- *San Lorenzo River Lagoon*
- *Carbonera Creek*
- *Branciforte Creek*
- *Arana Gulch*
- *Rodeo Creek Gulch*
- *Soquel Creek*
- *Nobel Gulch*
- *Porter Gulch*
- *Aptos Creek*
- *Harkins Slough*
- *Gallighan Slough*
- *Watsonville Slough*

California Building Code (CBC). The California Building Code provides standards for building construction, including design guidelines and specifications to meet earthquake standards.

Caltrans Highway Design Manual. The Caltrans Highway Design Manual provides design guidelines and standards for the construction of bicycle and pedestrian facilities, including bridges.

Local.

Santa Cruz County. The Santa Cruz County Department of Environmental Health Services (EHS) monitors water quality within the County. EHS also works with the RWQCB to regulate and monitor water quality. Chapter 16.24 of the Santa Cruz County Code (2012) also includes policies for the protection of water quality regarding increases in turbidity and settleable solids. In addition, Chapter 7.79 of the County Code provides regulations for runoff control, including compliance with NPDES stormwater discharge permits.
The County of Santa Cruz, in conjunction with the City of Capitola, has also adopted a Stormwater Management Program (SWMP), which provides guidelines for preventing stormwater pollution. The SWMP (2010) includes six minimum measures, including public education and outreach, public involvement and participation, illicit discharge detection and

elimination, construction site stormwater runoff control, post construction stormwater management in new development/redevelopment, and pollution prevention/good housekeeping for municipal operations.

The Santa Cruz County General Plan (1994) also provides the following objectives and policies to protect surface water quality and groundwater:

Objective 5.4	*Monterey Bay and Coastal Water Quality. To improve the water quality of Monterey Bay and other Santa Cruz County coastal waters by supporting and/or requiring the best management practices for the control and treatment of urban run-off and wastewater discharges in order to maintain local, state, and national water quality standards, protect County residents from health hazards of water pollution, protect the County's sensitive marine habitats and prevent the degradation of the scenic character of the region.*
Policy 5.4.1	*Protecting the Monterey Bay National Marine Sanctuary from Adverse Impacts. Prohibit activities which could adversely impact sensitive habitats of the Monterey Bay National Marine Sanctuary, including the discharge of wastes and hazardous materials. The main sources of concern are wastewater discharge, urban runoff, toxic agricultural drainage water, including that originating outside of Santa Cruz County, and the accidental release of oil or other hazardous material from coastal tanker traffic.*
Policy 5.4.14	*Water Pollution from Urban Runoff. Review proposed development projects for their potential to contribute to water pollution via increased storm water runoff. Utilize erosion control measures, on-site detention and other appropriate storm water best management practices to reduce pollution from urban runoff.*
Objective 5.5a	*Watershed Protection. To protect and manage the watersheds of existing and future surface water supplies to preserve the quality and quantity of water produced and stored in these areas to meet the needs of County residents, local industry, agriculture, and the natural environment.*
Objective 5.5b	*San Lorenzo River Watershed Management. To restore, manage, and protect the San Lorenzo River Watershed to maximize the quality and quantity of water resources in that basin.*
Objective 5.5c	*Least Disturbed Watersheds. To protect the Least Disturbed Watershed areas that support the remaining clear running streams to preserve their water supply, recreation, and the wildlife support values.*
Objective 5.7	*Maintaining Surface Water Quality. To protect and enhance surface water quality in the County's streams, coastal lagoons and marshes by establishing best management practices on adjacent land uses.*
Policy 5.7.1	*Impacts from New Development on Water Quality. Prohibit new development adjacent to marshes, streams and bodies of water if such development would cause adverse impacts on water quality which cannot be fully mitigated.*

Policy 5.7.2	*Minimum Septic System Setback from Natural Waterways. Prohibit installation of septic tanks or leach fields within 100 feet of all natural waterways including perennial or intermittent streams, seasonal water channels and natural bodies of standing water.*
Policy 5.7.5	*Protecting Riparian Corridors and Coastal Lagoons. Require drainage facilities, including curbs and gutters in urban areas, as needed to protect water quality for all new development within 1,000 feet of riparian corridors or coastal lagoons.*
Policy 5.7.6	*Maintaining Saltwater Inflow to Coastal Lagoons. Prohibit new development, site alteration or road projects adjacent to coastal lagoons unless it can be demonstrated that such projects will not restrict, impound or otherwise interfere with the natural drainage patterns and tidal circulation.*
Policy 5.7.7	*Stormwater Discharge Permit Requirements. Once the State and Regional Water Quality Control Boards promulgate new stormwater discharge permit requirements for municipal and industrial stormwater systems, obtain appropriate permits for all existing storm drainage systems and proposed drainage facilities and adhere to best management practices.*
Objective 5.8a	*Groundwater Protection. To protect the quantity and quality of the County's groundwater resources through an integrated program of land use regulation and runoff management in groundwater recharge areas, careful water quality monitoring and management of extractions consistent with long-term sustainable water supply yields.*
Objective 5.8b	*Overdrafted Groundwater Basins. To act directly and coordinate and work with relevant water purveyors and agencies to eliminate long-term groundwater overdraft in all water basins where overdraft has been documented.*
Objective 6.4	*To protect new and existing structures from flood hazards in order to minimize economic damages and threats to public health and safety, and to prevent adverse impacts on floodplains, and maintain their beneficial function for flood water storage and transport for biotic resource protection.*
Policy 6.4.1	*Geologic Hazards Assessment Required in Flood Hazard Areas. Require a geologic hazards assessment of all development proposals within the County's flood hazard areas in order to identify flood hazards and development constraints.*
Policy 6.4.2	*Development Proposals Protected from Flood Hazard. Approve only those grading applications and development proposals that are adequately protected from flood hazard and which do not add to flooding damage potential. This may include the requirement for foundation design which minimizes displacement of flood waters, as well as other mitigation measures.*

Policy 6.4.3	*Development on or Adjacent to Coastal Bluffs and Beaches. Allow development in areas immediately adjacent to coastal bluffs and beaches only if a geologist determines that wave action, storm swell and tsunami inundation are not a hazard to the proposed development or that such hazard can be adequately mitigated. Such determination shall be made by the County Geologist, or a certified engineering geologist may conduct this review at applicant's choice and expense. Apply Coastal Bluffs and Beaches policies.*
Policy 6.4.4	*Locate Public Facilities Outside Flood Hazard Areas. Require new utilities, critical facilities, and non-essential public structures to be located outside the 100-year flood and coastal high hazard areas, unless such facilities are necessary to serve existing uses, there is no other feasible location, and construction of these structures will not increase hazards to life or property within or adjacent to the floodplain or coastal inundation areas.*
Policy 6.4.9	*Septic Systems, Leach fields, and Fill Placement. Septic systems and leach fields to serve previously undeveloped parcels shall not be located within the floodway or 100-year floodplain. The capacity of existing systems in the floodway or floodplain shall not be increased. Septic systems shall be designed to avoid impairment or contamination. Allow the placement of fill within the 100-year floodplain in the minimum amount necessary, not to exceed 50 cubic yards. Fill shall only be allowed if it can be demonstrated that the fill will not have cumulative adverse impacts on or off site. No fill is allowed in the floodway.*

City of Santa Cruz. The City of Santa Cruz Municipal Code Chapter 16.19 is the Storm Water and Urban Runoff Pollution Control ordinance for the City. The ordinance provides the legal framework by which the City maintains stormwater pollution prevention, including BMPs. Chapter 24.14.050 of the Santa Cruz Municipal Code includes provisions for drainage control and Chapter 24.14.400 provides regulations for flood plain management.

The City of Santa Cruz has also developed a comprehensive SWMP (2009) to fulfill the requirements for the Phase II NPDES General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems (MS4 General Permit) and to reduce the amount of pollutants discharged in urban runoff. The SWMP includes eight programs to achieve this goal, including runoff control policies, outreach and education efforts, site visits, and the implementation of BMPs.

The City of Santa Cruz General Plan 2030 (2012) also includes the following goals and policies:

Goal CC 5	*A sustainable and efficient stormwater system.*
Policy CC5.1.1	*Implement the City's stormwater quality program.*
Policy CC5.1.2	*Maintain clear flow of the storm drain system.*
Policy CC5.1.5	*Strive to contain drainage within each drainage basin.*

Policy CC5.1.8	*Require new development to maintain predevelopment runoff levels.*
Policy CC5.1.9	*Reduce stormwater pollution.*
Goal HZ6	*Protection from natural hazards.*
Policy HZ6.4	*Avoid or reduce the potential for life loss, injury, and property and economic damage from flooding.*
Impl. HZ6.4.1	*Address the effects of global warming through changes in land use and building codes for low-lying areas that may be flooded by increases in sea levels and storm violence.*
Impl. HZ6.4.5	*Continue to reduce flooding hazards in areas with flood potential.*
Impl. HZ6.4.6	*Regulate and provide guidelines for construction and development in flood plains.*
Impl. HZ6.4.7	*Restrict or prohibit uses in undeveloped flood areas, and maintain flood plain and floodway regulations in developed flood areas.*
Impl. HZ6.4.8	*Minimize the alteration of natural flood plains, stream channels, and natural protective barriers that accommodate or channel floodwaters.*
Impl. HZ6.4.9	*Control filling, grading, dredging, and other development that may increase flood potential.*
Impl. HZ6.4.10	*Limit the amount of impervious surface in flood-prone areas.*
Policy HZ6.6	*Avoid or reduce the potential for life loss, injury, and property and economic damage to the city from tsunamis and dam failure.*
Impl. HZ6.6.1	*Continue to enhance emergency management systems and develop patrol activities to ensure early warning for evacuation of areas susceptible to natural flooding, tsunami inundation, seiches, or dam failure.*

City of Capitola. The City of Capitola Municipal Code Chapter 17.50 provides policies and standards for development in the floodplain district. As previously mentioned, the City of Capitola, in conjunction with the County of Santa Cruz, has also adopted a SWMP, which provides guidelines for preventing stormwater pollution.

The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan, adopted 1989, includes the following policies regarding water quality and flooding:

Policy 13	*The City shall, as a condition of new development, ensure that run off does not significantly impact the water quality of Capitola's creeks and wetlands through increased sedimentation, biochemical degradation, or thermal pollution.*

Policy 17	*(Tsunamis) Measures to mitigate possible flooding shall be submitted for all new structures that will be occupied by the public located in areas as shown on Map VII-3.*

City of Watsonville. The City of Watsonville Municipal Code Chapter 2, Section 9-2 provides policies and standards for floodplain management. Chapter 6, Section 7-6, of the City of Watsonville Municipal Code also provides policies and standards for development regarding drainage and runoff.

The City of Watsonville has also developed a Stormwater Management Plan (2009) that provides detailed information on programs and policies aimed at protecting and enhancing the water quality of local sloughs and creeks.

An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The existing 2005 General Plan, adopted in 1994, includes the following goals, policies, and implementation measures to protect water quality and minimize risks from flood hazards:

Impl. 11.2.12	*Point and Non-Point Pollutants. The City will control pollutants from point and non-point sources through a comprehensive NPDES Storm water program.*
Goal 11.3	*Design Strategies for Storm water Quality and Infiltration. Encourage Best Management Practices in design of storm water facilities for effective and practical pollution and water flow control.*
Policy 11.3.1	*All projects shall incorporate Storm water Best Management Practices that achieve the most effective control of pollutants and flow control practicable.*
Imp. 13.1.21	*Risk Mitigation. The City shall identify and mitigate to an acceptable level of risk new development proposed in areas with geologic, seismic, flood, or other environmental constraints.*
Policy 13.3.1	*Flood Hazard Reduction. The City shall pursue the protection of new and existing development from the impacts of flooding up to the 100-year event.*
Impl. 13.3.11	*Flood Protection. The City shall require new development to conform to the Flood Damage Prevention Ordinance and the guidelines of the National Flood Insurance Program.*

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.9.2 Impact Analysis

a. Methodology and Significance Thresholds. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed MBSST Network would result in any of the following:

1) *Violate any water quality standards or waste discharge requirements;*
2) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;*
3) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;*
4) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*
5) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*
6) *Otherwise substantially degrade water quality;*
7) *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;*
8) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows;*
9) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; and/or*
10) *Be subject to inundation by seiche, tsunami, or mudflow.*

It should be noted that the MBSST Network would not include the construction of houses and the two dams in Santa Cruz County do not show indications of failure or damage. As a result, the checklist items related to these conditions were excluded from the above list and further discussion can be found in the Initial Study (Appendix A of this document).

b. Project Impacts and Mitigation Measures.

Impact H-1 Construction of the MBSST Network project would increase stormwater runoff due to the increase in impervious surface in the project area, which could also degrade water quality. The proposed Master Plan includes design standards to maintain historic run-off volumes. In addition, compliance with federal, state, and local regulations would ensure historic runoff volumes are maintained and water quality standards are met. Impacts related to surface runoff volumes and water quality would be Class III, *less than significant*.

The proposed MBSST Network project would increase impervious surfaces within the MBSST Network by adding a paved multi-use trail and on-road pedestrian and bicycle improvements. Based on an average width of approximately 12 feet for the multi-use paved path and six feet for on-road improvements, the proposed MBSST Network project would add an estimated 53.1

acres of impervious surfaces. Such surfaces would increase the amount of runoff following storm events, and water quality could be degraded as a result. While water quality impacts would be minimized because the trail would not allow the use of motorized vehicles or include the use of industrial or hazardous materials, polluted runoff could still result from litter or animals on the trail. The MBSST Network would pass through 16 watersheds and cross over 52 streams, which include intermittent and perennial streams, as well as swales. Given the number of stream crossings throughout the trail, polluted runoff would remain a concern. In addition, construction activities would have the potential to result in discharges to nearby drainages.

The linear nature of the trail, and its relatively narrow width, would minimize a change in runoff potential at any given location. The Master Plan also includes design standards that would prevent an increase in historic runoff volumes, as described under *Mitigating Design Features*, below. Furthermore, each jurisdiction that the trail passes through has drainage standards that would prevent an increase in on-site runoff volumes for new development or re-development projects, as mentioned in Section 4.9.1(d) (Regulatory Setting). Each portion of the trail would be required to comply with the existing policies and standards in place for the local jurisdiction pertaining to stormwater runoff.

Regulations under the CWA would require that the proposed MBSST Network obtain CWA permits, including Section 401, Section 404, and NPDES permits. Permits would be required for each phase of construction of the MBSST Network and would be obtained by each implementing entity prior to construction. Construction activities associated with each segment would also require a General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ), even if the segment under construction would disturb less than one acre of soil (as it would be part of a larger plan of development that disturbs more than one acre). The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP should identify stormwater collection and discharge points, drainage patterns across the project, and BMPs that the discharger will use to prevent pollution of stormwater runoff and the placement of those BMPs.

In addition to federal and state regulations regarding stormwater runoff and pollution prevention measures, each local jurisdiction has a SWMP in place to further guide runoff control measures during construction and operation of the MBSST Network. The SWMPs are supported by municipal code regulations in each jurisdiction, which provide the legal framework for stormwater runoff control. Adherence to existing federal, state, and local regulations regarding stormwater runoff would reduce impacts to a less than significant level.

Mitigating Design Features. Chapter 5 of the proposed MBSST Network Master Plan identifies drainage and erosion control methods that would be implemented during construction and operation of the MBSST Network project, including engineering to prevent an increase of historic runoff onto other properties, channelization, culverts, improved bridge crossings, and minimization of siltation. The implementation of drainage and erosion control strategies would reduce impacts to on- and off-site runoff during construction and operation of the trail.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact H-2 Construction and operation of the MBSST Network would be required to comply with existing federal, state, and local standards regarding water quality associated with the use of septic systems. Impacts associated with the degradation of water quality due to a septic system would be Class III, *less than significant*.

One new public restroom facility would be constructed within the Watsonville reach. Although its precise location has not been determined, it is anticipated that this restroom would be in a predominantly rural location and utilize a septic disposal system. Because the location is unknown, the depth to groundwater cannot be determined and therefore the potential for groundwater contamination exists. However, the State and County have several regulations to prevent septic systems from causing pollution or presenting a serious public health hazard. The RWQCB has developed many standards for proper septic system installation, including: groundwater separation, stream and well setbacks, slope limitations, minimum system sizing requirements, and allowances for use of alternative technologies. These standards are contained in the Basin Plan. The RWQCB has conditionally delegated authority to oversee and regulate the installation of septic systems to the County Environmental Health Service through a memorandum of understanding. The County must comply with the minimum standards contained in the Basin Plan in order to keep the authority to permit septic systems. In addition, Section 7.38 of the Santa Cruz County Code (the Sewage Disposal Ordinance) specifies the standards for septic system installation in Santa Cruz County. Any installation, replacement, or significant repair of any part of a septic system requires a permit from Environmental Health. As part of the permit process, the proposed work is designed by a consultant, septic contractor, or the property owner, and described on the septic permit application form and a detailed plot plan. Environmental Health staff review the application and relevant information for the area on soils, groundwater depth, and site conditions in order to determine whether the proposal meets the standards as established by the State and the County. If inadequate information exists, additional soil or groundwater testing may also be needed prior to approval of the application. Once the application is approved, the Environmental Health Inspector conducts several progress inspections of the installation to ensure the work is done as indicated and that it is in compliance with standards. Minor changes to an approved permit may be allowed to accommodate actual field conditions encountered during the installation process. However, the discovery of soil conditions or high groundwater levels substantially different than those expected may require the work to stop until the project can be redesigned to meet standards. Compliance with existing state and local policies and standards would ensure that water quality impacts resulting from the installation of a septic disposal system would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact H-3 There are several streams within the MBSST Network vicinity that are designated as "impaired waterbodies." The MBSST Network project would not increase pollutants of concern associated with impaired water bodies in the vicinity. Impacts

associated with the degradation of water quality would be Class III, *less than significant*.

Several streams within the MBSST Network are considered "impaired waterbodies" through the CWA Section 303(d) Listing Policy, as described in Section 4.9.1(d) (Regulatory Setting). The pollutants of concern in each of the reaches are discussed below.

Northern Reach. The only stream on the Section 303(d) list in the northern reach is San Vicente Creek. The pollutant of concern is sedimentation/siltation and is being considered for removal from the Section 303(d) list. The proposed MBSST Network could contribute sedimentation into the system, primarily during construction activities. However, the Master Plan outlines drainage and erosion control methods that will be implemented during construction and operation of the MBSST Network, including engineering to prevent an increase of historic runoff onto other properties, channelization, culverts, improved bridge crossings, and minimization of siltation. These measures would ensure that the MBSST Network would not contribute to water quality impacts associated with sedimentation/siltation of this stream.

Central Reach. Impaired water bodies in the central reach include Moore Creek, San Lorenzo River Lagoon, Carbonera Creek, Branciforte Creek, Arana Gulch, Rodeo Creek Gulch, Soquel Creek, Nobel Gulch, Porter Gulch, and Aptos Creek. Pollutants of concern include nutrients, pathogens, escherichia coli (E. coli), sedimentation/siltation, chlorpyrifos, fecal coliform, enterococcus, low dissolved oxygen, pH, and turbidity. The sources of these pollutants come from the urban interface, such as septic systems, urban runoff, transient encampments, collection system failures, construction/land development, and non-point source discharges, as well as natural sources. This reach of the trail would not include the use of a septic disposal system, as no bathrooms are proposed in this reach. In addition, erosion control measures and stormwater runoff measures, as discussed under the *Northern Reach* discussion above, would ensure that the MBSST Network would not contribute to pollutants of concern associated with urban runoff, construction/land development, and non-point source discharges. As such, impacts to water quality along the central reach of the MBSST Network would be less than significant.

Watsonville Reach. Impaired water bodies in the Watsonville reach include Harkins Slough, Gallighan's Slough, and Watsonville Slough. Pollutants of concern include pathogens, low dissolved oxygen, chlorophyll-a, pesticides, and turbidity. The sources of these pollutants come from agriculture, collection system failure, landfills, grazing-related sources, urban runoff, nonpoint source discharges, removal of riparian vegetation, as well as natural sources. Pollutants associated with septic disposal systems are not included on the Section 303(d) list for waterbodies in the Watsonville reach. In addition, the existing state and local policies in place to regulate septic disposal systems would prevent the discharge of pollutants. The proposed MBSST Network would not include agricultural or landfill related-uses and would therefore not contribute to pollutants associated with those activities. While some riparian vegetation removal would be required in areas of bridge construction, substantial vegetation removal would not be required. In addition, erosion control and stormwater runoff measures, as discussed under the *Northern Reach* discussion above, would ensure that the MBSST Network would not contribute to pollutants of concern associated with urban runoff and non-point

source discharges. As such, impacts to water quality along the Watsonville reach of the MBSST Network would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact H-4 The proposed MBSST Network project would introduce approximately 53.1 acres of impervious surfaces to Santa Cruz County, which is a region that derives 80 percent of its water supply from groundwater. However, the MBSST Network is not located in a PGR Zone. Impacts associated with groundwater recharge would be Class III, *less than significant*.

A decrease in aquifer volume or groundwater levels could occur if the proposed MBSST Network project interfered with groundwater recharge. However, as mentioned above in Section 4.9.1 (Setting), no portion of the trail would fall within a primary groundwater recharge (PGR) zone. The PGR zones within Santa Cruz County are typically found at higher elevations along the Santa Cruz Mountains and foothills. The coastal location of the MBSST Network limits the potential for groundwater recharge due to the interface with the saltwater table. As such, impacts to groundwater recharge would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact H-5 Portions of the proposed MBSST Network project would be constructed within the 100-year flood plain and would be subject to periodic inundation during major storm events. Construction of the proposed MBSST Network bridge crossings could also alter the flow characteristics of the drainages it would cross, possibly resulting in greater upstream flooding during major flood events. This is a Class II, *significant but mitigable* impact.

Northern Reach. There are several areas in the northern reach within the 100-year flood hazard zone, as shown in Figure 4.9-1a. These areas are located in the Waddell Creek and Scott Creek areas, as well as numerous areas between Davenport and Wilder Ranch. In these areas, the proposed trail features would be more likely to impede flows in the event of a substantial storm event. While many of the trail facilities in this portion of the MBSST Network are existing unpaved trails, the construction of bridge crossings could impede drainage and result in potential flooding upstream if the flow path of the waterway is constricted or obstructed by the trail bridges, or by debris caught behind these new bridges. Changes to flood flows in these portions of the northern reach would be potentially significant.

Central Reach. There are several areas in the central reach within the 100-year flood hazard zone, as depicted in Figure 4.9-1b. These areas are primarily limited to the river mouths of the San Lorenzo River, Arana Gulch, and Soquel Creek. These areas of the MBSST Network

would be exposed to flood damage, including washouts and scouring, in the event of a substantial storm event. These areas of the trail would include the construction of new trail features, including a multi-use paved path, bike and pedestrian bridges, as well as trail amenities, such as signs, trash cans, kiosks, benches, fences, and historical and educational exhibits. In addition, the construction of bridge crossings could impede drainage and result in potential flooding upstream if the flow path of the waterway is constricted or obstructed by the trail bridges, or by debris caught behind these new bridges. Changes to flood flows in these portions of the central reach would be potentially significant.

Watsonville Reach. A large portion of the MBSST Network falls within 100-year flood hazard zone surrounding the Pajaro River, between the Pajaro Dunes area and the City of Watsonville, as shown in Figure 4.9-1c. These areas of the trail would include the construction of new trail features, including bike and pedestrian bridges and a restroom facility. , the construction of bridge crossings or the restroom facility could impede drainage and result in potential flooding upstream if the flow path of the waterway is constricted or obstructed by the trail bridges, or by debris caught behind these new bridges. Changes to flood flows in these portions of the Watsonville reach would be potentially significant.

The CBC sets forth standards for construction of buildings and structures within flood hazard zones. The proposed MBSST Network project would also be required to comply with standards set forth by AASHTO LRFD Bridge Design Specifications, AASHTO Guide Specifications for the Design of Pedestrian Bridges, Caltrans LRFD, and Caltrans Highway Design Manual. In addition, each local jurisdiction has construction standards for buildings and structures within flood hazard zones set forth in their respective municipal codes. Compliance with existing building code standards would help reduce flood impacts along the MBSST Network. Mitigation would also be required to reduce impacts related to flood flows to a less than significant level. Because the trail would not include any structures that would be inhabited by people, and trail use during storm events would be limited, flood impacts associated with risk to humans would be less than significant.

Mitigation Measures. The following measures are required to reduce flood-related impacts.

H-5(a) **Bridge Design.** The plans for proposed creek bridges shall be submitted to the planning and/or building department of the jurisdiction in which the segment is located for review and approval. Bridges shall be designed to ensure that pre-project flood flows are maintained, such that upstream flooding does not occur. All recommendations in bridge design made by reviewing bodies shall be considered for implementation. These may include, but would not be limited to: structural anchoring, increase in base-flood elevation, and floodproofing techniques, such as the use of paints, membranes or mortars to reduce seepage, reinforcement to resist water pressure, addition of mass or weight to structure to resist flotation.

H-5(b) **Trail Inspection Program.** Within 10 calendar days following flooding events, the trail shall be inspected by the Trail Manager

or its designee to determine if damage has occurred or if debris has collected and constricted water flow around the bridges. If damage or debris is found, it shall be repaired or cleared immediately. If repair is required, temporary signage shall be posted to indicate the trail's closure until damage is repaired. Routine bridge inspections shall be conducted by the Trail Manager or its designee on an annual basis.

Significance After Mitigation. The measures above would reduce potential flooding impacts to a less than significant level.

Impact H-6 Portions of the proposed MBSST Network project would be constructed within tsunami inundation and seiche hazard zones. Existing tsunami warning systems and compliance with state and local policies regarding construction in tsunami zones would reduce potential hazards. This is a Class III, *less than significant* impact.

Northern Reach. There are two small areas in the northern reach that are in the tsunami run-up zone. These areas are located in the Waddell Creek and Scott Creek areas, as depicted in Figure 4.9-2a. In these areas, the proposed trail would be more likely to experience flood damage, including washouts and scouring, in the event of a tsunami. While many of the trail facilities in this portion of the MBSST Network are existing unpaved trails, there are some areas where construction of new trail features would occur, such as a multi-use paved path and bike/pedestrian bridge, as well as trail amenities, such as signs, trash cans, kiosks, benches, fences, and exhibits. A tsunami event could potentially cause damage to these trail features or loss of life to those using the trail during a tsunami event. This portion of the MBSST Network is not located adjacent to an enclosed or semi-enclosed body of water and is therefore not subject to flooding from seiche events.

Central Reach. There are several areas in the central reach that are in the tsunami run-up zone. These areas are located near the San Lorenzo River and the Arana and Rodeo Gulches, as depicted in Figure 4.9-2b. In these areas, the proposed trail would be more likely to experience flood damage, including washouts and scouring, in the event of a tsunami event. These areas of the MBSST Network would include the construction of new trail features, such as a multi-use paved path, bike and pedestrian bridges, and trail amenities, such as signs, trash cans, kiosks, benches, fences, and exhibits. A tsunami event could potentially cause damage to these trail features or loss of life to those using the trail during a tsunami event. In addition, most of this reach of the MBSST Network is located adjacent to the Monterey Bay, which has the potential for seiche events. While not all seiche events result in flooding, a large seiche event could cause damage similar to a tsunami event and the same areas would be at risk.

Watsonville Reach. There is only one small area in the Watsonville reach that would be near a tsunami run-up zone. This area is located near La Selva Beach, as shown in Figure 4.9-2c. In this area, the proposed trail would be more likely to experience flood damage, including washouts and scouring, in the event of a tsunami event. This area of the MBSST Network would include the construction of new trail features, such as a multi-use paved path, bike and pedestrian bridges, restroom facility, and trail amenities, such as signs, trash cans, kiosks,

benches, fences, and exhibits. A tsunami event could potentially cause damage to these trail features or loss of life to those using the trail during a tsunami event. In addition, the northern portion of this reach is located adjacent to Monterey Bay, which has the potential for seiche events. While not all seiche events result in flooding, a large seiche event could cause similar damage as a tsunami event and the same areas would be at risk.

Although nothing can ensure that structures do not fail under a large tsunami or seiche event, proper engineering can minimize the risk to life and property. The CBC sets forth standards for construction of buildings and structures within flood hazard zones. The proposed MBSST Network project would also comply with standards set forth by AASHTO LRFD Bridge Design Specifications, AASHTO Guide Specifications for the Design of Pedestrian Bridges, Caltrans LRFD, and Caltrans Highway Design Manual. In addition, each local jurisdiction has construction standards for buildings and structures within flood hazard zones set forth in their respective municipal codes. Compliance with existing building code standards would reduce seiche and tsunami impacts along the MBSST Network to the extent of industry standards and impacts would be less than significant. In addition, tsunami warning systems are in place to warn trail users of a potential tsunami threat. Existing warning and emergency evacuation systems would prevent loss of life for trail users during a tsunami event. Following a tsunami warning, the Trail Manager would coordinate with the appropriate agencies to close the trail and post any warning signs.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Additional development resulting from buildout of Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville would create more impermeable surface and, therefore, more runoff within local waterways. This is anticipated to exacerbate flooding in stream channels of the area, and potentially contribute to flooding and damage of property downstream of new development.

The proposed MBSST Network project would incrementally contribute to this cumulative increase in surface water runoff, flood potential, and water quality degradation. The County and affected cities have policies, including maintaining historic runoff volumes, to mitigate flooding caused by cumulative development. Addressing flooding impacts from increased runoff on a regional basis for the watersheds in Santa Cruz County would be expected to reduce cumulative impacts to a less than significant level.

The increase in stormwater runoff resulting from the proposed MBSST Network project, in conjunction with cumulative development, would also contribute to a potential degradation of water quality within the watershed. However, NPDES requirements, as well as requirements imposed by local jurisdictions, when implemented on a project-by-project basis, would reduce potential water quality impacts to a less than significant level.

Development of cumulative projects in Santa Cruz County would adversely impact groundwater recharge of the underlying groundwater. The increase in development would increase the impermeable surfaces that otherwise could contribute to groundwater recharge.

However, due to its coastal location, the MBSST Network is not located within a groundwater recharge zone. Furthermore, the County of Santa Cruz has design standards in place to limit and regulate construction within groundwater recharge zones, which would be applicable to cumulative development within the region. Therefore, the proposed Master Plan would not substantially contribute to an overall adverse impact of cumulative development on groundwater recharge of the basin.

Cumulative development could incrementally increase exposure to flood hazards due to construction in flood hazard zones, tsunami run-up zones or seiche hazard zones. New buildings or structures could be subject to damage resulting from flooding and could potentially endanger human lives. However, all new development would be subject to federal, state, and local regulations regarding construction in flood hazard areas and would be addressed on a project-by-project basis. Existing regulatory policies and construction and design standards would ensure that cumulative impacts related to flood hazards would be less than significant.

4.10 NOISE

4.10.1 Environmental Setting

a. Overview of Noise. Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud; a sound 20 dBA higher is four times as loud, and so forth. Everyday sounds normally range from 30 dB (very quiet) to 100 dB (very loud). In general, a 3 dB change in noise levels is noticeable, while 1-2 dB changes are generally not perceived. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness. Noise levels typically attenuate at a rate of 6 dBA per doubling of distance from point sources such as industrial machinery. Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance. Noise from heavily traveled roads typically attenuates at about 3 dBA per doubling of distance.

In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. Several rating scales have been developed to account for the known effects of noise on people. Based on these effects, the observation has been made that the potential for noise to impact people is dependent on the total acoustical energy content of the noise. A number of noise scales have been developed to account for this factor. These scales include the Equivalent Noise Level (Leq), the Day Night Noise Level (Ldn) and the Community Noise Equivalent Level (CNEL).

Leq is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. Leq is the "energy" average noise level during the time period of the sample. Leq can be measured for any time period, but is typically measured for 15 minutes, 1 hour, or 24 hours.

Ldn is a 24-hour, time-weighted average noise level. Time-weighted refers to the fact that noise which occurs during certain sensitive time periods is penalized for occurring at these times. In the Ldn scale, those events that take place during the night (10 p.m. to 7 a.m.) are penalized by 10 dBA. This penalty was selected to attempt to account for increased human sensitivity to noise during the quieter period of day, where sleep is the most probable activity.

CNEL is similar to the Ldn scale except that it includes an additional 5 dBA penalty for events that occur during the evening (7 p.m. to 10 p.m.) time period. Thus, both the Ldn and CNEL noise measurements represent a 24-hour average of A-weighted noise levels with Ldn

providing a nighttime adjustment and CNEL providing both an evening and nighttime adjustment.

b. Sensitive Receptors. Noise level allowances for various types of land uses reflect the varying noise sensitivities associated with those uses. In general, noise-sensitive land uses ("sensitive receptors") are any residence, hospital, school, hotel, library, office, or similar facility where quiet is an important attribute of the environment. Such uses have more stringent noise level allowances than most commercial or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors along the MBSST Network corridor vary from segment to segment, and include residences, places of worship, schools, hospitals, and offices.

Passive parks are generally considered noise-sensitive because they typically involve activities that would be sensitive to noise, such as reading or conversation. On the other hand, parks used for active recreational purposes, similar to the proposed MBSST Network, are generally not considered noise-sensitive as they usually involve sport activities or other active recreational pursuits. The County of Santa Cruz designates a "normally acceptable"[1] outdoor noise limit of 65 dB Ldn (or CNEL) for outdoor sports venues, neighborhood parks, and playgrounds. The cities of Santa Cruz, Capitola, and Watsonville each designate a normally acceptable outdoor noise limit of 70 dB Ldn (or CNEL) for playgrounds and neighborhood parks. None of the jurisdictions within the MBSST Network area designate an active recreational trail as noise-sensitive, nor establish noise limits for such a use. Therefore, for the purpose of this analysis, the proposed MBSST Network project is not considered a noise sensitive land use.

Sensitive receptors nearest to each of the project's three reaches are described below.

Northern Reach. The northern reach is rural in nature, with coastal bluffs and agricultural areas. Developed areas adjacent to the northern reach are limited to the community of Davenport. The nearest sensitive receptors to the northern reach, as shown in Figure 4.10-1a, include Davenport residences along Cement Plant Road, approximately 150 feet north of segment 4. Pacific Elementary School is also located near the northern reach, approximately 300 feet north of sub-segment 5.1.

Central Reach. The central reach primarily traverses the existing urban neighborhoods of Santa Cruz, Capitola, and Aptos. Sensitive receptors in close proximity to the central reach include residences as close as 50 feet from the proposed alignment, as well as places of worship and schools. Figure 4.10-1b depicts the locations of the closest sensitive receptors to the central reach. As shown, the closest sensitive receptors include residences within 50 feet of segment seven. Other nearby sensitive receptors include residences along segments 9 through 14; a church located approximately 250 feet north of segment 12; and Shoreline Middle School, located approximately 400 feet south of the southern terminus of segment 9.

Watsonville Reach. The Watsonville reach passes through some residential areas near Manresa State Beach before traveling through rural agricultural areas to the City of Watsonville. The closest sensitive receptors to the Watsonville reach include a residential community, adjacent to La Selva State Beach, approximately 50 feet east of segment 15, as well as

[1] Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor
- Reaches
- Sensitive Receptor Sites

N

0 100 200 Feet

Nearest Sensitive Receptors: Northern Reach

Basemap Sources: Microsoft Corporation, 2012, National Geographic, 2012, Additional data provided by RRM Design Group, 2012.

Figure 4.10-1a

Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor
- Reaches
- Sensitive Receptor Sites

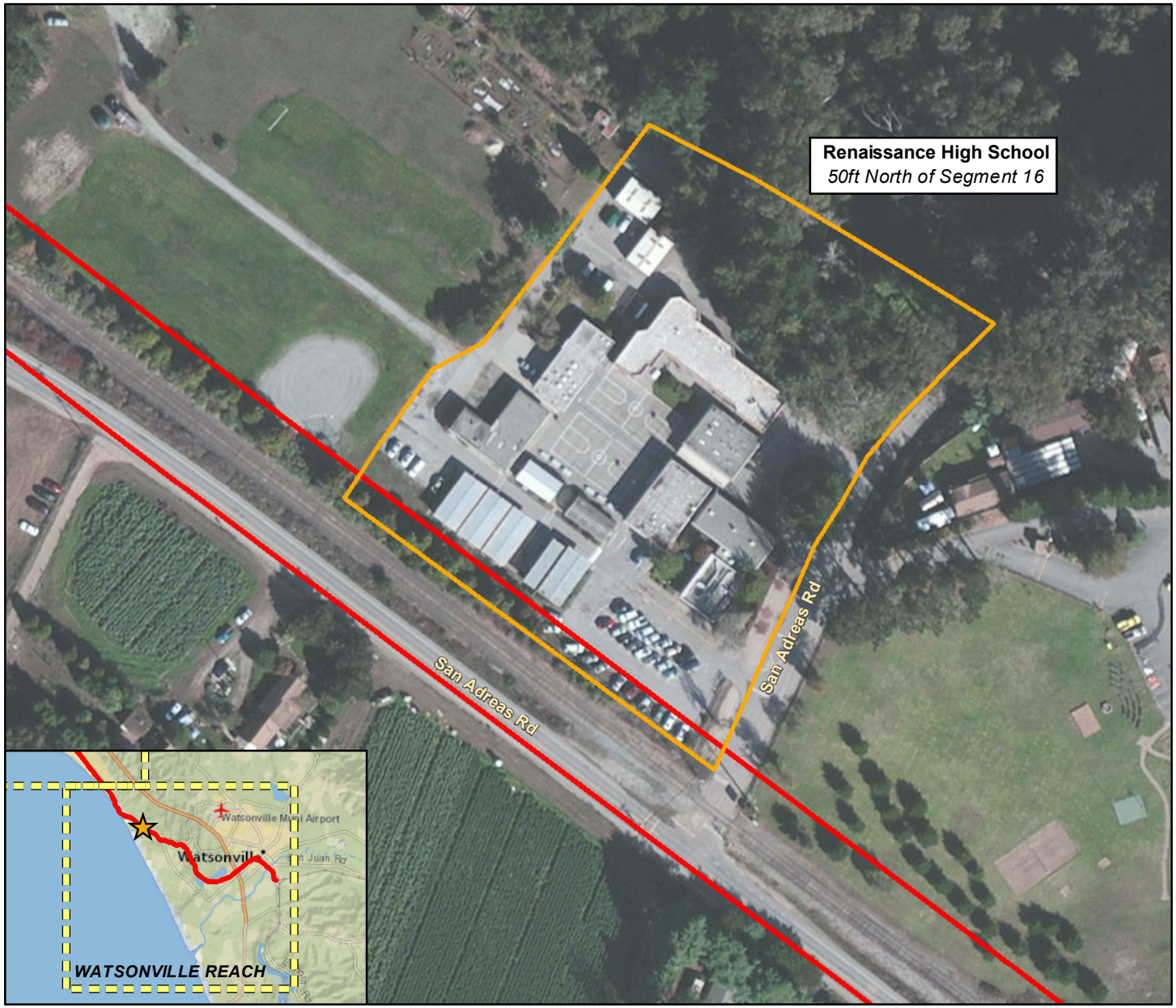
N

0 75 150 Feet

Basemap Sources: Microsoft Corporation, 2012, National Geographic, 2012, Additional data provided by RRM Design Group, 2012.

Nearest Sensitive Receptors: Central Reach

Figure 4.10-1b



Legend

- Monterey Bay Sancturary Scenic Trail Network Corridor
- Reaches
- Sensitive Receptor Sites

N

0 75 150 Feet

Nearest Sensitive Receptors: Watsonville Reach

Basemap Sources: Microsoft Corporation, 2012, National Geographic, 2012, Additional data provided by RRM Design Group, 2012.

Figure 4.10-1c

Renaissance High School, which is located approximately 50 feet east of segment 16. Figure 4.10-1c illustrates the location of one of the nearest sensitive receptors (Renaissance High School) in relation to the Watsonville reach. Other nearby sensitive receptors include scattered residences near segments 16 and 20, which would be located between 100 and 300 feet from the proposed alignment.

c. Existing Noise Levels. The ambient noise environment in the project area is defined by agricultural operations, railroad operations, traffic on roadways near the MBSST Network project area, and existing commercial and industrial operations adjacent to the proposed MBSST Network**.**

Agricultural Operations. As discussed in Section 4.2, *Agricultural Resources*, the northern and Watsonville reaches of the MBSST Network would be located adjacent to active agricultural land. Some of the more common noise sources associated with farming operations include tractors, harvesting equipment, spray equipment, aerial crop-dusters, and stationary power sources, including internal combustion pump engines. Maximum noise levels generated by farm-related tractors typically range from 77 to 85 dB at a distance of 50 feet from the tractor, depending on the horsepower of the tractor and the operating conditions. Due to the seasonal nature of the agricultural industry, there are often extended periods of time when no noise is generated on properties that are actively being farmed, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. Due to this high degree of variability of agricultural activities, it is not feasible to reliably quantify the noise generation of agricultural uses in terms of the daily or hourly noise standards commonly utilized to assess impacts of other noise sources. However, these uses may generate short-term periods of elevated noise during all hours of the day and night.

Agricultural uses within Santa Cruz County are protected by the County's Municipal Code (Chapter 16.50, Agricultural Land Preservation and Protection Ordinance). The Ordinance is intended to support and encourage continued agricultural operations in the County and to forewarn prospective purchasers and residents of property adjacent to agricultural operations of the necessary sounds, odors, dust and hazardous chemicals that accompany agricultural operations. As stated in the ordinance, "no agricultural activity, operation, or facility or appurtenances thereof shall be or become a nuisance, public or private, if it has been conducted and maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards as established and followed by similar agricultural operations, and in a manner consistent with all applicable Federal, State and local laws, regulations, permits and approvals, and the conditions thereof, after it has been in operation for more than three years if it was not a nuisance when it began" [§ 16.50.010(C)]. Therefore, normal and usual agricultural operations creating elevated sound levels are not normally considered a nuisance.

Railroad Operations. The MBSST Network corridor would primarily align with the Santa Cruz Branch Rail Line right-of-way; a 32-mile, continuous travel corridor, 31-miles of which is now owned by the RTC. The 136-year old Santa Cruz Branch Rail Line corridor parallels Highway 1, extending almost 32 miles from the town of Pajaro in Monterey County to Davenport in Santa Cruz County. The right-of-way is generally 50 to 60 feet wide with numerous existing bridges and trestles, including major crossings of the Pajaro River, Highway 1, Soquel Creek, the Santa Cruz Yacht Harbor, and the San Lorenzo River. Iowa Pacific Holdings, operating as Santa Cruz and

Monterey Bay Railway, is the freight operator and will implement freight, passenger, and recreational rail service. Currently, there is no daily freight service on the rail line outside of the Watsonville/Pajaro area. There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach~~,~~ south of Davenport and the City of Watsonville to east of Manresa State Beach. This seasonal service operates two to four passenger trains per day, with a higher number of trips on weekends. Within the Watsonville/Pajaro area, there are freight trips every weekday, and weekends as needed. These trips are localized and do not extend outside of the Watsonville/Pajaro area. The rail line in Watsonville is used to transport perishables (including raspberries, strawberries, and other agricultural products), lumber and biofuels. These trips are localized and do not extend outside of Watsonville. The rail line in Watsonville is used to transport frozen perishables (including raspberries, strawberries, and other agricultural products) and lumber. There is currently no rail operation between Watsonville and Santa Cruz, except when needs arise for a special movement of equipment.

The interaction of steel wheels and rails generates three types of noise: (1) rolling noise due to continuous rolling contact, (2) impact noise when a wheel encounters a discontinuity in the running surface, such as a rail joint, turnout or crossover, and (3) squeal generated by friction on tight curves. As speed increases, wheel-rail noise becomes the dominant noise source (over lower frequency rolling noise) (FTA, May 2006). Railroad noise exposure levels depend upon train operating conditions, distance from the tracks, train speed, and the characteristics of the track. Railroad operations along the MBSST Network are currently limited to seasonal passenger rail service that operates between the City of Santa Cruz and the northern reach south of Davenport and the City of Watsonville to east of Manresa State Beach as well as ~~and~~ weekday freight trips in the Watsonville/Pajaro area.

Roadway Noise. The proposed MBSST Network trail alignment would run adjacent to busy roadways in several locations (including Highway 1), and would also intersect public roadways at 84 locations. Noise associated with the proximity of each reach to public roadways is described below.

Northern Reach. The northern reach of the MBSST Network begins at the San Mateo/Santa Cruz county line on Highway 1, just north of the Waddell Bluffs, and continues south to the northern Santa Cruz city limits near Schaffer Road (refer to Figure 2-5 in Section 2.0, *Project Description*). The northern reach would cross roadways at approximately 20 locations, including Highway 1, Shaffer Road, and Scaroni Road.

The railroad corridor parallels the coastal side of Highway 1 from Davenport to the south. Except for one highway crossing in Davenport, the railroad's offset from Highway 1 varies from 50 feet to 1,320 feet. Because of its proximity to the MBSST Network project corridor, Highway 1 is the most significant source of roadway noise that would be experienced by future trail users along the segments of the northern reach. Highway noise is related to such factors as vehicle speed, traffic volume, degree of exhaust muffling, roadway condition, and composition of roadway traffic.

Central Reach. Beginning at the City of Santa Cruz northern city boundary near Shaffer Road and extending southeast to Seascape Park just south of Aptos, this reach of the MBSST corridor traverses through densely populated coastal urban areas (refer to Figure 2-7 in Section 2.0, *Project Description*). The central reach would cross numerous public and private roadways.

Additionally, the central reach would primarily diverge from Highway 1 until segment 11, where the proposed alignment would again come within 350 feet of the highway near New Brighton State Beach. The central reach would parallel the following streets for approximately ¼ of a mile to one mile: Bay Street, Beach Street, Murray Street, Cliff Drive, Park Avenue, Soquel Drive, and Sumner Avenue. Unlike the majority of the aforementioned roadways and Highway 1, Murray Street is directly adjacent to segments of the proposed central reach, contains no structural barriers and contains no landscaped or vegetative barriers that would attenuate noise. Therefore, in addition to Highway 1, Murray Street would be a significant source of roadway noise experienced by future trail users along the central reach.

Watsonville Reach. The Watsonville reach of the MBSST Network begins at the railroad mile marker 10 near Seascape Village Park and ends at Railroad Avenue in Monterey County (refer to Figure 2-9 in Section 2.0, *Project Description*). This reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. In addition, on street improvements (Class II, Class III and sidewalks) are proposed for Beach Street. The Watsonville reach would cross a number of public and private roadways. The Watsonville reach would run parallel to the San Andreas Road for over one mile and Walker Street for approximately ½ mile. As the San Andreas Road alignment is the roadway segment that would run parallel to the Watsonville reach for the longest period of time, San Andreas Road would be the most significant source of roadway noise experienced by future trail users.

Commercial and Industrial Land Uses. Commercial and industrial land uses are located primarily in the central and Watsonville reaches.

Central Reach. Segments of the central reach would expose future trail users to noise resulting from existing commercial and industrial land uses. The proposed MBSST Network passes by industrial areas in segment 7 of the central reach, where the trail enters the City of Santa Cruz. Industrial uses along segment 7 include construction and auto storage. Segment 7 would also pass by the Santa Cruz Wastewater Treatment Facility, located near Neary Lagoon Park. The central reach passes through commercial areas in Santa Cruz, Live Oak, Capitola, and Aptos. These areas include a wide variety of commercial uses, including retail, office, and automotive services.

Watsonville Reach. Segments of the Watsonville reach would expose future trail users to noise resulting from existing commercial and industrial operations. The proposed MBSST Network passes by industrial areas in segments 18 through 20 of the Watsonville reach. Industrial uses along segments 18 through 20 include lumber, construction, and building materials sales and storage; metal fabrication; greenwaste recovery; and automotive repair.

d. Regulatory Setting.

State. As required by Section 65302 of the Government Code of California, desirable noise levels are embodied within the Noise Element of General Plans. Division 28 of the California Health and Safety Code requires that the State Office of Noise Control within the Department of Health Services develop model elements and model noise ordinances for consideration by local jurisdictions in developing noise standards. The objective of noise

standards is to provide the community with a means of judging the noise environment that it deems to be generally acceptable. The State has also adopted guidelines for land use compatibility and community noise environment, which are shown in Table 4.10-1.

Table 4.10-1
Land Use Compatibility for Noise Environments

Land Use Category	Community Noise Exposure Level (dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50-60	55-70	70-75	75-85
Residential – Multiple Family	50-65	60-70	70-75	75-85
Transient Lodging – Motel, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	NA	50-70	NA	N/A
Sports Arenas, Outdoor Spectator Sports	NA	50-75	NA	N/A
Playgrounds, Neighborhood Parks	50-70	NA	67.5-75	72.5-85
Golf Courses, Riding Stable, Water Recreation, Cemeteries	50-75	NA	70-80	80-85
Office Buildings, Business Commercial and Professional	50-70	67.5-77.5	75-85	NA
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75-85	NA

Source: State of California Governor's Office of Planning and Research, General Plan Guidelines,2003
Notes: NA - Not Applicable
Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements
Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.

Santa Cruz County.

Santa Cruz County General Plan and Local Coastal Program. According to the Santa Cruz County General Plan Public Safety and Noise Element, noise sensitive land uses include residential (residences, hotels, and motels), institutional (schools, libraries, museums, hospitals, personal care, meeting halls, and churches), and office (office buildings, business commercial, and professional) uses. The recommended exterior noise limit for all noise-sensitive land uses is 60 dB Ldn (or CNEL) and the recommended maximum interior noise level is 45 dB Ldn (or CNEL). The Public Safety and Noise Element also includes goals and policies to regulate noise

sources. In addition, the Circulation Element of the County's General Plan and Local Coastal Program includes Policy 3.7.2, which regulates noise from rail facilities. The goals and policies applicable to this project are discussed below.

Policy 6.9.6	*Evaluate vibrations from rail activities for future development within 200 feet of the railroad tracks as part of environmental review.*
Policy 6.9.7	*Require mitigation of construction noise as a condition of future project approvals.*
Policy 6.10.1	*Require environmental review of all proposed transportation projects which may increase the average day/night noise levels including any increased or new uses of the Southern Pacific Railroad right-of-way.*
Policy 3.7.2	*Require the design of new development near existing rail lines minimize the impact of existing and potential rail system noise and maximize setbacks for new development.*

Santa Cruz County Municipal Code. Chapter 8.30 (Noise) of the Santa Cruz County Municipal Code establishes noise regulations within Santa Cruz County. Section 8.30.010 of the County's Municipal Code states that "offensive noise[2]" shall not be permitted between the hours of 10:00 PM and 8:00 AM.

City of Santa Cruz.

City of Santa Cruz General Plan 2030. The Hazards, Safety, and Noise chapter of the City of Santa Cruz General Plan establishes different noise standards for different land use categories. For residential (low density single family, duplex, and mobile homes), the recommended exterior noise standard is 60 dB Ldn (or CNEL). For multi-family residential uses and transient lodging (motels and hotels), the exterior noise standard is 65 dB Ldn (or CNEL). For institutional uses (schools, libraries, churches, hospitals, and nursing homes), the exterior noise standard is 70 dB Ldn (or CNEL). The General Plan additionally requires that interior noise in all new multi-family housing not exceed 45 dB Ldn with the windows and doors closed. The Hazards, Safety, and Noise chapter of the General Plan also includes several goals, policies, and actions related to noise, established to guide development within the City. The goals and policies applicable to this project are discussed below.

Goal HZ3	*Noise levels compatible with occupancy and use.*
Policy HZ3.1	*Maintain or reduce existing noise levels and control excessive noise.*
Action HZ3.1.1	*Require land uses to operate at noise levels that do not significantly increase surrounding ambient noise.*

[2] *"Offensive noise" is defined as any noise which is loud, boisterous, irritating, penetrating, or unusual, or that is unreasonably distracting in any other manner such that it is likely to disturb people of ordinary sensitivities in the vicinity of such noise, and includes, but is not limited to, noise made by an individual alone or by a group of people engaged in any business, meeting, gathering, game, dance, or amusement, or by any appliance, contrivance, device, structure, construction, ride, machine, implement, instrument or vehicle [Santa Cruz County Municipal code, Section 8.30.010 (B)].*

Action HZ3.1.2 *Use site planning and design approaches to minimize noise impacts from new development on surrounding land uses.*

Action HZ3.1.3 *Ensure that construction activities are managed to minimize overall noise impacts on surrounding land uses.*

Policy HZ3.2 *Ensure that noise standards are met in the siting of noise-sensitive uses.*

City of Santa Cruz Municipal Code. Chapter 9.36 (Noise) of the City of Santa Cruz Municipal Code regulates "offensive noise[3]" within the City of Santa Cruz. Section 9.36.10 states that offensive noise shall not be permitted between the hours of 10:00 PM and 8:00 AM. Section 9.36.10(e) exempts certain construction projects from these time limits, pursuant to determination by the chief building official, public works director, planning and community development director or water department director.

City of Capitola.

City of Capitola General Plan. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The current General Plan was adopted in 1989. The Noise Element of the existing Capitola General Plan establishes goals and policies for the regulation of noise in the City, and establishes different noise standards for different land use categories, consistent with those established in the City of Santa Cruz (60 db Ldn or CNEL for single-family residential uses, 65 dB Ldn CNEL for multi-family residential and transient lodging, and 70 dB Ldn or CNEL for institutional uses).The General Plan additionally requires that habitable rooms in all residential developments maintain a maximum interior noise standard of 45 dB Ldn (or CNEL).

Capitola Municipal Code. The City of Capitola Municipal Code regulates noise through the Noise Ordinance (Chapter 9.12). Section 9.12.010 (B) of the Noise Ordinance states that construction noise shall be prohibited between the hours of 9:00 PM and 7:30 AM on weekdays, and shall be prohibited on weekends with the exception of Saturday work between 9:00 AM and 4:00 PM.

City of Watsonville.

City of Watsonville General Plan. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect..

The existing 2005 General Plan, adopted in 1994, addresses noise through the Public Safety Element. The Public Safety Element establishes noise standards for different land use categories,

[3] *"Offensive noise" means any noise which is loud, boisterous, irritating, penetrating, or unusual, or that is unreasonably distracting in any other manner, such that it is likely to disturb people in the vicinity of such noise, and includes, but is not limited to, noise made by barking or howling dogs, by an individual alone or by a group of people engaged in any business meeting, gathering, game, dance, or amusement, or by any appliance, contrivance, device, structure, construction, ride, machine, implement, or instrument.*

consistent with the cities of Santa Cruz and Capitola (60 db Ldn or CNEL for single-family residential uses, 65 dB Ldn CNEL for multi-family residential and transient lodging, and 70 dB Ldn or CNEL for institutional uses). The goal applicable to this project is discussed below.

> Goal 12.8 *Evaluate new and existing land uses in the City for compatibility related to noise effects and require, as appropriate, mitigation where harmful effects can be identified and measurable improvement will result.*

Watsonville Municipal Code. Title 5, Chapter 8 (Noise) of the City's Municipal Code sets standards for the regulation of noise in the City. Section 5-8.02 prohibits offensive noise between the hours of 10:00 PM and 7:00 AM.

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.10.2 Impact Analysis

a. Methodology and Significance Thresholds. The analysis of noise impacts considers the effects of both temporary construction-related noise and long-term noise associated with operation of the proposed MBSST Network. Construction noise was estimated based on noise level estimates from the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment (May 2006). Long-term traffic-related noise was estimated based on the estimated number of vehicle trips generated by the proposed MBSST Network project. With regard to noise-sensitive uses adjacent to the trail corridor, the County of Santa Cruz and cities of Santa Cruz, Capitola, and Watsonville establish different noise thresholds, as follows:

- *County of Santa Cruz.* 60 dB Ldn (or CNEL) for all noise-sensitive land uses (including residential, institutional, and office uses).
- *Cities of Santa Cruz, Capitola, and Watsonville.* 60 dB Ldn (or CNEL) for residential uses (low density single family, duplex, and mobile homes), 65 db Ldn (or CNEL) for multi-family residential and transient lodging (motels and hotels), and 70 dB Ldn (or CNEL) for institutional uses (schools, libraries, churches, hospitals, and nursing homes)

For consistency and as a worst case scenario, the County threshold of 60 dB Ldn (or CNEL) for all noise-sensitive land uses is used in this analysis.

As described in Section 4.10.1(b) (Sensitive Receptors), the proposed MBSST Network itself would not be classified as a noise-sensitive land use.

Pursuant to Appendix G of the *CEQA Guidelines*, potentially significant impacts would occur if the proposed MBSST Network project would result in any of the following conditions:

1) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;*
2) *Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;*
3) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; and/or*
4) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

It should be noted that the proposed MBSST Network would be located outside of any airport noise impact contours and does not involve the construction of residences or office buildings, and would therefore not expose residents or workers to excessive noise levels from airport or private air strip operations. As a result, the checklist items related to these conditions were excluded from the above list and further discussion can be found in the Initial Study (Appendix A of this document).

b. Project Impacts and Mitigation Measures.

Impact N-1 **Construction of the proposed MBSST Network would create temporary noise level increases that could disturb nearby sensitive receptors. This is a Class II, *significant but mitigable* impact.**

The operation of heavy equipment during construction of the proposed MBSST Network trail alignment would result in temporary increases in noise in the immediate vicinity. As illustrated in Table 4.10-2, average noise levels associated with the use of heavy equipment at construction sites can range from about 76 to 89 dBA at 50 feet from the source, depending upon the types of equipment in operation at any given time and the phase of construction. The grading phase of construction tends to create the highest noise levels because of the operation of heavy equipment. Noise levels from point sources such as construction sites typically attenuate at a rate of about 6 dBA per doubling of distance. Therefore, only areas within a few hundred feet of construction sites would be expected to be exposed to unacceptable noise levels.

Table 4.10-2
Typical Construction Noise Levels (dBA)

Equipment	Typical Level 50 Feet from the Source	Typical Level 100 Feet from the Source	Typical Level 200 Feet from the Source	Typical Level 300 Feet from the Source
Air Compressor	81	75	69	66
Backhoe	80	74	68	65
Concrete Mixer	85	79	73	70
Grader	85	79	73	70
Paver	89	83	77	74
Saw	76	70	64	61
Scraper	89	83	77	74
Truck	88	82	76	73

Source: Typical noise level 50 feet from the source was taken from FTA, May 2006. Noise levels at 100 feet, 200 feet, and 300 feet were extrapolated using a 6 dBA attenuation rate for the doubling of distance.

It should be noted that vibratory and/or impact pile-driving activities can result in noise levels in excess of those shown in Table 4.10-2. However, project construction activities would not require pile-driving.

Northern Reach. The nearest sensitive receptors to the northern reach include residences approximately 150 feet north of segment 4, as shown in Figure 4.10-1a. For the purpose of this analysis, the nearest receptor is used as a worst case scenario. Based on the construction noise levels presented in Table 4.10-2, these nearby residences would experience construction noise levels as high as 80 dBA during operation of the loudest construction equipment. This noise level, although temporary, would exceed the established threshold of 60 dBA Ldn (or CNEL).

Throughout the length of the northern reach, construction noise would attenuate to the exterior noise threshold of 60 dBA at a distance of approximately 1,500 feet from the source of noise. Any noise-sensitive land uses within 1,500 feet of the trail could therefore be exposed to noise levels above the 60 dBA threshold during construction. It should be noted, however, that this analysis does not account for intervening structures, topography, or vegetation, which may reduce noise levels at sensitive receptors located within 1,500 feet of the trail. However, given the proximity of sensitive uses to the northern reach [including residences and institutional (school) uses], numerous receptors may be exposed to noise levels exceeding thresholds.

Central Reach. The closest sensitive receptors to the central reach include residential communities, with existing residences as close as 50 feet from the corridor, as shown in Figure 4.10-1b. For the purpose of this analysis, the nearest receptor is used as a worst case scenario. Based on the construction noise levels presented in Table 4.10-2, these receptors would experience construction noise levels as high as 89 dBA during operation of the loudest construction equipment. This noise level, although temporary, would exceed the established threshold of 60 dBA Ldn (or CNEL).

Throughout the length of the central reach, construction noise would attenuate to the threshold of 60 dBA at a distance of approximately 1,500 feet from the source. Any noise-sensitive land uses within 1,500 feet of the trail could therefore be exposed to noise levels above the 60 dBA threshold during construction. It should be noted, however, that this analysis does not account for intervening structures, topography, or vegetation, which may reduce noise levels at sensitive receptors located within 1,500 feet of the trail. However, given the proximity of sensitive uses to the central reach (including residential, institutional, and office uses), numerous receptors may be exposed to noise levels exceeding thresholds.

Watsonville Reach. The closest sensitive receptor to the Watsonville reach includes Renaissance High School, which is located approximately 50 feet east of segment 16 (refer to Figure 4.10-1c). For the purpose of this analysis, the nearest receptor is used as a worst case scenario. Based on the construction noise levels presented in Table 4.10-2, this receptor would experience noise levels as high as 89 dBA during operation of the loudest construction equipment. This noise level, although temporary, would exceed the established threshold of 60 dBA Ldn (or CNEL).

Throughout the length of the Watsonville reach, construction noise would attenuate to the exterior noise threshold of 60 dBA at a distance of approximately 1,500 feet from the source of noise. Any noise-sensitive land uses within 1,500 feet of the trial could therefore be exposed to noise levels above the 60 dBA threshold during construction. It should be noted, however, that this analysis does not account for intervening structures, topography, or vegetation, which may reduce noise levels at sensitive receptors located within 1,500 feet of the trail. However, given the proximity of sensitive uses to the Watsonville reach [including residences and institutional uses (schools and churches)], numerous receptors may be exposed to noise levels exceeding thresholds.

Mitigating Design Features. As discussed in Section 4.10.1(d) (Regulatory Setting), the Santa Cruz County Municipal Code prohibits offensive noise (including construction) between the hours of 10:00 PM and 8:00 AM. The City of Santa Cruz prohibits offensive noise between the hours of 10:00 PM and 8:00 AM, but exempts certain construction projects from these time limits. The City of Capitola prohibits offensive noise between the hours of 9:00 PM and 7:30 AM on weekdays and on weekends except for Saturday work between 9:00 AM and 4:00 PM. The City of Watsonville prohibits offensive noise between the hours of 10:00 PM and 7:00 AM.

The prohibition of offensive noise during nighttime hours would limit the effects of nighttime construction noise, thereby reducing impacts to residential land uses during the hours people are typically in their homes or normally sleep. However, construction activities may be exempt from these noise ordinance restrictions in some instances, such that construction may take place at night. In addition, daytime noise would still exceed the established threshold of 60 dB Ldn (or CNEL) at other noise-sensitive receptors (including institutional and office uses) along all three reaches. Therefore, impacts are potentially significant and mitigation is required.

Mitigation Measures**.** The following mitigation measures are required to reduce construction-related noise impacts:

N-1(a) **Construction Hours.** Hours of construction for all segments of the MBSST Network project shall be limited to the hours between 8:00 AM and 7:00 PM on weekdays and 9:00 AM to 4:00 PM on Saturdays.

N-1(b) **Acoustical Shelters**. Air compressors and generators used for construction shall be surrounded by temporary acoustical shelters if within 1,500 feet of a sensitive receptor (including residential, institutional, and office land uses).

N-1(c) **Construction Equipment.** Stationary construction equipment that generates noise that exceeds 60 dBA at the boundaries of adjacent sensitive receptors shall be baffled to reduce noise and vibration levels. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines shall be prohibited. Whenever feasible, electrical power shall be used to run air compressors and similar power tools.

Significance After Mitigation. Construction related noise effects would be temporary. In addition, with implementation of the above mitigation measures, noise generated by construction equipment would be limited to daytime hours and would be muffled to the extent practicable. As a result, impacts would be reduced to a less than significant level.

Impact N-2 **Operational use of the proposed MBSST Network would create intermittent noise. However, this noise is not expected to result in a measurable increase in ambient noise levels. Impacts would therefore be Class III, *less than significant*.**

Operational noise along the proposed MBSST Network would include the sound of trail users talking, maintenance workers collecting garbage or maintaining landscapes, dogs barking, and noises associated with equestrian uses (where allowed in the northern reach). These new noise sources would be intermittent, but would contribute incrementally to the ambient noise levels in the MBSST Network project vicinity. The existing noise environment in the project vicinity includes agricultural operations, existing railroad operations, and roadway noise from Highway 1 as well as other roadways in the project vicinity. The intermittent and incremental noise caused by pedestrians, bicyclists, and equestrians as well as maintenance activities would not be expected to generate a measurable increase in ambient noise levels compared to existing conditions. Therefore, the MBSST Network project would not expose nearby sensitive receptors to noise levels above accepted standards during project operations.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact N-3 **The proposed MBSST Network would incrementally increase traffic in the vicinity of trail staging areas. However, this additional traffic would be minimal, and would not increase ambient noise levels. This is a Class III, *less than significant* impact.**

The proposed MBSST Network would generate a small increase in local traffic in the vicinity of trail staging areas by encouraging pedestrians, bicyclists, equestrians, and other trail users to visit the trail via staging areas. The roadways anticipated to experience the greatest traffic level increases would be the roadways from which the existing 22 trail access and staging areas are accessible, as well as the 84 roadway locations that intersect the trail. As indicated in Section 4.11, *Transportation/Traffic*, the proposed MBSST Network would generate a net increase of approximately 1,215 average daily vehicle trips (ADT), distributed evenly across the 22 trail access and staging areas. This level of trip generation would not be perceptible, nor create operational impacts on adjacent roadways.

It should also be noted that the proportion of these trips that can be characterized as "new" is uncertain. Traffic associated with recreational projects may be relocated trips from other locales, and consequently, may result in either higher or lower net vehicle miles traveled (VMT). For the proposed MBSST Network, it is likely that some of the ADTs would be truly "new" vehicle trips. However, it is also likely that some of the ADTs represent diversion of existing

recreational-focused trips from other locations. Thus, although some increase in ADT would be associated with the proposed MBSST Network, it is not possible to discern how much diversion is occurring or what fraction of those average daily trips represents regional increases. Based on the minor increase in ADT throughout the region, and the fact that many of the trips may be relocated from other destinations (rather than newly generated trips), the contribution of the MBSST Network project to traffic-generated noise impacts would be less than significant.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact N-4 **Users of the proposed MBSST Network may temporarily be exposed to noise near busy roadways, agricultural operations, and active rail segments. However, the trail is not considered a sensitive land use, and exposure would be intermittent. This is a Class III, *less than significant* impact.**

The proposed MBSST Network project would experience noise resulting from vehicular traffic along roadways adjacent to the proposed corridor, existing agricultural operations, existing industrial and commercial operations, and railroad noise. Potential noise impacts associated with roadways, agricultural operations, commercial and industrial operations, and active rail segments along each reach are discussed below.

Northern Reach. Noise sources along the northern reach include roadways, railroad operations, and agriculture. The northern reach would cross roadways at approximately 20 locations. The most heavily travelled roadway near the northern reach is Highway 1, which has approximately 8,800 annual average daily trips (AADT) in the vicinity of the northern reach (California Department of Transportation, December 2012). The northern portion of the northern reach (segments 1 and 2) would be located on or immediately adjacent to Highway 1, as the trail would consist of a Class III on-street/road shoulder bike route, much of which is currently in place. Future trail users would experience the highest levels of roadway noise while traveling along these segments. Beginning in segment 3, the northern reach would include a new multi-use paved path adjacent to the existing trail line. Except for the crossing in Davenport, the trial corridor's offset from Highway 1 varies from 100 feet to 1,300 feet between Schaffer Road and Scaroni Road. The corridor then parallels Highway 1 at a distance of 50 to 100 feet as the coastal bluffs steepen and narrow toward Davenport. In this vicinity, roadway noise would be lower, and would attenuate as future trail users move along the reach.

Noise exposure resulting from railroad operations would be infrequent. In the vicinity of the northern reach, existing rail operation is currently limited to a seasonal passenger service that travels between the City of Santa Cruz and up coast towards Davenport (near Scaroni Road). This seasonal service operates two to four passenger trains per day, with a higher number of trips on weekends. During most of the year, there are no train trips currently in the northern reach. Therefore, the seasonality and infrequency of the passenger rail service would not be anticipated to result in adverse noise impacts to future trail users.

Agricultural operations would also be a source of noise along the southern half of the northern reach (approximately segments 3 through 5). Typically, agricultural operations involve mobile sources of noise; therefore, trail users would not be exposed to high noise levels for extended periods of time. It is also expected that trail users would be mobile and would eventually travel away from this source of noise. Agricultural operations are seasonal by nature and would only occur along the northern reach intermittently. While trail users may experience temporary increases in noise levels due to adjacent agricultural operations, such noise sources would be consistent with the existing ambient noise environment.

Based on the above discussions, existing noise sources along the northern reach would not substantially affect trail users along these segments of the proposed trail. In addition, because active recreational uses (like the MBSST Network) are not classified as a noise-sensitive land use, impacts would be less than significant.

Central Reach. Existing noise in the vicinity of the central reach result from roadways, existing commercial and industrial land uses, and railroad operations. The most heavily travelled roadway near the central reach is Highway 1. The central reach would come within approximately 350 feet of the highway near Swift Street in the western portion of the City of Santa Cruz and near New Brighton State Beach. At a distance of 350 feet, Highway 1 would not be anticipated to generate a significant source of roadway noise for future trail users along the central reach. The central reach would travel adjacent to several surface streets for approximately ¼ of a mile to one mile, including: Bay Street, Beach Street, Murray Street, Cliff Drive, Park Avenue, Soquel Drive, and Sumner Avenue. Because the trail would be adjacent to these roads, they would serve as a more sustained source of roadway noise than Highway 1. In addition, the central reach would cross numerous other public and private roadways. These roadways are less heavily traveled than Highway 1, and would not parallel the central reach. As such, future trail users would only experience noise from these roadways while at individual roadway crossings; thus, trail users would be expected to immediately move away from these roadways as they utilize the trail.

Portions of the central reach would also be exposed to noise resulting from existing commercial and industrial operations. However, as future trail users would be mobile, noise levels resulting from such uses would attenuate as trail users move away from these sources.

As previously mentioned, noise exposure resulting from railroad operations would be infrequent. Operations along the central reach are limited to a seasonal passenger service that travels between the City of Santa Cruz and the northern reach (thus only affecting segments 7 through 9). This seasonal service operates two to four passenger trains per day, with a higher number of trips on weekends. This seasonal service would only impact three segments of the central reach during part of the year. There is no daily or seasonal rail operation near segments 10 through 14. The seasonality and infrequency of trial operations in the central reach would not be anticipated to result in adverse noise impacts to future trail users.

Based on the above discussions, existing noise sources along the central reach would not substantially affect trail users along these segments of the proposed trail. In addition, because active recreational uses (like the MBSST Network) are not classified as a noise-sensitive land use, impacts would be less than significant.

Watsonville Reach. Existing noise levels along the Watsonville reach result from roadway noise, existing commercial and industrial operations, railroad operations, and agricultural operations. The Watsonville reach would run parallel to San Andreas Road for over one mile and Walker Street for approximately ½ mile. The Watsonville reach would also cross other roadways at 13 locations, the fewest roadways of the three proposed reaches. These roadways would not parallel the Watsonville reach and future trail users would only experience this source of noise while at individual roadway crossings; thus, it would be expected that trail users would almost immediately move away from these roadway crossings as they utilize the trail.

Portions of the Watsonville reach would be exposed to noise resulting from existing commercial and industrial operations. However, as future trail users would be mobile, noise levels resulting from existing commercial and industrial operations would attenuate as trail users move away from these sources.

As previously mentioned, noise exposure resulting from railroad operations would be infrequent. Within the City of Watsonville (segments 18 and 19), there are freight trips every weekday. These trips are localized and do not extend outside of the Watsonville/Pajaro area. Thus, there is no daily rail service along segments 15 through 17 or segment 20. The speed limit for the freight train in Watsonville is only 10 miles per hour (RTC, December 2009). Wheel-rail noise becomes the dominant noise source (over lower frequency rolling noise) as speed increases (FTA, May 2006). Thus, the infrequency and slow speed of the freight train along segments 18 and 19 would not be anticipated to result in adverse noise impacts to future trail users.

Agricultural operations would also be a source of noise along the northern portion of the Watsonville reach (approximately segments 16 and 17). Typically, agricultural operations involve mobile sources of noise; therefore, trail users would not be exposed to high noise levels for extended periods of time. It is also expected that trail users would be mobile and would eventually travel away from this source of noise. Agricultural operations are seasonal by nature and would only occur along the Watsonville reach intermittently. While trail users may experience temporary increases in noise levels due to adjacent agricultural operations, such noise sources would be consistent with the existing ambient noise environment.

Based on the above discussions, existing noise sources along the Watsonville reach would not substantially impact trail users along these segments of the proposed trail. In addition, because active recreational uses (like the MBSST Network) are not classified as a noise-sensitive land use, impacts would be less than significant.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

c. Cumulative Impacts. Additional development resulting from buildout of Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville would gradually alter the scale of existing development and incrementally increase regional noise levels. As discussed above, individual operational noise-related impacts associated with the proposed MBSST Network project would be less than significant. The proposed MBSST Network project would not constitute a new stationary source of noise, and operation of the trail would result in minimal

and incremental noise from trail users (including talking and dogs barking) and maintenance workers (from garbage collection and landscape maintenance). In addition, although the proposed MBSST Network project would incrementally increase traffic near trail staging areas, these local trips would be balanced by a reduction in trips elsewhere, and by providing an active (non-vehicle) transportation option. Thus, the project would not contribute to a cumulative increase in traffic-related noise across the County. Overall, the proposed project would not result in a significant contribution to cumulative noise levels in the area. Cumulative noise impacts would therefore be less than significant.

4.11 TRANSPORTATION/TRAFFIC

4.11.1 Setting

a. Existing Roadway Network. The proposed MBSST Network project would intersect with the existing roadway network located within the jurisdictions of the County of Santa Cruz and the cities of Santa Cruz, Capitola, and Watsonville via numerous public and private street-trail crossings. The majority of these street crossing are located immediately adjacent to existing rail crossings. A listing of these roadway connections to the MBSST Network, including the roadway jurisdiction and its classification, are summarized in Table 4.11-1. Road classifications consist of the following:

- *Arterials provide direct, relatively higher speed service for longer trips and large traffic volumes. Mobility is emphasized, and access is limited.*
- *Collectors provide a bridge between arterials and local roads. Collectors link neighborhoods and activity areas to arterials as well as collect traffic from local roads.*
- *Local roads provide access within neighborhoods and direct access to individual homes and other non-residential uses.*

Table 4.11-1
Connections with the Existing Roadway Network

Crossing	Roadway	Jurisdiction	Classification
Segment 4			
~~1~~	Private Rd	County of Santa Cruz	Private Road
~~2~~	Private Driveway (RMC Pacific)	County of Santa Cruz	Private Road
~~3~~	State Route (SR) 1	County of Santa Cruz	Minor Arterial
	Private Road	County of Santa Cruz	Private Road
~~4~~	~~n/a (rail crossing)~~	~~County of Santa Cruz~~	~~n/a~~
Segment 5			
~~5 20~~	Private Roads, including Highway 1, Wilder Ranch Park (~~3~~ 7), Scaroni Road (2), and ~~Agricultural~~ Private Crossings (~~11~~ 7)	County of Santa Cruz	~~Private Road~~ Various
Segment 6			
~~21-24~~	~~Private Roads (~~Wilder Ranch Park (3)	County of Santa Cruz	Private Road
~~25~~	Shaffer Rd	City of Santa Cruz	Local
Segment 7			
~~26~~	Natural Bridges Dr	City of Santa Cruz	Collector
~~27~~	Swift St	City of Santa Cruz	Collector
~~28~~	Fair Ave	City of Santa Cruz	Collector
~~29~~	Almar Ave	City of Santa Cruz	Collector
~~30~~	Rankin St	City of Santa Cruz	Local
~~31~~	Seaside St	City of Santa Cruz	Local
~~32~~	Younglove Ave	City of Santa Cruz	Collector
~~33~~	Bellevue St	City of Santa Cruz	Local
~~34~~	Dufour St	City of Santa Cruz	Local
~~35~~	Palm St	City of Santa Cruz	Local
~~36~~	Lennox St	City of Santa Cruz	Local
~~37~~	Bay St	City of Santa Cruz	Arterial
~~38~~	California St	City of Santa Cruz	Collector

Table 4.11-1
Connections with the Existing Roadway Network

Crossing	Roadway	Jurisdiction	Classification
	Private Roads (2)	City of Santa Cruz	Private Road
Segment 8			
~~41~~	Pacific Ave/Beach St (2)	City of Santa Cruz	Arterial
~~42~~	~~Main St~~	~~City of Santa Cruz~~	~~Local~~
~~43~~	~~Westbrook St~~	~~City of Santa Cruz~~	~~Local~~
~~44~~	~~Cliff St~~	~~City of Santa Cruz~~	~~Local~~
Segment 9			
~~51~~	Mott Ave	City of Santa Cruz	Local
~~52~~	Seabright Ave	City of Santa Cruz	Arterial
~~53~~	7th Ave	City of Capitola	Collector
~~54~~	El Dorado Ave	City of Capitola	Local
Segment 10			
~~55~~	17th Ave	City of Capitola	Minor Arterial
~~56~~	30th Ave	City of Capitola	Collector
~~57~~	38th Ave	City of Capitola	Local
~~58~~	41st Ave	City of Capitola	Arterial
Segment 11			
~~59~~	47th Ave	City of Capitola	Collector
~~60~~	49th Ave/Cliff Dr	City of Capitola	Local/Minor Arterial
~~61~~	Monterey Ave	City of Capitola	Arterial
~~62~~	Grove Lane	County of Santa Cruz	Private Road
~~63~~	New Brighton Rd	County of Santa Cruz	Local
~~64~~	Estates Dr	County of Santa Cruz	Local
~~65~~	Mar Vista Dr	County of Santa Cruz	Local
	Private Road	County of Santa Cruz	Private Road
Segment 12			
~~66~~	State Park Dr	County of Santa Cruz	Minor Arterial
~~67~~	Aptos Creek Rd	County of Santa Cruz	Local
~~68~~	~~Bayview Hotel Driveway~~	~~County of Santa Cruz~~	~~Private Road~~
~~69~~	Trout Gulch Rd	County of Santa Cruz	Collector
Segment 13			
70	Clubhouse Dr	County of Santa Cruz	Local
Segment 14			
	Clubhouse Dr	County of Santa Cruz	Local
~~71~~	Seascape Blvd	County of Santa Cruz	Local
Segment 15			
~~72~~	~~EVA (Seascape)~~	~~County of Santa Cruz~~	~~Private Road~~
~~73~~	Camp St. Francis/agricultural Access	County of Santa Cruz	Private Road
~~74~~	Private ~~agricultural access~~ Roads (2)	County of Santa Cruz	Private Road
~~75~~	Camino Al Mar	County of Santa Cruz	Private Road
Segment 16			
~~76~~	Private Driveway	County of Santa Cruz	Private Road
~~77~~	Spring Valley Rd	County of Santa Cruz	Local
Segment 17			
~~78~~	~~Elicott Slough Rd~~ Private Roads (2)	County of Santa Cruz	~~Local~~ Private Road
~~79~~	Buena Vista Drive	County of Santa Cruz	Minor Collector
Segment 18			
~~80-81~~	~~Private Crossing~~	~~County of Santa Cruz~~	~~Private Road~~
~~82~~	Lee Rd	City of Watsonville	Minor Arterial
~~83~~	Ohlone Parkway	City of Watsonville	Minor Arterial

Table 4.11-1
Connections with the Existing Roadway Network

Crossing	Roadway	Jurisdiction	Classification
Segment 19			
~~84~~	~~Walker St/Beach St~~ Riverside Dr	City of Watsonville	Minor Arterial/Arterial

Source: Caltrans California Road System (CRS) Maps.

b. Existing Rail Network. The MBSST Network corridor would primarily align with the Santa Cruz Branch Rail Line railroad right-of-way, a 32-mile, continuous travel corridor, 31-miles of which are now owned by the RTC. The railroad generally runs along the coast, parallel to the Pacific Ocean, except where it turns inland near Manresa State Beach. From there, the tracks run inland toward Watsonville and ultimately end at the Watsonville Junction. The rail right-of-way would serve both rail service and bike/pedestrian trail functions. There would be ~~14~~ 20 locations where the trail would cross the railroad tracks (in one case via an existing undercrossing) as it switches from one side to the other or would travel over existing culverts adjacent to the rail line.

The Santa Cruz Branch Rail Line historically transported lumber, quarried material, and agricultural products out of the Santa Cruz area. Incoming freight included coal and gypsum for delivery to the cement factory located in Davenport. Following the closure of the cement plant in 2010, freight business on the rail line was reduced by 90 percent. Currently, there is no daily freight service on the rail line outside of the Watsonville/Pajaro area. There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach~~,~~ south of Davenport and the City of Watsonville to east of Manresa State Beach. This seasonal service operates two to four passenger trains per day, with a higher number of trips on weekends. Within the Watsonville/Pajaro area, there are freight trips every weekday, and weekends as needed. These trips are localized and do not extend outside of the Watsonville/Pajaro area. The rail line in Watsonville is used to transport perishables (including raspberries, strawberries, and other agricultural products), lumber and biofuels. There is currently no rail operation between Watsonville and Santa Cruz, except when needs arise for a special movement of equipment.

c. Existing Pedestrian and Bicycle Network.

Pedestrian Facilities. The majority of public streets interfacing with the MBSST Network have either sidewalks or shoulders for pedestrian travel within the urbanized areas of the County and cities of Santa Cruz, Capitola and Watsonville. There are roads intersecting the trail in the more rural sections of the County which do not have pedestrian facilities, however, these are primarily in areas where there is minimal to no existing pedestrian activity.

Bicycle Facilities. The proposed MBSST Network would augment the existing bicycle network within Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville. The MBSST Network would connect to the existing bicycle facilities, comprised mainly of Class II bicycle lanes and Class III bicycle routes, and close gaps in the existing network via the trail crossings as outlined above in Table 4.11-1. A summary of the existing or proposed Class II bike lanes connecting to the proposed MBSST Network is listed in Table 4.11-2.

Table 4.11-2
Class II Bicycle Facilities Connecting to the MBSST Network Corridor

Crossing	Existing Roadway	Bicycle Facilities
Segment 6		
~~25~~	Shaffer Rd	Bike Lanes (Proposed)
Segment 7		
~~26~~	Natural Bridges Dr	Bike Lanes
~~27~~	Swift St	Bike Lanes
~~28~~	Fair Ave	Bike Lanes
~~37~~	Bay St	Bike Lanes
~~38~~	California St	Bike Lanes
Segment 8		
~~41~~	Pacific Ave/Beach St	Bike Lanes / Cycletrack
Segment 9		
~~52~~	Seabright Ave	Bike Lanes
~~53~~	7th Ave	Bike Lanes
Segment 10		
~~55~~	17th Ave	Bike Lanes
~~56~~	30th Ave	Bike Lanes
~~57~~	38th Ave	Bike Lanes (Proposed)
~~58~~	41st Ave	Bike Lanes
Segment 11		
~~59~~	47th Ave	Bike Lanes
~~60~~	49th Ave/Cliff Dr	Bike Lanes (on Cliff Dr)
~~61~~	Monterey Ave	Bike Lanes
Segment 12		
~~66~~	State Park Dr	Bike Lanes
Segment 18		
~~83~~	Ohlone Parkway	Bike Lanes (Proposed)
Segment 19		
~~84~~	Walker St/Beach St	Bike Lanes, Bike Route

Sources: City of Santa Cruz Bicycle Transportation Plan, 2008; City of Capitola Bicycle Plan, 2005; City of Watsonville Draft Trail and Bicycle Master Plan, 2012; County of Santa Cruz Bicycle Plan, 2011.

d. Regulatory Setting. The proposed MBSST Network project would span across the jurisdictions of the County of Santa Cruz, the City of Santa Cruz, the City of Capitola, and the City of Watsonville, as noted in Table 4.11-1. The General Plans from each jurisdiction outline goals and policies regarding pedestrian, bicycle, and roadway infrastructure. Each jurisdiction also establishes in the General Plan traffic operation standards through minimum Level of Service (LOS) standards. In addition, goals and policies designed to encourage walking and bicycling as a mode choice through the increasing and improving of facilities are present in the General Plans of all four jurisdictions. There are no established measures of effectiveness or operational standards regarding pedestrian and bicycle facilities in any jurisdiction. Each jurisdiction establishes traffic operation standards differently in the jurisdictions' General Plans. Relevant policies and standards for each jurisdiction are discussed below.

Santa Cruz County. The intersection and highway segment level of service objective for the County of Santa Cruz is LOS C, with LOS D as the minimum acceptable level of service. For facilities already operating at LOS E or F, the maximum acceptable increase in traffic associated with a development is equivalent to one percent of the volume to capacity ratio of the sum of all critical movements.

Santa Cruz County General Plan. The Transportation and Circulation Element of the Santa Cruz County General Plan, which was adopted in 1994, includes objectives and policies that address the bikeway system, pedestrian travel and roadway capacity/level of service. Objectives and policies applicable to the MBSST Network project are listed below.

Objective 3.8a	*System Development. To develop a bikeway network maximizing the safety and convenience of users of all levels of experience within that system. The network should be primarily for commuter travel designed to increase the potential of combining bicycle travel with other forms of transportation and also include the opportunity for recreational use.*
Objective 3.8c	*Bicycle Use. To encourage bicycle travel as a major form of transportation in order to increase bicycle use to 20 percent of all work trips and to increase general bicycle trips to 5 percent of all trips by the year 2010.*
Policy 3.8.1	*System Continuity. Plan a bikeway network to integrate with other modes of transportation (train or transit stations and Park and Ride lots, etc.) in order to encourage and support the use of bicycling and reduce the use of motor vehicles.*
Policy 3.8.2	*Commuting. Design regional bicycle routes to connect residential areas with major activity centers (employment, educational, civic, etc.) by including bikeway network development as part of the Capitol Improvements Program to prioritize construction or retrofits for completion of specific routes.*
Policy 3.8.5	*Regional Continuity. Coordinate with other jurisdictions to adopt a system of bikeways that is functional throughout the County and region.*
Objective 3.10	*To encourage pedestrian travel as a viable means of transportation, by itself and in combination with other modes to achieve at least 7 percent of all trips through walking, by increasing and improving pedestrian facilities, particularly in urban areas and reducing the conflicts between pedestrians and other modes of travel.*
Objective 3.12	*Level of Service. To ensure that development shall not create traffic which will exceed acceptable levels of service on surrounding roadways.*
Policy 3.12.1	*Level of Service (LOS) Policy. In reviewing the traffic impacts of proposed development projects or proposed roadway improvements, LOS C should be considered the objective, but LOS D as the minimum acceptable (where costs, right-of-way requirements, or environmental impacts of maintaining LOS under this policy are excessive, capacity enhancement may be considered infeasible). Review development projects or proposed roadway improvements to the Congestion Management Program network for consistency with Congestion Management Plan goals.*

2010 Santa Cruz County Regional Transportation Plan. The Regional Transportation Plan (RTP) is intended to guide transportation planning decisions in Santa Cruz County. The RTP

includes broad transportation goals and policies, a program of short and long-range transportation projects, and a financial plan for funding the projects. Goals and policies applicable to the MBSST Network project are listed below.

Goal 2	*Increase mobility by providing an improved and integrated multi-modal transportation system.*
Policy 2.1	*Ensure that all major corridors provide a choice of transportation modes and are designed with multi-modal amenities such as bus stops, turnouts and shelters, bike lanes and sidewalks.*
Policy 2.4	*Serve inter-county and intra-county travel needs, including consideration of travel links outside of the county.*
Policy 2.5	*Provide multi-modal access to recreational resources.*
Policy 2.7	*Increase percentage of trips done by bicycle to five percent of all trips and 20 percent of all work trips by 2035; do so by prioritizing bikeway projects based on: 1) increased safety or access; 2) complete gaps in the regional bicycle network; 3) high-demand, high-density areas and commute routes; 4) along popular recreational routes. Develop a program to measure and monitor growth rates.*
Goal 4	*Ensure that the transportation system complements and enhances the natural environment of the Monterey Bay region and reduce greenhouse gas emissions.*
Policy 4.1	*Emphasize sustainable transportation modes consistent with regional environmental policies.*
Policy 4.2	*Ensure that transportation projects contribute to improved regional air quality, reduce energy consumption or reduce vehicle miles traveled, or, at a minimum, do not worsen existing conditions.*

City of Santa Cruz. The City of Santa Cruz has established a minimum LOS D for signalized intersections. Lower level of service and higher congestion at major regional intersections may be acceptable if necessary improvements would be prohibitively costly or result in significant, unacceptable environmental impacts. No LOS standards are established for unsignalized intersections.

City of Santa Cruz General Plan 2030. The Transportation and Circulation Element of the City of Santa Cruz General Plan, which was adopted in 2012, includes goals, policies, and action items related to multi-modal accessibility, safety, pedestrian and bikeways and level of service. Goals, policies, and actions applicable to the MBSST Network project are listed below.

Goal M2	*A safe, sustainable, efficient, adaptive, and accessible transportation system.*
Policy M2.1	*Provide leadership on sustainable regional mobility.*
Action M2.1.2	*Encourage use of alternative modes of transportation.*
Action M2.1.3	*Implement pedestrian, bike, mass transit, and road system improvements through the Capital Improvements Program.*
Policy M2.2	*Encourage passenger rail transit or other alternative transportation options via the continued support, acquisition, and expansion of railroad rights-of-way.*
Policy M2.3	*Increase the efficiency of the multi-modal transportation system.*
Action M2.3.1	*Design for and accommodate multiple transportation modes.*
Goal M3	*A safe, efficient, and adaptive road system.*
Policy M3.1.1	*Seek ways to reduce vehicle trip demand and reduce the number of peak hour vehicle trips.*
Goal M4	*A citywide interconnected system of safe, inviting, and accessible pedestrian ways and bikeways.*
Policy M4.1	*Enable and encourage walking in Santa Cruz.*
Policy M4.2	*Provide and maintain a complete, interconnected, safe, inviting, and efficient citywide bicycle network.*
Action M4.2.2	*Work with appropriate agencies to seek funding for pedestrian and bicycle projects.*
Action M4.2.3	*Facilitate bicycling connections to all travel modes.*
Action M3.1.3	*Strive to maintain the established "level of service" D or better at signalized intersections.*
Action M3.1.4	*Accept a lower level of service and higher congestion at major regional intersections if necessary improvements would be prohibitively costly or result in significant, unacceptable environmental impacts.*

City of Santa Cruz Bicycle Transportation Plan. The Santa Cruz Bicycle Transportation Plan, adopted in November 2008, is intended to make the City of Santa Cruz more bicycle-friendly. Although the plan includes background on bicycle-based transportation in the Santa Cruz and lists projects for the improvement of bicycle facilities, it does not contain discrete goals or policies applicable to the MBSST Network project.

City of Capitola. The City of Capitola has established a minimum LOS C traffic operation standard for the roadway system outside of the village area, and a minimum LOS D

traffic operation standard for the roadway system within the village area (Capitola's central business district).

City of Capitola General Plan. The Capitola General Plan is currently being updated, and a Public Review Draft General Plan is anticipated for June 2013. The Transportation and Circulation Element of the current General Plan, which was adopted in 1989, includes objectives and policies that address the bikeway system, pedestrian travel and level of service. Objectives and policies applicable to the MBSST Network project are listed below.

Objective	*Define a minimum standard of congestion acceptable to the community which guides public investment and allowed development.*
Policy 1	*Level of Service C shall be the acceptable standard for circulation within the City with the exception of the Village area.*
Policy 2	*In Capitola Village and its portals, slower speeds are desirable and some delay will be acceptable. Level of Service D shall be acceptable standard in this area.*
Policy 3	*Major developments or General Plan amendments will be required to demonstrate that the desired level of service is maintained.*
Objective	*To promote a safe, efficient bicycle system as a viable mode of transportation within the City of Capitola. To the extent possible provisions for bicycles will be made on all major roads in the City. The Bikeway Plan recommended is intended to connect to the County bikeway system and to provide a system through the City and to its major attraction points.*
Policy 30	*Support the development of the bikeway system as planned.*
Objective	*To promote a safe and convenient pedestrian system of pathways and sidewalks along the major streets and activity areas in the City. A number of corridors have been identified as critical elements for a comprehensive system of pedestrian walkways or sidewalks. This system is identified in the Pedestrian Plan. This system is not intended to discourage sidewalks in other locations within the City.*
Policy 35	*Support the development of a pedestrian system as planned.*

City of Capitola Bicycle Transportation Plan. The Capitola Bicycle Transportation Plan was adopted in February 2011 and includes goals and objectives in support of transportation by bicycle. Goals and objectives applicable to the MBSST Network project are listed below.

Goal	*Improve bicycle circulation, connectivity and access.*
Objective 1.1	*Construct and mark bicycle routes in conformance with the County-wide Bicycle Route Signage Program and state standards, as outlined in the Manual of Uniform Traffic Control Devices (MUTCD) and the California Supplement.*
Objective 1.9	*Improve the flow of bicycle traffic through the Capitola Village.*

Goal	*Increase bicycle ridership and replace motor vehicle trips with bicycle trips. Achieve a city-wide goal of 5% of all trips and 20% of work trips made by bicycle by 2020.*
Objective 2.4	*Plan a bikeway network to integrate with other modes of transportation (train or transit stations and Park and Ride lots, etc.) in order to encourage and support the use of bicycling and reduce the use of motor vehicles.*
Goal	*Improve bicycle safety.*
Objective 3.5	*When feasible, avoid lengthwise concrete seams in bicycle lanes and require prompt repair (including pavement) and restriping of bicycle lanes before the project is considered complete.*

City of Watsonville. The City of Watsonville has established a minimum LOS D traffic operation standard on all arterial and collector streets, except for those accepted to operate at less than an LOS D in the *Major Streets Master Plan*.

City of Watsonville General Plan. An updated City of Watsonville General Plan was adopted by the City Council in January 2013, but was subsequently challenged in court and is on hold until resolution on the legal issues can be reached. Therefore, at this time, the 2005 General Plan remains in effect. The Transportation and Circulation Element of the existing 2005 General Plan, which was adopted in 1994, includes objectives and policies that address the bikeway system, pedestrian travel and level of service. Objectives and policies applicable to the MBSST Network project are listed below.

Policy 10.C	*Level of Service. The City shall maintain an minimum Level of Service D (LOS D) on all arterial and collector streets serving the City except for those accepted to operate at less than an LOS D in the 1988-2005 Major Streets Master Plan as updated in 1992.*
Goal 10.4	*Bicycle Circulation. Plan for and provide a safe, convenient network of bicycle facilities.*
Goal 10.5	*Pedestrian Circulation. Recognize the importance of pedestrian travel, alone, or in combination with other travel modes, and to encourage walking.*
Policy 10.K	*Bicycle Facilities Development. The City shall plan for, and implement a comprehensive network of bicycle facilities in order to promote the bicycle as an alternative to the private automobile.*
Policy 10.N	*Pedestrian Travel. The City shall plan for, and implement a comprehensive network of safe pedestrian facilities in order to promote pedestrian travel.*

Watsonville Trails & Bicycle Master Plan for the Watsonville Scenic Trails Network. In November 2012, the City of Watsonville adopted a Trails & Bicycle Master Plan "to develop a

framework for building an integrated system of pathways and bikeways that will link residents to the outdoors." Visions and goals applicable to the MBSST Network project are listed below.

Develop a safe and interconnected city-wide network of trail and bicycle facilities that link together destinations and people, both locally and regionally.

Develop a trail network that provides facilities and programs designed to expand and encourage active recreation, community strength, and alternative transportation.

Enhance, protect, and preserve the environmental quality of open space, waterways and wildlife habitats.

Conserve and tell the story of local culture, history, and heritage through interpretive signage.

Preserve and protect agricultural land while still providing opportunities for trail construction as long as it does not disrupt farming operations and is done so with the full support of the respective land owner(s) and farm operator(s).

Monterey County. Segment 20 of the proposed MBSST Network project, which is 0.74 miles long, would be located in Monterey County. The purpose of this segment is to provide a regional connection to the Monterey County section of the Monterey Bay Sanctuary Scenic Trail. Implementation of this section would require cooperation and coordination with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. Monterey County General Plan goals and policies, as well as Monterey County Municipal Code regulations, would apply to this segment.

4.11.2 Impact Analysis

a. Methodology and Significance Thresholds.

Evaluation Criteria. The following thresholds are based on Appendix G of the *State CEQA Guidelines*. Impacts would be significant if the proposed MBSST Network would result in any of the following:

1) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian and bicycle paths, and mass transit;*
2) *Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways; and/or*
3) *Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*

It should be noted that the proposed MBSST Network project would not affect public or private airport facilities and would not cause a change in the directional patterns of aircraft, nor would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. As a result, the checklist items related to these issues were excluded from the above list. Additional discussion can be found in the Initial Study (Appendix A of this document).

Impacts related to emergency access are discussed in Section 4.12, *Public Safety and Services.*

Trip Generation Methodology. The MBSST Network would be expected to generate the following types of transportation trips:

- *Recreational bike riders or walkers who arrive at a staging area by vehicle;*
- *Recreational bike riders or walkers who utilize the same mode from their residence to the trail access;*
- *Bicycle commuters who arrive at a staging area by vehicle;*
- *Bicycle commuters who ride bikes from their residence or work place to the trail;*
- *Miscellaneous short trips for various purposes by bike riders or walkers who utilize the same mode from their residence or workplace to the trail access; and*
- *Maintenance vehicles on the trail corridor via the access areas.*

Although the MBSST Network would be expected to generate new vehicle trips to the staging and access areas from recreational users, commuters and for general maintenance purposes, this increase may be balanced regionally by the potential reduction in vehicle trips as a result of the change in travel modes to bicycles by commuters. This reduction would occur on cross County arterial corridors such as:

- *Mission Street;*
- *Water Street;*
- *Bay Street;*
- *Murray Street;*
- *Soquel Avenue;*
- *Capitola Road;*
- *Soquel Drive;*
- *Brommer Street;*
- *East Cliff Drive;*
- *Portola Drive;*
- *Park Avenue;*
- *Sumner Avenue; and*
- *San Andreas Road.*

New vehicle trips would be generated in the areas around the access and staging areas for the purposes described above. The anticipated vehicle trip generation for a proposed project is generally estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation*, 8th Edition, 2008. However, there are no published rates for a regional trail such as the MBSST Network project. In order to estimate vehicle trips, the MBSST Network was treated as a park use and rates published by the San Diego Association of Governments (SANDAG) for a City Park were applied to the acreage of the trail and its supporting land. Based on the trail's approximate length of 49.6 miles and approximate average trail and shoulder width (disturbance area) of 25 feet wide, the approximate activity area of the MBSST is estimated to be 150.3 acres. The anticipated vehicle trip generation associated with trail users accessing the trail was then estimated using the SANDAG trip generation rates.

The volume of bicycle and pedestrian trips expected to be generated by a regional trail varies by location, access conditions and surrounding land use. Counts in a number of cities suggest that bicycle lanes and bicycle paths can realize volumes of 1,000 to 2,000 trips per day. Multi-use trails often attract 500 or so pedestrian and several thousand bicyclists per day. Counts made at only one location along a trail will miss many users who bike or walk along other sections of trail. By contrast, counts made at multiple locations along a trail will double-count users (FHWA, 1994).

Trail Crossing Methodology. The proposed MBSST Network project includes ~~93~~ 96 locations where the path would cross a public or private street or driveway, or would cross the railway, with most of these (approximately ~~84~~ 76) occurring at existing street crossings of the rail line. The potential for conflicts between trail users and vehicles, or an increase in hazard, is dependent on the following factors:

- *Location of the trail/street crossing;*
- *High speed roadway locations or turns;*
- *Unavailable gaps in traffic due to high traffic volumes; and/or*
- *Driver anticipation or expectation of crossings.*

In evaluating the trail crossings, the issues listed below were considered.

- *Railroad Crossing Equipment – whether trail users must be channelized in order to safely enter an existing rail-street 'intersection'. Where rail-crossing vehicular traffic is currently provided any form of control equipment such as signs, flasher assembly equipment, or gate arms, trail user equipment may need to be incorporated.*
- *Trail Crossings of Railways – whether trail users must cross railroad tracks, as opposed to trail crossings of streets in proximity of where streets cross railways.*
- *Public Access – whether the public is permitted to cross, as compared to some private crossings where access to the crossing is restricted due to private ownership of adjacent parcels.*
- *Trail Use Volume – the number of trail users estimated to cross in a peak hour (pedestrians per hour).*
- *Crossing Traffic Volume – vehicles per day, or average daily traffic (ADT) volumes on the street to be crossed.*
- *Crossing Traffic Speed – the posted speed limits on the existing street to be crossed.*
- *Crossing Street Geometry – the number of travel lanes to be crossed.*
- *Crossing Street Width - the width of the road to be crossed, from edge of pavement to edge of pavement, measured in feet.*
- *Line of Sight Visibility – the distance from the crossing along the street that approaching motorists have unobstructed views of trail users attempting to cross.*
- *Nearby Controlled Crossings – the proximity to the nearest controlled street crossing, measured in feet, with 350 feet used as a threshold for treatment selection.*

Roadway Crossing Evaluation Methodology. Like roadways, trails are designed and maintained by many jurisdictions, even within one city, and from the user's perspective, uniformity in trail traffic control devices will increase travel safety and efficiency. Three state and national references were used in the evaluation methodology in consideration of uniformity in the trail crossing designs.

The CA-MUTCD 2012 Edition was consulted in evaluating the level of control necessary for a crossing. Chapter 4 includes crossing treatment design standards and evaluation methods for determining where standard traffic signals and the new pedestrian hybrid beacon or 'hawk traffic signal', are warranted. The warrant criteria for traffic signal controls include the estimated number of trail users per hour, the speed of motorized traffic on the street, the number of travel lanes, and the crossing width. Additionally, Chapter 9 provides information on design standards for bicycle travel, including shared-use paths and the controls associated with path street crossings.

The U.S. Department of Transportation published *Rails-with-Trails: Lessons Learned* in 2002, which includes recommended criteria for determining if a mid-block path street crossing should be rerouted to a nearby controlled intersection.

A third reference, *Improving Pedestrian Safety at Unsignalized Crossings*, prepared by the National Cooperative Highway Research Program (NCHRP Report 562) and published by the Transportation Research Board in 2006, included graphical methods of determining whether a mid-block crossing should be enhanced.

The following steps were followed during preparation of the proposed MBSST Network Master Plan to determine the recommended crossing treatment:

1) *Is the crossing location a signalized rail-street 'intersection', and if so, will trail approaches result in users entering this 'intersection'? Appropriate design features and rail signal improvements for trail users were considered, including the use of the "pedestrian controls decision tree" included in the Transit Cooperative Research Program (TCRP) Report 69 published by Transportation Research Board.*
2) *Is the location a public or private crossing? If private then review the crossing photographs and images to determine if the 'standard private' crossing treatment is appropriate or if a custom treatment is necessary. If public then take the next step.*
3) *(Part A) Is there a controlled crossing within 350 feet of the location? Is it appropriate to redirect trail users to the controlled crossing? If so, then determine the connection treatments that may be necessary to provide continuity between the two sides of the trail for pedestrians, bicyclists, and wheel chair users. If there is no such crossing nearby then take the next step. (Part B) If the controlled crossing is a traffic signal then the necessary traffic signal modifications were determined, and if the controls were stop controls, then adding a crosswalk to the intersection was considered. Connection treatments include sidewalks, new intersection crosswalks, and bicycle shared lane markings (SLM).*
4) *The public street average daily traffic (ADT) volume data was obtained from agency online resources, together with posted speed limits. Where ADT were not available, nearby intersection peak hour turning movement counts were obtained from agency resources and converted to ADT values by assuming they represented ten percent of the daily traffic total. Google Earth was used to obtain approximate roadway widths and distances to the closest controlled street crossings. This information was tabulated and used for the next step.*
5) *The traffic operational information and street geometrics were applied to the CA-MUTCD Hawk Signal Warrants, (attached). If the Hawk Signal was not warranted, then move to Step 6.*
6) *Trail user volumes were estimated based on location, and if the estimated value exceeded 40 persons per hour (pph) for two hours then the CA-MUTCD In-Roadway Warning Lights*

Warrant was evaluated (page 994. This is Active Enhanced Crossing Type. If not warranted, then take apply Step 7.

7) *If the trail user volume value was estimated to be less than 40 pph for two hours but more than 20 pph for a single hour then Figure A-5 of NCHRP Report 562 was used to determine if an enhanced crossing treatment was appropriate. This is Passive Enhanced Crossing Type. If not warranted, then take refer to Step 8.*
8) *Where none of the above higher level of controls was warranted, the standard mid-block crossing treatment was recommended in this step.*
9) *The speed of approaching vehicles and proximity to intersections or other sight obstructions were considered. Traffic calming measures, including medians and curb extensions were considered where the crossing presented a safety concern for trail users.*

Railway Crossing Evaluation Methodology. The California Public Utilities Commission's (CPUC) *Pedestrian-Rail Crossings in California: a Report Compiling the Designs and Devices Currently Utilized at Pedestrian-Rail Crossings within the State of California* (CPUC, May 2008) provides a tool to determine the appropriate level of control at pedestrian-rail crossings in its Appendix B, *Decision Tree* that was obtained from the Transit Cooperative Research Program (TCRP) *Report 69 – Light Rail Service: Pedestrian and Vehicular Safety*. The Decision Tree, as outlined in this document, was used in order to determine the level of control as part of the impact mitigation.

For purposes of applying the Decision Tree, 'high pedestrian activity level' is defined as 20 or more pedestrians per hour,[1] which is consistent with the CA-MUTCD recommendations for utilizing Hybrid Pedestrian Warning Signals at mid-block street crossings. In accordance with the Decision Tree recommendation for rail-pedestrian crossings with 'high pedestrian activity levels', the Trail Network Master Plan includes pedestrian railroad gates for each of the related locations. Construction of these improvements, including a tie-in to the railroad signal control cabinet for new gate controls, pedestrian railroad gates for each path approach, and appropriate barriers between the tracks and path are recommended for the trail-rail crossing locations.

b. Project Impacts and Mitigation Measures.

Impact T-1 The proposed MBSST Network would incrementally increase the number of vehicles traveling to staging areas. However, the proposed trail would not contribute to an exceedance of a level of service standard. This is a Class III, *less than significant* impact.

Based on the trip generation methodology described in Section 4.11.2(a) (Methodology and Significance Thresholds), the estimate of expected vehicle trip generation potential of the proposed MBSST Network project is indicated in Table 4.11-3. The proposed MBSST Network project is expected to generate an average of 7,515 vehicle trips per day along the entire length of the trail, with 977 trips during the weekend midday peak hour and 676 trips during the weekday p.m. peak hour, which would be the two highest volume peak periods for the trail.

[1] *Per telephone discussion with CPUC Engineer, Felix Ko on 4/26/12.*

Table 4.11-3
Trip Generation Summary

Use	Units	Daily		Weekend Midday Peak Hour				Weekday PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
MBSST Network	150.3 acres	50	7515	6.5	977	489	488	4.5	676	338	338
Individual Access and Staging Areas (22)	per area		342		44	22	22		30	15	15

Source: Brief Guide of Vehicular Traffic Generation Rates, SANDAG, 1990.
Note: Vehicle trip rates based on the City Park use.

The following estimates are suggested based on the data that is available and other general assumptions of potential use:

- *Approximately 35 to 50 percent[2] of the trail users may be expected to gain access to the trail via a vehicle trip to a staging area or access point. Considering multiple users per vehicle and trips made to the trail for walking, approximately 5,000 to 7,500 bicycle and pedestrian trips on the trail per day may be generated by users who arrive by vehicle.*
- *Approximately 50 to 66 percent[2] of the trail users may travel to the trail via bicycle or walking. This mode of access may generate approximately 5,000 to 7,500 bicycle and pedestrian trips on the trail per day.*
- *A total of approximately 10,000 bicycle trips and 2,500 pedestrians on the trail per day may be expected. During a peak weather day, there may be approximately 1,000 bicycle trips and 250 pedestrian trips on the trail during a peak hour. This assumes a similar peak hour percentage of daily trips experienced by vehicle traffic.*
- *Approximately 50 percent of the bicycle trips on the trail may be made in lieu of a vehicle trip previously made on a parallel arterial roadway. Based on this assumption, the trail may reduce approximately 5,000 vehicle trips per day on parallel arterials.*
- *Considering daily vehicle traffic volumes on cross County arterial corridors, and discounting for potential overlapping of trips on these routes, the reduction of 5,000 vehicle trips per day may represent approximately a two to three percent reduction in traffic volumes on parallel arterials.*

There are 22 existing access and staging areas with vehicle parking in close proximity to the trail alignment. Although there are anticipated to be additional access and staging areas in the future, for the purposes of this estimate, it was assumed that the vehicle trips generated by the MBSST Network would be evenly distributed among the existing 22 access and staging areas since this approach results in a worst case condition by maximizing the number of vehicle trips per staging area. At each of the access and staging areas, the proposed MBSST Network project is expected to generate 1/22 of the total trips or an average of 342 trips per day, with 44 trips during the weekend midday peak hour and 30 trips during the weekday p.m. peak hour.

On an individual basis for each staging area, assuming a minimum of two primary routes of travel to each trail access point, the peak hour increase in trips of 44 to 30 peak hour trips which would be localized around staging areas are at a level which should not be perceptible, nor create operational impacts on adjacent roads and intersections. Therefore, the increase in vehicle traffic destined to trail staging and access areas for the purposes of commuting, recreational uses, and maintenance of the trail, is considered less than significant.

[2] *This range is based on the project setting, proximity of other land uses along the corridor, and the traffic consultant's professional experience with other trail facilities.*

At locations where the MBSST Network would intersect with the current circulation system, a small delay to vehicular traffic may be expected during the times when trail users cross the road to access the next part of the trail; however, these delays are expected to have a minimal impact on the operation of the vehicular circulation system and are not expected to cause traffic operations to exceed standards.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact T-2 The proposed MBSST Network would incrementally increase the number of vehicles traveling on regional arterials. However, this would be balanced by a reduction in vehicle trips resulting from the MBSST Network project. Therefore, the proposed trail would not contribute to an exceedance of a level of service standard. This is a Class III, *less than significant* impact.

Traffic on the regional circulation network, such as Highway 1, State Route 17, and parallel arterials may incur a slight increase in vehicle recreational travel destined to staging areas. However, this would be balanced by a decrease in vehicle traffic due to the change in travel modes to bicycles by commuters. In addition, from a regional perspective, the trips calculated in Impact T-1 would not all be newly generated trips, but instead would in part be relocated trips from other recreational opportunities. Because the MBSST Network project would not contribute substantial new traffic on the regional circulation network, the proposed MBSST Network project is not expected to conflict with any applicable congestion management program.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact T-3 Potential conflicts between trail users and automobile traffic could occur at any of the trail road crossings. These conflicts could result in hazardous conditions for both trail users and motorists. In addition, conflicts could occur between trail users and agricultural equipment. This is a Class II, *significant but mitigable* impact.

The MBSST Network Master Plan includes guidance on the placement of the trail crossing with streets and roadways. The guidelines suggest that if there is a controlled crossing within 350 feet of the trail, trail users should be redirected to the controlled crossing. As such, the Master Plan includes various measures to connect the trail to adjacent controlled crossings.

The resulting trail crossing recommendations, including custom designs, are summarized in Table 4.11-4. These measures eliminated a number of potential conflicts that could occur with trail crossings on streets and roadways.

Although the trail crossing design recommendations in the proposed MBSST Master Plan (as summarized in Table 4.11-4) would minimize the potential conflicts between vehicles and

pedestrians or bicyclists, there is remaining potential for unexpected pedestrian and bicycle crossings, which may lead to conflicts between vehicles and trail users. This is especially critical on curved sections of roadways or where landscaping may obstruct sight distance or in more rural sections of the trail where there would be crossings of roads with agricultural equipment. These impacts would be potentially significant**.**

Mitigation Measures. The following mitigation measures are required:

T-3(a) **Trail Crossing Warning Signs.** In addition to the proposed lighted crosswalks, caution signs shall be installed along vehicular roadways preceding each crosswalk to warn motorists of trail users.

T-3(b) **Agricultural Access Safety**. Informational signs shall be installed at the trail crossings of public roads along the northern and Watsonville reaches, warning trail users of the presence of agricultural vehicles. Signs shall also be installed where agricultural access points intersect with adjacent roadways, warning operators about the presence of pedestrians and bicyclists.

T-3(c) **Right-of-Way Priority.** Right-of-way priority at all roadway crossings shall be determined by the RTC and/or implementing entity, in consultation with private property owners (where appropriate), during the design of individual trail segments. Where feasible, right-of-way preference shall be given to the facility with the higher volume of traffic (i.e., in locations where the roadway has a higher volume of vehicle traffic than pedestrian and bicycle traffic on the trail, right-of-way shall be given to the roadway; in cases where the trail is crossing a small private road or driveway that has a lower volume of traffic than the trail, right-of-way priority shall be given to the trail). Right-of-way shall be indicated with appropriate stop or yield sign given to the cross traffic.

Significance After Mitigation. The implementation of the above measures, along with the implementation of the planned roadway crossing designs and fencing, would result in a reduction of safety impacts to trail users and motorists/agricultural operators to a less than significant level.

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
Segment 4					
~~1~~	Private Rd	J	The trail is on the east side of the tracks. Provide a standard private road crossing	County	
~~2~~	Private Driveway (RMC Pacific)	F	The trail is on the east side of the tracks. Provide a standard midblock crossing, as use is expected to exceed 20 pph at least once daily by employees.	County	
~~3~~	State Route (SR) 1	A,D	To/from the north the trail aligns on the east side of the tracks and to/from the south it's on the west side. This creates a trail at-grade rail crossing, which will need to be integrated into the existing SR 1 crossing of the rail. The addition of the trail crossing requires modifying the rail signal, together with the addition of an active enhanced crossing for trail users to cross SR 1.	County	X
Segment 5					
~~4~~	Davenport Parking Lot	A	The proposed trail is on the west side of the tracks. A new railroad crossing is proposed to formalize a popular pedestrian crossing between a parking lot on the east side of the tracks and Davenport Beach on the west side, and to allow east-west access to the trail. The new railroad crossing could be accomplished with installation of a new pedestrian-only rail signal.	County	X
~~5-24~~	Private Roads, including Wilder Ranch Park (3), Scaroni Road (2), and Agricultural Crossings (11)	J	The trail is on the west side of the tracks. Provide standard private road crossings at all 20 locations.	County	
Segment 6					
~~21-24~~	Private Roads (Wilder Ranch Park)	J	The trail is on the west side of the tracks. Provide standard private road crossings at all 4 locations.	County	
~~25~~	Shaffer Rd	A, F	The trail is on the west side of the tracks. A new railroad crossing is proposed to formalize a popular pedestrian crossing between two existing dead ends of Shaffer Road on either side of the tracks. The new railroad crossing should include pedestrian rail signal improvements. The City plans new roadway crossing with bike lanes. Additional markings would be required on street crossing for bike guidance.	Santa Cruz	X
Segment 7					
~~26~~	Natural Bridges Dr	F	The trail is on the west side of the tracks. Provide a standard midblock crossing.	Santa Cruz	
~~27~~	Swift St	E	The trail is on the west side of the tracks. Provide a passive enhanced crossing.	Santa Cruz	
~~28~~	Fair Ave	E	The trail is on the west side of the tracks. Provide a passive enhanced crossing.	Santa Cruz	
~~29~~	Almar Ave	E	The trail is on the west side of the tracks. Provide a passive enhanced crossing.	Santa Cruz	
~~30~~	Rankin St	H	The trail is on the west side of the tracks. Provide connection facilities, adding a crosswalk at the intersection of Rankin St/ Seaside St., together with a path on the south side of Seaside St. between Rankin St and the rail crossing location 100 ft east.	Santa Cruz	X
~~31~~	Seaside St	F, I	The trail is on the west side to/from the north and on the east side to/from the south. Rather	Santa Cruz	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			than the trail crossing along Seaside St, it may be possible to locate the trail in a vacant triangular parcel on the SW corner of Seaside/Younglove St. While the trail will not cross Seaside, it will cross the rail, with the crossing to be oriented perpendicular to the tracks. The existing vehicular rail crossing of Seaside St will remain, and since it is unsignalized, it's recommended that the new rail-trail crossing also be provided without signal equipment.		
~~32~~	Younglove Ave	H	The trail is on the east side of the tracks. Provide a pedestrian connection to the intersection of Younglove Ave and Seaside St and adding a crosswalk on the southeast leg of the intersection.	Santa Cruz	X
~~33~~	Bellevue St	F	The trail is on the east side of the tracks. Provide a standard midblock crossing.	Santa Cruz	
~~34~~	Dufour St	F	The trail is on the east side of the tracks. Provide a standard midblock crossing.	Santa Cruz	
~~35~~	Palm St	J	The trail is on the east side of the tracks. Provide a standard private crossing (existing barricades prohibit vehicle travel across rail tracks).	Santa Cruz	
~~36~~	Lennox St	F,H	The trail is on the east side of the tracks. Provide pedestrian connection along the north side of the street and a bicycle connection via SLM in Lennox Street, to minimize the distance pedestrians and bicyclists have to travel in the street at this acute angled crossing. Provide a standard midblock crossing at the far easterly end of the existing rail-street crossing.	Santa Cruz	X
~~37~~	Bay St	D	The trail is on the east side of the tracks. Provide an active enhanced midblock crossing.	Santa Cruz	X
~~38~~	California St	E,G	The trail is on the east side of the tracks. Provide traffic calming at the intersection of Bay St/California St (north) to reduce the curb radii and travel speeds of NB right turning vehicles. Move the trail crossing 20 feet north of the existing crossing on California Street, to increase the distance from the Bay St intersection. The path should shift to the north side of the City's water treatment plant access road via a standard midblock crossing on the access road so that it minimizes interference with truck movements at the intersection with California Street. Curb extensions and a passive enhanced crossing should be provided at the relocated street crossing. Barriers should be installed as necessary to discourage crossings at the existing location.	Santa Cruz	X
~~39, 40~~	Neary Lagoon Park (2)	A	The trail is on the east side of the main line tracks. The 2 new railroad crossings are spur track crossings rather than mainline crossings. May need to tie into rail signal controls due to high volume of trail pedestrians/bicyclists expected at this popular Santa Cruz location.	Santa Cruz	X
Segment 8					
~~41~~	Pacific Ave/Beach St	A	The trail is on the east side of the tracks. The city has designed a roundabout to control the intersection of Pacific Ave/Beach St, which includes pedestrian and bicycle crossing facilities of the streets but does not extend north to the railroad. There is an existing sidewalk crossing of the tracks on the west side of Pacific Avenue, and while the street crossing has signalized rail equipment, the sidewalk/ pedestrian facility is not. Modify this railroad signal to include pedestrian crossing signals, allowing trail users to use the new roundabout to cross Beach Street, and travel along the boardwalk, some distance west of the tracks. Concept plans also include the recommended trail crossing features for the existing intersection conditions should the roundabout not be pursued by the City.	Santa Cruz	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
~~42~~	Main St	K	The trail is on the west side of the tracks. No additional improvements.	Santa Cruz	
~~43~~	Westbrook St	K	The trail is on the east side of the tracks. No additional improvements.	Santa Cruz	
~~44~~	Cliff St	K	The trail is on the east side of the tracks. No additional improvements.	Santa Cruz	
~~45-50~~	Boardwalk Crossings (6)	K	The trail is on the east side of the tracks. No additional improvements.	Santa Cruz	
Segment 9					
~~51~~	Mott Ave	F	The proposed trail is on the east side of the tracks and this street crossing of Mott Ave is approximately 20 feet north of the north leg of the intersection of Mott Ave/Murray Street. However there is a partial road closure of Mott Ave at the crossing, with SB traffic prohibited at the crossing. The NB crossing is situated such that a standard midblock crossing is recommended.	Santa Cruz	
~~52~~	Seabright Ave	B	The trail is on the east side of the tracks. Modify the traffic signal at the intersection of Seabright Ave/Murray Street to add pedestrian phases to north leg of the intersection for crossing Seabright Ave. There may be a concern for westbound queuing in the through/right turn combined lane on Murray Street. Although not part of these concept plans, the need and feasibility in providing a westbound right turn lane should be explored.	Santa Cruz	X
~~53~~	7th Ave	A,D	To/from the north the trail is on the east side and to/from the south the trail is on the west side. This represents a rail crossing, which will need to be integrated into the existing signalized rail crossing. Trail users can use the existing sidewalks on both sides of the street to travel south of the tracks approximately 50 feet, and cross 7th Avenue on the north leg of the intersection of 7th Ave/Harbor Beach Court. As an alternative, the crosswalk could be located north of the crossing. This street crossing includes an active enhanced crosswalk, and the rail signal should be modified to add pedestrian gates and barriers on either side of 7th Ave. One parking space would be eliminated on the west side of the street.	Capitola	X
~~54~~	El Dorado Ave	A	The trail is on the west side of the tracks. A new railroad crossing is proposed, to formalize a popular pedestrian crossing between El Dorado Ave and the Simkins Swim Center. The new railroad crossing should include a new pedestrian-only rail signal.	Capitola	X
Segment 10					
~~55~~	17th Ave	A,C	To/from the north the trail is on the west side and to/from the south the trail is on the east side. This represents a rail crossing, which will need to be integrated into the existing signalized rail crossing. Trail users can use the existing sidewalks on both sides of the street to travel south of the tracks approximately 30 feet, and cross 17th Avenue on the north leg of the intersection of 7th Ave/Simkins Swim Center driveway. This street crossing includes an active enhanced crosswalk and improved median. The rail signal should be modified to add pedestrian gates and barriers on either side of 17th Ave.	Capitola	X
~~56~~	30th Ave	E	The trail is on the east side of the tracks. Provide a passive enhanced midblock crossing	Capitola	
~~57~~	38th Ave	E	The trail is on the east side of the tracks. Provide a passive enhanced midblock crossing.	Capitola	
Segment 11					
~~58~~	41st Ave	D	The trail is on the east side of the tracks. There is sidewalk on both sides of the street	Capitola	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			between the railroad and Melton St to the north. Provide an active enhanced crosswalk on the south side of Melton Ave. Alternatively, install a HAWK signal on either the south leg of Melton St or just on the north side of the tracks.		
~~59~~	47th Ave	A,H	To/from the north the trail is on the east side and to/from the south the trail is on the west side. This represents a rail crossing, which will need to be integrated into the existing signalized rail crossing. Trail users can use the existing crosswalk on 47th Ave at the intersection of 47th Ave/Portola Dr. This leads the trail users outside the railroad crossing barrier on the east side and also to a controlled crossing of 47th Ave. The existing walkway on the west side of 47th Ave should be extended across the tracks to the crosswalk. Pedestrian gates and barriers should be added to the rail signal.	Capitola	X
~~60~~	49th Ave/Cliff Dr	A, D	The trail is on the west side of the tracks. A new railroad crossing is proposed, to formalize a popular pedestrian crossing between 49th Ave/Prospect Ave and Cliff Drive/Capitola Wharf. The new railroad crossing should include a new pedestrian-only rail signal located at 49th Ave/Prospect Ave and also a connection to a passive enhanced midblock crosswalk located in proximity to the existing crosswalk on Cliff Drive.	Capitola	X
~~61~~	Monterey Ave	D	The trail is on the west side of the tracks. To avoid expensive railroad signal changes, the trail users will be directed to cross Monterey Avenue in a new midblock crosswalk 50 feet south of the tracks. Barriers at the back of sidewalk must be placed to prevent pedestrians crossing within the existing rail barriers. Existing sidewalk is available on both sides of Monterey Ave. Provide an active enhanced midblock crosswalk.	Capitola	X
~~62~~	Grove Lane	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	X
~~63~~	New Brighton Rd	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	
~~64~~	Estates Dr	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	
~~65~~	Mar Vista Dr	A,H	To/from the north the trail is on the west side and to/from the south the trail is on the east side. The existing rail signal must be modified to add pedestrian gates and barriers on both sides of Mar Vista Dr, and the trail users must be provided guidance (barriers) and connection facilities to cross 2 streets, including a new sidewalk on the west side of the street between the tracks and Cedars Street, a new crosswalk on Cedar Street at its intersection with Mar Vista Dr, and a new crosswalk on the south leg of Mar Vista Dr at Cedar St. A sidewalk connection is also needed on the east side of Mar Vista Dr between Cedar St and the new trail entrance on the north side of the tracks.	County	X
Segment 12					
~~66~~	State Park Dr	C, G, H	The proposed trail is on the east side of the tracks. Provide a HAWK signal and medians on State Park Dr at the south leg of its intersection with Sea Ridge Rd. This HAWK signal location should eliminate the need to modify the railroad signal on State Park Dr. Sidewalk must be added on the east side of State Park Dr between the new trail and Sea Ridge Rd, to connect to the new HAWK crossing.	County	X
~~67~~	Aptos Creek Rd	E,G	The trail is on the east side of the tracks. Provide a passive enhanced midblock crossing on Aptos Creek Rd and install a striped or raised curb extension on the SE corner of the	County	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			intersection of Aptos Creek Rd/Soquel Dr., in an effort to reduce the speed of right turning vehicles. Crossing should consider planned traffic signal installation at Soquel Drive intersection.		
~~68~~	Bayview Hotel Driveway	J	The trail is on the east side of the tracks. Provide a standard private crossing, and if the private crossing is paved, add a marked crosswalk.	County	
~~69~~	Trout Gulch Rd	A,H	To/from the north the trail is on the east side and to/from the south the trail is on the west side. A trail at-grade rail crossing should be added to the north side of Trout Gulch Rd, including a 10 foot long sidewalk between Aptos St and Soquel Dr, and incorporated into the rail signal controls, including pedestrian barriers and gates. Provide a marked crosswalk on Trout Gulch Rd on the west leg of its intersection with Aptos St. The trail to/from the north appears to require removal of 7 parking spaces in a shopping center. Crossing should consider planned traffic signal installation at Soquel Drive intersection.	County	X
Segment 13					
~~70~~	Clubhouse Dr	H	The proposed trail is on the east side (it appears on RRM May update as switching from the west to the east at Hidden Beach Park to the north, which is not a study crossing). Provide connection facilities, including a curvilinear sidewalk from both trail heads that lead to a new crosswalk on Clubhouse Dr at its intersection with Sumner Ave, which is presently a stop-controlled approach. Install pedestrian barriers to guide trail users to the new intersection crosswalk.	County	X
Segment 14					
~~71~~	Seascape Blvd	H	The trail is on the east side of the tracks. The trail must deviate towards Sumner Ave to align the trail outside the existing rail signal at Seascape Blvd. There is a landscaped area that appears sufficiently wide to accommodate the necessary sidewalks. Provide a new crosswalk on the west leg of the intersection of Seascape Blvd/Sumner Ave. The landscaped median in Seascape Blvd will need to be reconstructed to accommodate the new crosswalk.	County	
Segment 15					
~~72~~	EVA (Seascape)	J	The proposed trail is on the east side of the tracks. The EVA for Seascape currently is equipped with rail signal equipment, including lights and signs but no barriers. Consistent with this approach, pedestrian should be permitted to pass the EVA without modifying the rail signal equipment. Provide a standard private crossing treatment, as the EVA is cordoned off, restricting vehicular crossing of EVA and therefore functioning like a private street.	County	
~~73~~	Camp St. Francis/ agricultural access	J	The trail is on the east side of the tracks. Provide a standard private crossing treatment.	County	
~~74~~	Private agricultural access	J	The trail is on the east side of the tracks. Provide a standard private crossing treatment.	Count	
~~75~~	Camino Al Mar	I, J	To/from the north the trail is on the east side of the tracks and to/from the south the trail is on the west side of the tracks. A connection across the tracks is necessary but signalization	County	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			appears unnecessary. In addition, provide a standard private crossing across Camino Al Mar.		
Segment 16					
~~76~~	Private Driveway	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	
~~77~~	Spring Valley Rd	A,E,H	To/from the north the proposed trail is on the west side of the tracks and to/from the south the trail is on the east side. This creates a trail at-grade rail crossing, which will need to be integrated into the existing Spring Valley Rd crossing of the rail. The proposed trail crossing requires modifying the rail signal, together with the addition of connecting sidewalks or paths to the adjacent school campus and a passive enhanced midblock crosswalk on Spring Valley Road east of the tracks. Barriers should be installed at trail/street intersections to guide trail users towards the new crosswalk.	County	X
Segment 17					
~~78~~	Elicott Slough Rd	J	The trail is on the east side of the tracks. Provide standard private crossing treatment.	County	
~~79~~	Buena Vista Drive	J	The trail is on the east side of the tracks. Provide standard private crossing treatment.	County	
Segment 18					
~~80 81~~	Private Crossing	J	The trail is on the east side of the tracks. Provide standard private crossing treatment. (2)	County	
~~82~~	Lee Rd	H	The trail is on the east side of the tracks. Lee Rd is stop-controlled at the rail crossing. This is an unsignalized rail-street crossing. Provide a new crosswalk on Lee Road at the trail, with no additional railroad modifications due to the existing controls.	Watsonville	
~~83~~	Ohlone Parkway	F,H	The trail is on the east side of the tracks. This is an existing signalized rail crossing and in order to avoid the expense associated with modifying the signal for pedestrian controls, the trail should be redirected north 50 feet. Both the existing and proposed crossing locations represent a standard midblock crossing of a low-volume road that has excellent sight distance. New connection facilities are needed on both sides of the street.	Watsonville	
Segment 19					
~~84~~	Walker St/ Beach St	H	The trail is on the east side of the tracks. Add a new crosswalk on the east leg of the intersection of Walker St/Beach St, to provide a connection to the existing bike lanes on Walker St.	Watsonville	

Notes: SLM = Bicycle Shared Lane Markings; pph = pedestrians per hour; EVA = emergency vehicle access; AWSC = All-Way Stop Controlled; NB = Northbound; SB = Southbound

Impact T-4 Potential conflicts between trail users and railroad traffic could occur at any of the trail railway crossings. These conflicts could result in hazardous conditions for both trail users and rail operators and passengers. This is a Class III, *less than significant* impact.

The MBSST Network includes 14 locations where trail users would be required to cross the railway facilities in order to continue traveling along the path, either because the trail alignment switches sides of the track or because a rail spur is providing an additional connection to another path. There is a potential safety impact associated with these crossings due to the potential freight or passenger train travel along the rail that may be in service at the time of the path user crossings. Regardless of the train speed or frequency, it is assumed that each rail crossing location represents a potential hazard to pedestrians and bicyclists who may not be aware of an approaching train at the time they choose to cross the tracks. The 14 trail crossing locations include recommendations for pedestrian railroad crossing gates. These facilities could be implemented upon completion of the trail.

The CPUC has jurisdiction over the safety of rail crossings in California. As such, all applicable rules and regulations would apply to the proposed MBSST, including: California Public Utilities Code, Sections 1201 et al; the CPUC Rules of Practice and Procedure; and CPUC General Order 88-B. The CPUC recognizes that at-grade crossings present inherent hazards to the traveling public, particularly crossings on right or passenger main lines, and preference is to eliminate these crossings where possible. However, where it is not practicable to eliminate a pedestrian-rail at-grade crossing, pedestrian-rail at-grade crossing design and improvements are required to follow guidelines contained in the CPUC *Pedestrian-Rail Crossings in California: a Report Compiling the Designs and Devices Currently Utilized at Pedestrian-Rail Crossings within the State of California* (May 2008). Following these guidelines would ensure that hazards at any rail crossings are minimized. Thus, impacts would be less than significant.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact T-5 Potential conflicts between pedestrian and bicyclists may occur at street crossings, where line of sight issues are encountered, or in other areas where there is not a separated path for different types of users. This is a Class II, *significant but mitigable* impact.

The MBSST Network includes approximately 84 roadway crossings or connections, as summarized in Table 4.11-1. In these locations, bicycles and pedestrians would cross the roadway in the same location, without the benefit of separate paths for different types of users. Such crossings may lead to conflicts between the two users groups, which could be a hazardous condition. In addition, some segments of the trail may not include separate paths for different trail users, leading to potential conflict in those areas.

Mitigating Design Features. The proposed MBSST Network Master Plan contains user conflict reduction strategies that would minimize user conflict in multiple-use trails, including conflicts between pedestrians and bicyclists. Key strategies include the following:

1. *Design to minimize conflicts with separate trails or shoulders for pedestrian and equestrian use, where possible, and provide adequate width and sight lines, furnish turnouts at stopping points, etc.*
2. *Use clear signage or pavement markings to define etiquette and yielding protocol*
3. *Set expectations for multi-use*
4. *Enforcement of rules by volunteer trail patrols and/or a uniformed presence – especially when a trail is new to establish precedent and expectations*

The proposed Master Plan emphasizes trail etiquette through both informal and formal means. The proposed Master Plan recommends visual and simple displays of expectations, including the following potential courtesy advisories:

- *Wheels yield to heels*
- *Be courteous to all trail users*
- *Travel at a reasonable speed in a consistent and predictable manner*
- *Always look ahead and behind before passing*
- *Pass slower traffic on their left; yield to oncoming traffic when passing*
- *Give a clear warning signal before passing – use voice signal, not horn or bell, when passing horses*
- *Keep all pets on a short leash*
- *Move off the trail when stopped to allow others to pass*
- *Yield to other users when entering and crossing the trail*
- *All trail users should use a light and reflectors after dusk and before dawn*
- *Travel no more than two abreast*

Despite these design features, mitigation is required to reduce this potentially significant impact.

Mitigation Measures. The following mitigation measures are required:

T-5(a) **Crosswalk Markings.** The crosswalk marking used at all MBSST Network crossings of public roadways shall incorporate a distinctive crosswalk pattern to orient different types of trail users. The crosswalk markings may incorporate bike trail markings flanking the crosswalk (possibly green in color), separating pedestrians in the middle, with directional signs for bicyclists on either side.

T-5(b) **Line-of-Sight.** Wherever feasible, the interface between the trail and intersecting roadway shall be designed so that the approaching driver and bicyclist or pedestrian have a view of each other within the appropriate stopping sight distance suggested by AASHTO Guidelines. This sight distance shall be provided through a combination of measures such as minor vegetation trimming and/or removal, sidewalk/shoulder curb extensions, roadway realignment or narrowing, etc.

Roadway Design Speed (mph)	Stopping Sight Distance (feet)
25	155
30	200
35	250
40	305
45	360

Significance After Mitigation. The implementation of the above measure would reduce impacts related to conflicts between pedestrians and bicyclists to a less than significant level.

Impact T-6 **Construction activity associated with the MBSST Network could introduce a hazard by creating conflicts between construction vehicles and materials and existing vehicle traffic. This is a Class II, *significant but mitigable* impact.**

During construction of the MBSST Network project, construction vehicles and related activity, including staging of materials and vehicles, may block existing vehicle travel lanes and/or interfere with traffic flow on intersecting roadways. The loss of travel lanes and roadway shoulder areas could potentially create conflicts due to unexpected merging. This is a significant but mitigable impact

Mitigation Measures. The following mitigation measure is required:

T-6 **Construction Activity.** Prior to issuance of grading permits, the implementing entity for each trail segment shall prepare a traffic control plan based on Caltrans standards. The traffic control plan shall outline requirements for construction cone placements, temporary construction signage and flagger placement for conditions such as lane closures, shoulder closures, and/or lane narrowing.

Significance After Mitigation. Implementation of the above mitigation measure would reduce the potential for safety problems during construction to a less than significant level.

Impact T-7 **The proposed MBSST Network would include fencing. The installation of fencing may inhibit pedestrian access and reduce local connectivity. This is a Class II, *significant but mitigable* impact.**

The proposed MBSST Network Master Plan would include various types of trail fencing to be used in various environments along the trail network. Although the inclusion of trail fencing will be at the discretion of the RTC and/or implementing entity on a segment-by-segment basis, trail fencing may potentially be included along the length of the MBSST Network due to trail and train operation protection needs. In urban areas, where most pedestrian and bicyclist activity would be anticipated, trail fencing would likely include 54-inch high smooth wire fencing or 72-inch high privacy fencing. In addition, where a high number of illegal rail crossings are expected, 72-inch high woven-wire security fencing may be included.

Installation of fencing in areas where pedestrians currently access the rail corridor may hinder this access and prohibit crossings at non-roadway crossings. Although such crossings are currently illegal, eliminating this accessibility may be perceived as a loss of local connectivity, and may impact the ability of locals to make short non-vehicular trips. This is considered a potentially significant impact to multi-modal connectivity.

Mitigation Measures. The following mitigation measure is required:

T-7 **Trail Access.** Where applicable, the RTC and/or implementing entities shall consider including openings in trail fencing to allow for pedestrian and bicycle access in locations other than staging areas and roadway crossings. If such openings are located on the trail side of the railroad tracks, no additional measures would be required. However, if the openings are located opposite the trail, such that bicyclists and pedestrians would be required to cross the railroad tracks to access the trail, then appropriate crossing equipment acceptable to the CPUC shall be included. These may include pedestrian railroad crossing gates and signage similar to what is proposed on other planned trail crossings of the railroad.

Significance After Mitigation. Implementation of the above mitigation measure would reduce impacts to a less than significant level.

d. Cumulative Impacts. Additional development resulting from buildout of Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville may result in significant impacts to the local and regional circulation system, including through the exceedance of established LOS standards at intersections, streets, highways, and freeways. The proposed MBSST Network project itself would not contribute to an exceedance of an LOS standard. In fact, project-generated traffic would be balanced by a reduction in trips due to the change in travel modes to bicycles by commuters. Therefore, the proposed MBSST Network project would promote the use of active transportation modes and would not contribute to significant countywide cumulative traffic impacts. In conjunction with other bikeway and pedestrian projects planned throughout Santa Cruz County, the MBSST Network project would serve to reduce traffic impacts of cumulative development by facilitating alternative modes of transportation.

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4.12 PUBLIC SAFETY AND SERVICES

4.12.1 Setting

a. Water Supply. Water supply for each segment of the MBSST Network project would be provided by one of several water districts and management agencies in the region. The service area, existing infrastructure, and a brief description of the water supplies contained within key water districts are described below.

County of Santa Cruz. In some unincorporated areas of Santa Cruz County, including along the northern reach, individual parcels and communities rely on private wells and stream diversions for their water supply, rather than service from a water district. Santa Cruz County, acting as a Local Primacy Agency for the California Public Health Department, oversees small water systems serving between 5 and 199 water connections. There are approximately 130 small water systems in Santa Cruz County serving approximately 2,500 households. Additionally, there are at least 8,000 private wells in Santa Cruz County that serve between one and four households.

As there are no water districts that serve the northern reach (with the exception of a portion of sub-segment 5.1, as described below), water supplies in this area are limited to existing small water connections or private wells, and are difficult to quantify (John Ricker, Santa Cruz County Water Resources Division Director, Personal Communication, November 26, 2012).

Davenport County Sanitation District. Water for the town of Davenport is supplied by the Davenport County Sanitation District (DCSD), which is owned and operated by the County of Santa Cruz. The DCSD serves approximately 500 people and provides both potable and recycled water for landscape irrigation (Fall Creek Engineering, November 2004). DCSD supplies approximately 40,000 gallons per day of potable water and is capable of producing approximately 120,000 gallons per day, under ideal conditions[1] (John Swenson, Davenport County Sanitation District, Personal Communication, December 18, 2012). Therefore, DCSD has a surplus capacity of 80,000 gallons per day [0.25 acre-feet per day or approximately 91 acre-feet per year (AFY)]. Water supply from the DCSD would only be available to the portions of the proposed MBSST Network that are located within the town of Davenport (John Ricker, Santa Cruz County Water Resources Division Director, personal communication, November 26, 2012). This may include a portion of segment 5.1, which is located across Highway 1 from Davenport.

City of Santa Cruz Water District. The City of Santa Cruz water system serves an area of approximately 30 square miles, including the entire City of Santa Cruz, adjoining unincorporated areas of Santa Cruz County, a small portion of the City of Capitola, and coastal agricultural lands north of the City (City of Santa Cruz, 2011). The City's water system is comprised of four main production elements: 1) the North Coast Sources, 2) the San Lorenzo River, 3) Loch Lomond Reservoir, and 4) the Live Oak Wells. Major facilities within the City's water supply system include a 20 million gallon per day (mgd) conventional surface water treatment plant, several pump stations, and 16 distribution reservoirs storing almost 15 million gallons of treated water. There are also approximately 300 miles of pipe and over 24,350 active water meters in service. Current (2010) water supplies in the District total approximately 4,130 million gallons per year (or approximately

[1] *Production capacity could be less during the winter season.*

12,674 AFY). The City of Santa Cruz Water District would serve segments 6 through 10 of the central reach.

Soquel Creek Water District. The Soquel Creek Water District (SqCWD) encompasses seven miles of shoreline along Monterey Bay, and extends from one to three miles inland into the foothills of the Santa Cruz Mountains, essentially following the County Urban Services Line. The City of Capitola is the only incorporated area within the SqCWD. The SqCWD currently receives 100 percent of its water from groundwater aquifers in the Soquel-Aptos area. SqCWD's water supply system consists of 18 groundwater production wells, 15 of which are currently active, approximately 130 miles of pipeline, and 18 water storage tanks. The total estimated production capacity of the system is about 7 mgd, and the total storage capacity is 7.5 million gallons. SqCWD would supply water to segments 11 through 15 of the central reach.

Pajaro Valley Water Management Agency. The Pajaro Valley Water Management Agency (PVWMA) is a state-chartered water management district formed to efficiently and economically manage existing and supplemental water supplies in order to prevent further increase in, and to accomplish continuing reduction of, long-term overdraft. PVWMA also works to provide and ensure sufficient water supplies for present and future anticipated needs within its boundaries, generally the greater coastal Pajaro Valley.

The PVWMA partnered with the City of Watsonville to introduce the Watsonville Area Water Recycling Project as part of the Agency's long-term plan to meet the water needs of the Pajaro Valley region. The recycled water facility would produce 4,000 AFY of recycled water. This recycled water, delivered through the Agency's coastal distribution system, would irrigate a portion of more than 6,000 acres during spring, summer and fall months.

While the PVWMA has the authority to manage groundwater resources in the basin, the Agency's activities typically focus on halting seawater intrusion by balancing the overdraft conditions in the basin. For example, PVWMA's charter specifically prevents supplying potable water, which is intended to remain the responsibility of local water purveyors (i.e. the City of Watsonville Water District). Therefore, all PVWMA water supplies are only for non-potable (irrigation) water (PVWMA, December 2012). The PVWMA would serve the non-potable water needs of segments 16 and 17 of the Watsonville reach.

City of Watsonville Water District. The Watsonville water service area extends beyond the city limits, into unincorporated Santa Cruz County, including parts of Corralitos, Freedom, and Pajaro Dunes (City of Watsonville, 2011). The service area consists of nine hydraulic pressure zones, 14 wells, eight reservoirs and water storage facilities, nine booster stations, over 150 miles of pipelines, and a slow sand filter water treatment plant. During years of normal rainfall, the City utilizes a combination of surface water and groundwater supply sources. The surface diversions are piped to the Corralitos Filter Plant (CFP) and provided treatment via slow sand filtration and disinfection. The CFP has a capacity of 2,400 AFY and currently produces an average of 900 AFY. The City's 14 groundwater wells are capable of providing 21,600 AFY. The City does not purchase water from any wholesale water suppliers. The City's wastewater treatment plant can provide up to 4,000 AFY of recycled water. Though this recycled water is treated to Title 22 standards, it is not connected to the general distribution system and is intended for agricultural purposes only.

Segments 18 and 19 of the Watsonville reach would be served by the City of Watsonville Water District.

Pajaro/Sunny Mesa Community Services District (PSMCSD). PSMCSD provides potable water services, fire flows, parks, streetlights, and sanitary sewer services to thousands of residents of North Monterey County. It is the only public agency which provides public potable water services in the Pajaro, Elkhorn, and Prunedale areas (PSMCSD, December 2012). Therefore, PSMCSD would serve segment 20 of the Watsonville reach.

Table 4.12-1 shows the projected surplus water supplies for water districts within the MBSST Network project area.

Table 4.12-1
Projected Water Supply Surplus for Water Purveyors Serving the MBSST Project Area (acre-feet)

	2015	2020	2025	2030
County of Santa Cruz	n/d	n/d	n/d	n/d
Davenport County Sanitation District	91	n/d	n/d	n/d
City of Santa Cruz Water District	1,000	654	503	350
Soquel Creek Water District	0	0	0	0
Pajaro Valley Water Management Agency*	-	-	-	-
City of Watsonville Water District	16,263	16,122	15,914	15,733
Pajaro/Sunny Mesa Community Services District	n/d	n/d	n/d	n/d

City of Santa Cruz, 2010 Urban Water Management Plan
City of Watsonville, 2010 Urban Water Management Plan
Soquel Creek Water District, Urban Water Management Plan 2010, September 2011.
John Swenson, Davenport County Sanitation District, Personal Communication, December 18, 2012
John Ricker, Santa Cruz County Water Resources Division Director, Personal Communication, November 26, 2012
PSMCSD, December 2012
n/d = no data available.
** Provides non-potable water only.*

As shown in Table 4.12-1, the City of Santa Cruz Water District and City of Watsonville Water District have surplus supplies through 2030, while the Davenport County Sanitation District has surplus supplies in the near-term. For other water purveyors, including the County of Santa Cruz (who oversees small systems and private wells) and the Pajaro/Sunny Mesa Community Services District, the availability of surplus supplies is unknown. SqCWD does not have a surplus of water.

It should be noted that the City of Santa Cruz and SqCWD are pursuing the development of a 2.5 mgd seawater desalination plant, which would function as a backup water supply in times of drought. The two agencies formed the *SCWd2 Desalination Program* to jointly evaluate and plan for a shared desalination project (SqCWD, 2011). To date, a one-year pilot study and feasibility studies for intake, brine disposal and pre-treatment have been completed to inform the Environmental Impact Report (EIR), which is underway. An Energy Minimization and Greenhouse Gas Reduction Study is also being conducted.

b. Emergency Access. Local fire departments, including the City of Santa Cruz Fire Department, the Capitola Fire Department, the Watsonville Fire Department, and the Santa Cruz County Fire Department, would provide fire and emergency services for the proposed MBSST

Network within their respective jurisdictions. Segment 20 of the proposed MBSST Network, which is located in Monterey County, would be located within the jurisdiction of the North County Fire District. Local police departments, including the City of Santa Cruz Police Department, the Capitola Police Department, the Watsonville Police Department, and the Santa Cruz County Sheriff's Department would provide police services for the proposed MBSST Network within their respective jurisdictions. Emergency medical services within the County are contracted to American Medical Response (AMR). The following is a description of fire, police, and emergency services that would serve the proposed MBSST Network.

Santa Cruz County.

Fire Protection Services. Fire protection services to portions of the MBSST Network that are in unincorporated Santa Cruz County would be provided by the Santa Cruz County Fire Department (contracted to the California Department of Forestry and Fire Protection [CAL FIRE]), the Central Fire Protection District (CFPD), and the Aptos/La Selva Fire Protection District (ALSFPD). CAL FIRE would provide fire protection services to the entire northern reach and segments 16 and 17 of the Watsonville reach, which are rural areas. CAL FIRE maintains an average response time of approximately five to six minutes in urban areas and nine to ten minutes in rural areas (Applied Survey Research, 2011).

CFPD would serve the southern portion of segment 9, segment 10, and the northern portion of segment 11 within the central reach. The CFPD has two stations in the City of Santa Cruz, a station in Soquel, and a station in the City of Capitola. The CFPD maintains a response time of five minutes to the coastal/urban areas (John Walbridge, Battalion Chief, Email Communication, November 22, 2012).

ALSFPD would serve the southern portion of segment 11 and segments 12 through 14 of the central reach, as well as segment 15 of the Watsonville reach. The ALSFPD has three stations in Aptos. The ALSFPD maintains an average response time for emergency calls of between five and six minutes (Applied Survey Research, 2011).

Police Protection Services. The Santa Cruz County Sheriff's Department would provide police protection services to portions of the proposed MBSST Network located in the unincorporated County. The County's Sheriff Department provides police protection services to the communities of Aptos, Live Oak, San Lorenzo Valley, and the south County. Average response times to the unincorporated areas of the County are between eight and nine minutes for priority 1 calls[2] (Applied Survey Research, 2011).

Emergency Medical Services. The Public Health Department of the Santa Cruz County Health Services Agency contracts emergency ambulance services in the County (including all incorporated cities) to AMR (Santa Cruz County Health Services Agency, November 2012). Since 1990, AMR has been the sole 24-hour Advanced Life Support (ALS) ambulance transport provider in the County. AMR maintains ten ambulance station locations throughout Santa Cruz County.[3]

[2] *Priority 1 calls are defined as calls for assistance that involve a person or accident.*
[3] *Station locations include: Boulder Creek (San Lorenzo Valley), Santa Cruz, Capitola (Mid-County), Watsonville, Capitola/Soquel, Aptos, Felton, Dominican, Westside/Extra, All-County.*

Between four and eight ambulances are deployed to station locations, depending on anticipated demand. AMR also deploys additional units during peak demand times, such as holidays.

Santa Cruz County is currently divided into three emergency response time zones (Zones A, B, and C). Response time zone A spans the entire northern portion of Santa Cruz County. Response time zone B covers the entire mid-section of the County, between the City of Santa Cruz and Aptos, and response time zone C covers the entire southern portion of the County, including the City of Watsonville. As the proposed MBSST Network stretches the entire length of Santa Cruz County, portions of the proposed MBSST Network would be located within all three response time zones. Average response times, in the event of an emergency involving ALS, are 8 minutes (zone A), 12 minutes (zone B), or 20 minutes (zone C), depending on the location of the emergency. Average response times, in the event of an emergency involving paramedic and ambulance services, are 12 minutes (zone A), 18 minutes (zone B), or 30 minutes (zone C), depending on the number of ambulances deployed and the location of the emergency.

City of Santa Cruz.

Fire Protection Services. The City of Santa Cruz is served by the City of Santa Cruz Fire Department, which operates one administrative office, three fire stations, and one lifeguard headquarters. All three fire stations are located within one mile of the MBSST Network segments located in the City of Santa Cruz. The City of Santa Cruz Fire Department would serve segments 6 through 8 and the northern portion of segment 9 within the central reach. The station closest to the proposed MBSST Network is Fire Station 3, located at 335 Younglove Avenue, approximately 0.09 miles north of the segment 7. The Fire Department maintains a response time goal of eight minutes 90 percent of the time, for full deployment of fire protection services, which could include up to 13 personnel. Average response times within the City currently range from one minute to ten minutes, depending on the location of the incident (Eric Aasen, Fire Division Chief, City of Santa Cruz Fire Department, Personal Communication, November 19, 2012).

Police Protection Services. The City of Santa Cruz Police Department would serve segments 6 through 8 and the northern portion of segment 9, within the central reach. The Police Department is located at 155 Center Street, approximately 0.3 miles north of segment 8 within the central reach. The Santa Cruz Police Department maintains an average response time of two to four minutes within the City (Larry Richard, Lieutenant, Santa Cruz Police Department, Email Communication, November 22, 2012).

Emergency Medical Services. Emergency medical services in the City of Santa Cruz are provided by AMR. The City of Santa Cruz is located in zone B. The average response time to zone B is 18 minutes.

City of Capitola.

Fire Protection Services. The City of Capitola is served by the Central Fire Protection District (CFPD) (City of Capitola, September 28, 1989). The CFPD operates an administrative office and four fire stations, located in Santa Cruz, Soquel, and Capitola. Although all the fire stations within the Central Fire Protection District would serve the segments that traverse the City of Capitola (the southern portion of segment 10 and the northern portion of segment 11), Station 4 is the closest

station to the MBSST Network corridor, approximately 75 feet north of segment 11. The CFPD maintains a response time goal of five minutes (John Walbridge, Battalion Chief, Email Communication, November 22, 2012).

Police Protection Services. The City of Capitola Police Department is located at 422 Capitola Avenue, approximately 200 feet west of segment 11. The City of Capitola Police Department would serve the segments of the central reach that traverse the City of Capitola (the southern portion of segment 10 and the northern portion of segment 11). The Capitola Police Department maintains an average response time of approximately three to five minutes (Applied Survey Research, 2011).

Emergency Medical Services. Emergency medical services in the City of Capitola are provided by AMR. The City of Capitola is located in zone B. The average response time to zone B is 18 minutes.

City of Watsonville.

Fire Protection Services. The City of Watsonville is served by the Watsonville Fire Department, which would also serve segments 18 and 19 of the MBSST Network project. The Watsonville Fire Department operates one administrative headquarters, a training center, and two fire stations. Although both fire stations would serve the project, Station 1 is closest to the MBSST Network segments within the City of Watsonville. This station is located approximately 0.15 miles northeast of segment 19. The average response time to emergency calls for the Watsonville Fire Department is between four and six minutes (Rob Ryan, Fire Marshal, Watsonville Fire Department, Email Communication, November 29, 2012).

Police Protection Services. The Watsonville Police Department is located at 215 Union Street, approximately 0.32 miles east of segment 19. The Watsonville Police Department would serve segments 18 and 19 of the MBSST Network project. The Police Department maintains average response times of three to five minutes (Applied Survey Research, 2011).

Emergency Medical Services. Emergency medical services in the City of Watsonville are provided by AMR. The City of Watsonville is located in zone C. The average response time to zone C is 30 minutes.

Monterey County. Segment 20 of the proposed MBSST Network is located in Monterey County, and would be served by the North County Fire Protection District in the event of an emergency. The North County Fire Protection District maintains a response time goal of arriving within eight minutes, 90 percent of the time, to all medical emergencies within five miles of the District's station (Chris W. Orman, Fire Chief, North County Fire Protection District, Email Communication, November 29, 2012).

c. Trail Conflicts. It is increasingly common for trail users to encounter other users (or evidence of use) on trails. Some encounters are with users participating in the same activity, and some are with fellow trail users engaged in different activities. Trail safety hazards may occur between different types of trail users (i.e. between bicyclists and pedestrians, bicyclists and equestrians, and/or pedestrians and equestrians); among trail users within the same group (i.e.

between two bicyclists traveling at different speeds); and as a result of factors not related to users' trail activities. Conflicts may be related to activity style (mode of travel, level of technology, or trail dominance), focus of trip, and attitudes toward other trail users. Specific hazards include collisions or near misses among users, reckless behavior, or accident caused by unsafe trail conditions (e.g. uneven pavement or presence of debris).

Impacts related to trail conflicts between trail users and automobiles and between trail users and railroad operations are discussed in Section 4.11, *Transportation/Traffic*. Impacts between the types of trail users (i.e. between bicyclists and pedestrians, bicyclists and equestrians, and/or pedestrians and equestrians) and between trail users and railroad operations are discussed in Section 4.12.2(b) (Project Impacts and Mitigation Measures).

4.12.2 Impact Analysis

a. Methodology and Significance Thresholds. A significant impact would occur if the proposed MBSST Network project would result in any of the following conditions:

1) *Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*
2) *Have insufficient water supplies available to serve the project from existing entitlements and resources;*
3) *Result in substantial adverse physical impacts associated with the provision of new or physically altered government and public services facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, or other emergency service providers; and/or*
4) *Expose people to existing or potential public safety hazards other than those set forth above.*

It should be noted that the proposed MBSST Network project would not generate an increase in population that would warrant the construction of new school facilities. The proposed Master Plan would enhance public transportation and recreation options and would not create physical deterioration of existing recreation facilities, nor generate demand for new recreation facilities. In addition, the proposed MBSST Network project would not exceed wastewater treatment requirements or require the construction of new wastewater treatment facilities. Drainage improvements included in the proposed MBSST Network project would ensure that runoff flows would not exceed historic flows, such that the proposed project would not be expected to result in the need for new storm drain facilities. Finally, the proposed MBSST Network is not anticipated to generate significant amounts of solid waste and, therefore, would not cause a landfill to exceed its permitted capacity or violate any regulations related to solid waste. As a result, the checklist items related to these conditions were excluded from the above list and further discussion can be found in the Initial Study (Appendix A of this document).

Impacts related to hazardous materials and wildland fires are discussed in Section 4.8, *Hazards and Hazardous Materials.* Conflicts between trail users and automobiles and railroad operations are addressed in Section 4.11, *Transportation/Traffic.*

The following is a description of the specific methodologies and significance criteria used to determine impacts related to water supply and infrastructure and emergency response services (including fire protection services, police protection services, and EMS services).

Water Supply and Infrastructure. There are no pre-established water demand factors for a recreational trail like the proposed MBSST Network project. Therefore, in order to estimate water demand, the proposed MBSST Network project was treated as a park use, with demand rates applied to the estimated acreage of the entire trail. Based on the trail's approximate length of 49.6 miles and approximate trail and shoulder width (disturbance area) of 25 feet, the approximate activity area of the MBSST is estimated to be 150.3 acres. A demand factor of 571,429 gallons per acre per year was used, which is consistent with the rate used in the City of Santa Cruz, *Water Supply Assessment for General Plan 2030* (2011).

For the purpose of this analysis, the proposed MBSST Network would have a significant effect on water supplies if the project would generate demand that would exceed the available surplus supply of water, thereby causing water shortages during average or peak demand periods. Impacts would also be significant if the proposed MBSST Network would require the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Fire, Police, and EMS Services. Police, fire, and EMS service providers were contacted to ascertain the current average response times within their jurisdictions, estimated response times to the proposed MBSST Network, and whether or not each agency anticipates any accessibility issues along the segments of the proposed MBSST Network within their jurisdiction. Estimated response times to the proposed MBSST Network project were then compared to the current average response times. For the purpose of this analysis, impacts to emergency services would be considered significant if average response times could not be met, such that the construction of new facilities would be required to ensure adequate response to the proposed MBSST Network project.

b. Project Impacts and Mitigation Measures.

Impact PS-1 The proposed MBSST Network would result in an incremental increase in water demand, and some segments would be located in areas without adequate water to serve this demand. Impacts would be Class II, *significant but mitigable*.

The proposed MBSST Network project would generate new water demand for landscaping maintenance and to service one proposed restroom in the Watsonville Reach. The proposed MBSST Network project would also incrementally increase water demand at existing restrooms and drinking fountains along the trail network. The following is a discussion of the water supply and infrastructure impacts associated with each reach of the proposed MBSST Network.

Northern Reach. The northern reach of the proposed MBSST Network would create new demand for water for landscape irrigation and would incrementally increase demand at existing restrooms and drinking fountains. No new public restroom facilities are proposed along this reach.

Water supply to the northern reach may be provided by small water systems or private wells (overseen by Santa Cruz County) or the DCSD, which provides water to the community of Davenport. The northern reach is 22.74 miles in length. Using an approximate disturbance area of 25 feet wide, the northern reach constitutes approximately 68.9 acres. Based on a water duty factor of 571,429 gallons per acre per year, the northern reach would demand an estimated 39.4 million gallons of water per year, or 120.8 acre feet per year (AFY). Water surplus available to the northern reach is unknown, as supplies (if available) may come from private wells or other small water systems. Further, although the DCSD has an existing surplus, it is not clear if the DCSD would serve the sub-segment 5.1, which is located across Highway 1 from the Davenport community. Therefore, it is unclear if there is adequate supply to meet this projected demand.

As discussed in Section 4.12.2(a) (Methodology and Significance Threshold), the water duty factor used in this analysis is for a park use, which would typically include grass and other landscaping that requires irrigation; public restroom(s); and drinking fountain(s). The northern reach would not include intensive landscaping, nor would it include the installation of new restrooms or drinking fountains. Further, this duty factor assumes that the entire 68.9 acres would be developed as a park; however, in reality improvements along the northern portion of the northern reach (segments 1 and 2) would be limited, as the trail would consist of a Class III on-street/road shoulder bike route, much of which is currently in place. Improvements would therefore be limited to routine road edge clearing, signs, and shoulder pavement striping. No landscaping is expected in these segments. Beginning in segment 3, the proposed MBSST Network would include a new multi-use paved path adjacent to Highway 1. This path would be a twelve foot wide paved surface with center lane striping adjacent to a six foot unpaved (decomposed granite) path and minimum two foot buffer between the trail and adjacent railroad. Thus, at least 20 feet of the trail width would not be landscaped and thus would not result in a demand for water.

Based on the above, the duty factor used for this analysis is considered a very conservative estimate of water demand, as actual demand along the northern reach would likely be much lower. Nevertheless, some water could be required for irrigation of landscaping and increased use of existing restrooms and water fountains at trail heads in the northern reach. In addition, the available capacities of the water and wastewater treatment and conveyance infrastructure that would serve the existing restrooms and water fountains at the time the segments are proposed to be constructed are unknown. As water supply volumes and infrastructure to serve the segments is not assured, this is a potentially significant impact and mitigation is required.

Central Reach. The central reach of the proposed MBSST Network would create new demand for water for landscape irrigation and would incrementally increase demand at existing restrooms and drinking fountains. No new public restroom facilities are proposed along this reach.

Water supply to the central reach would be provided by the City of Santa Cruz Water District, or the SqCWD. The central reach is 13.46 miles in length. Using an approximate disturbance area of 25 feet wide, the central reach constitutes approximately 40.8 acres. Based on a water duty factor of 571,429 gallons per acre per year, the central reach would demand an estimated 23.3 million gallons of water per year, or 71.5 AFY. The City of Santa Cruz Water District has

adequate surplus supplies through 2030 to meet this projected demand; however, the SqCWD has no surplus supplies. Therefore, the portion of the central reach within the SqCWD (segments 11 through 14) may not have adequate supply to meet this projected demand.

As discussed above, the water duty factor used in this analysis is for a park use, which would typically include grass and other landscaping that requires irrigation; public restroom(s); and drinking fountain(s). The central reach would not include intensive landscaping, nor would it include the installation of new restrooms or drinking fountains. Further, this duty factor assumes that the entire 40.8 acres would be developed as a park; however, in reality the proposed MBSST Network would include a new multi-use paved path adjacent to the Santa Cruz Branch Rail Line. For most of the central reach, this path would be an approximately eight to twelve foot wide paved surface with center lane striping in some areas adjacent to a six foot unpaved path (in some areas) and minimum two foot buffer between the trail and adjacent railroad. Thus, up to 20 feet of the trail width would not be landscaped and thus would not result in a demand for water. Along segment 8 (near the Santa Cruz Beach Boardwalk), trail improvements would be limited to improvements to existing pedestrian and bicycle facilities, and would therefore not include landscaping.

Based on the above, the duty factor used for this analysis is considered a very conservative estimate of water demand, as actual demand along the central reach would likely be much lower. Nevertheless, some water could be required for irrigation of landscaping and increased use of existing restrooms and water fountains at trail heads in the central reach. In addition, the available capacities of the water treatment and conveyance infrastructure that would serve the existing restrooms and water fountains at the time the segments are proposed to be constructed are unknown. As water supply volumes and infrastructure to serve portions of the central reach is not assured, this is a potentially significant impact and mitigation is required.

Watsonville Reach. The Watsonville reach of the proposed MBSST Network would demand water for landscape irrigation and would incrementally increase demand at existing restrooms and drinking fountains. In addition, one new public restroom facility would be constructed within the Watsonville reach.

Water supply to the Watsonville reach would be provided by the SqCWD, the PVWMA, the City of Watsonville Water District, and the PSMCSD, depending on the segment. The Watsonville reach is 13.43 miles in length. Using an approximate disturbance area of 25 feet wide, the central reach constitutes approximately 40.7 acres. Based on a water duty factor of 571,429 gallons per acre per year, the central reach would demand an estimated 23.3 million gallons of water per year, or 71.4 AFY. The City of Watsonville Water District has adequate surplus supplies through 2030 to meet this projected demand; however, the SqCWD has no surplus supplies, the PVWMA only supplies non-potable water, and the water availability of the PSMCSD is unknown. Therefore, several segments of the Watsonville reach may not have adequate supply to meet this projected demand.

As discussed above, the water duty factor used in this analysis is for a park use, which would typically include grass and other landscaping that requires irrigation; public restroom(s); and drinking fountain(s). The central reach would not include intensive landscaping. Further, this duty factor assumes that the entire 40.7 acres would be developed as a park; however, in reality

the proposed MBSST Network would include a new multi-use paved path adjacent to the Santa Cruz Branch Rail Line. For most of the Watsonville reach, this path would be an approximately twelve foot wide paved surface with center lane striping in some areas adjacent to a six foot unpaved path (in some areas) and minimum two foot buffer between the trail and adjacent railroad. Thus, up to 20 feet of the trail width would not be landscaped. Along segment 19 (within the City of Watsonville), trail improvements would be limited to improvements to existing pedestrian and bicycle facilities, and would therefore not include landscaping.

One new public restroom facility would be constructed within the Watsonville reach. Although its precise location has not been determined, it is anticipated that this restroom would be in a predominantly rural location and utilize a septic disposal system. The proposed restroom would require the extension of existing water infrastructure systems (i.e. water utility lines) in order to serve the water supply needs. The precise location of the restroom is unknown at this time; therefore, the existing capacity of the water treatment and conveyance infrastructure that would serve the facility at the time it is proposed to be constructed is also unknown. However, the extension of water utility lines to a future restroom and to serve existing facilities along this reach, if required as a result of increase in demand, would be subject to the approval of the appropriate jurisdiction in which the proposed restroom would be constructed. This would also be the case should permanent irrigation facilities be required for landscaping along the reach. Moreover, the new planned restroom would be required to be consistent with CalGreen standards including the installation of low-flow plumbing fixtures to reduce water use and wastewater generation.

Based on the above, the duty factor used for this analysis is considered a very conservative estimate of water demand, as actual demand along the Watsonville reach would likely be much lower. Nevertheless, some water could be required for irrigation of landscaping, increased use of existing restrooms and water fountains at trail heads, and new demand from the restroom facility in the Watsonville reach. In addition, depending on the capacity of existing water treatment and conveyance facilities, development of the Watsonville reach could result in demand that exceeds the capacity of existing infrastructure, resulting in the need for construction of new water facilities or expansion of existing facilities. Therefore, as water supply to portions of the central reach is not assured and the future capacity of existing infrastructure is unknown, this is a potentially significant impact and mitigation is required.

Mitigating Design Features. The landscaping treatment along the proposed MBSST Network would vary along the corridor as it traverses from one region to another. The landscape treatment would be limited by availability of space in the trail corridor, narrow rights-of-way, railway operational clearance, agricultural operations, sensitive coastal bluffs, and other mitigating factors, and would be determined through the design phase of each segment in coordination with the primary managing agency.

Currently there are existing segments of the MBSST corridor that follow highly urbanized areas with landscape treatments existing along street corridors, parks, adjacent open space, harbor edges, and beachfront areas. The landscape for new segments of the MBSST would vary with the setting and with the agency responsible for the design, implementation, and long-term maintenance. Landscape treatment in intense urbanized areas would include both native and non-native drought tolerant plant palettes. However, areas where the trail is located in and/or

adjacent to native landscape settings, or rural and agricultural lands, every effort would be taken to maintain native and indigenous plant species in the planting and restoration efforts. Plant palettes would be determined as part of the design phase for each segment in coordination with the implementing entity. Planting plans would also comply with environmental studies and recommendations concerning sensitive or critical native plant habitats. Other precautions would consist of the strict avoidance of invasive species being included in any planting plans.

Mitigation Measures. Although the proposed MBSST Network project is not anticipated to result in substantial water demand or a substantial increase in demand for water treatment, some segments of the trail are located in areas where water supply cannot be assured and/or where future water treatment capacity may be insufficient. In addition, the water landscape in Santa Cruz County is evolving, and fewer (or more) supplies may be available at the time a specific segment is proposed for development.

Given the existing uncertainty, the following mitigation measures are required to reduce impacts to a less than significant level.

PS-1(a) **Landscaping Irrigation**. Where a segment is proposed in an area that may not have adequate water supplies or water treatment facilities, one or a combination of the following options shall be implemented:

1) Landscaping shall be excluded from the trail design;
2) Landscaping shall consist of native and drought-tolerant species that do not require long-term irrigation; or
3) Landscaping requiring long-term irrigation shall utilize recycled water supplies.

Landscaping plans shall be reviewed and approved by the implementing entity, in consultation with the water purveyor, prior to approval of each segment.

PS-1(b) **Retrofitting Existing Facilities.** Where a segment is proposed in an area that may not have adequate water, the RTC and/or implementing entity shall ensure that there is no net increase in water demand for the affected water service area as a result of increased use of existing restrooms or water fountains. This may occur through one of the following options, or a combination thereof:

1) Retrofit existing public restroom facilities at existing trail heads and staging areas (refer to Table 2-1 in Section 2.0, *Project Description*) to include low-flow toilets and other water saving devices;
2) Retrofit existing public restroom facilities at existing trail heads and staging areas to allow use of recycled water at existing facilities; and/or

3) Retrofit off-site public facilities (e.g. city or county offices, schools, etc.) that are within the same groundwater service area. The determination of the water demand that requires an offset, and the mechanisms for the offset, shall be determined by the implementing entity in consultation with the RTC and applicable water service provider(s).

PS-1(c) **New Bathroom in Watsonville Reach.** Should the proposed new bathroom on the Watsonville Reach be sited in an area without adequate surplus water supplies to serve the facility, then one of the following options shall be implemented to ensure no net increase in water demand:

1) Retrofit off-site public facilities (e.g. city or county offices, schools, etc.) that are within the same groundwater service area. The determination of the water demand that requires an offset, and the mechanisms for the offset, shall be determined by the implementing entity in consultation with the RTC and applicable water service provider(s);
2) Install zero-water demand restroom facility (e.g. compost toilet); or
3) Omit development of the new restroom facility.

Significance After Mitigation. Implementation of the above mitigation measure would reduce potential water supply impacts to a less than significant level.

Impact PS-2 **The proposed MBSST Network is anticipated to allow sufficient emergency access. In addition, demand generated by trail users would not result in an exceedance of average response times requiring construction of new facilities. Adjacent on-street facilities would also provide emergency access. Impacts to police, fire, and emergency services would be Class III, *less than significant*.**

The proposed MBSST Network would result in the construction of new facilities for alternative and active modes of transportation in Santa Cruz County, including bicycle, pedestrian, and equestrian paths. The proposed MBSST Network project would not generate additional population (i.e. residents or employees) that would require police, fire, or EMS services. However, potential emergency situations along the trail (i.e. medical emergencies or fires) could result in altered demand for existing police, fire, and EMS services in the County. As such, the adequacy of emergency access and potential response times to the portions of the proposed MBSST Network are discussed below.

Emergency Access. Emergency service providers (including police, fire, and EMS) would be able to access the proposed MBSST Network from 84 roadway crossings and 22 access and staging areas. Removable bollards would be installed at various locations throughout the proposed MBSST Network to prevent unauthorized motorists from entering the trail. Where

removable bollards are installed, the Trail Manager would ensure that all appropriate agencies (i.e. fire, police, and EMS service providers) have keys for access.

As part of this analysis, police, fire, and EMS service providers were contacted to ascertain whether any agency anticipates accessibility issues along the segments of the proposed MBSST Network project within their jurisdiction. Most providers did not indicate any emergency access issues. Several providers (including CAL FIRE, the CFPD, and City of Watsonville Fire Department) noted that minimum trail widths would be required to accommodate emergency vehicles. Specifically, CAL FIRE indicated that a minimum width of 12 feet would be required (Christopher Walters, Deputy Fire Marshal, CAL FIRE, Santa Cruz County Fire Department, Email Communication, November 28, 2012), while the CFPD indicated that a surface improvement width of 10 to 12 feet would be sufficient (John Walbridge, Battalion Chief, Personal Communication, November 15, 2012).

The northern portion of the northern reach (segments 1 and 2) would consist of a Class III on-street/road shoulder bike route. As these segments would be accessible from any point along Highway 1, emergency access along these segments is not a concern. Beginning in segment 3 through the end of the northern reach (segment 5), the proposed MBSST Network would include a new multi-use paved path adjacent to Highway 1. This path would be an approximately 12 foot wide paved surface with center lane striping in some areas. Because segments 3 through 5 would be at least 12 feet wide, they would accommodate CAL FIRE emergency service vehicles.

Through the central reach, the proposed multi-use trail would be approximately eight to 12 feet in width. Where the paved surface would be eight feet wide, the trail would include a minimum two foot buffer on either side of the paved trail, such that the total width would be 12 feet. Because the entire central reach of the proposed MBSST Network project would be at least 12 feet wide, the project would accommodate emergency vehicles.

Segments 15 through 18 and 20 of the Watsonville reach would include a paved surface of at least 12 feet in width, and would therefore provide sufficient emergency vehicle access. Segment 19 would consist of a new Class II bike lane and new sidewalks along Walker Street in the City of Watsonville. As this segment would be accessible from any point along Walker Street, emergency access along this segment would be sufficient.

Overall, the proposed MBSST Network project would be at least 12 feet wide, or would be located adjacent to an existing roadway, such that adequate space for emergency response vehicles would be provided.

Average Response Times. Table 4.12-1 provides a list of the emergency service providers that would serve the proposed MBSST Network, the existing average response times by those agencies, the expected response time to the proposed project, and whether the proposed MBSST Network would be within the average response time.

Table 4.12-2
Emergency Services and Response Times to the Proposed MBSST Network

Service Provider	MBSST Network Segments Served	Existing Average Response Time (minutes)	Expected Response Time to Project (minutes)	Within average response time? (Y/N)
Northern Reach				
CAL FIRE	1-5	9-10 (rural)	4-15	N
Santa Cruz County Sheriff's Department	1-5	8-9 (priority 1)	Not Provided	n/d
AMR	1-5	12	1-15	N
Central Reach				
City of Santa Cruz Fire Department	6-9	1-10	5	Y
Central Fire Protection District	9-11	5	5	Y
Aptos/La Selva Fire Protection District	11-14	5-6	6	Y
City of Santa Cruz Police Department	6-9	2-4	2-4	Y
City of Capitola Police Department	10 and 11	3-5	2-5	Y
Santa Cruz County Sheriff's Department	12-14	8-9 (priority 1)	Not Provided	n/d
AMR		18-30	16-30	Y
Watsonville Reach				
Aptos/La Selva Fire Protection District	15	5-6	6	Y
City of Watsonville Fire Department	16-19	4-6	4-6	Y
North County Fire Protection District	20	8 (90 percent)	4-8	Y
Santa Cruz County Sheriff's Department	15-17	8-9 (priority 1)	Not Provided	n/d
City of Watsonville Police Department	18 and 19	3-5	Not Provided	n/d
AMR	15-20	30	30-42	N

Sources:
Applied Survey Research, 2011
Christopher Walters. Deputy Fire Marshal. CAL FIRE. Santa Cruz County Fire Department. Pajaro Valley Fire Protection District. Email Communication. November 28, 2012
Brenda Brenner. Director of Operations. Santa Cruz County Division of American Medical Response. Personal Communication. November 27, 2012
Eric Aasen. Fire Division Chief. City of Santa Cruz Fire Department. Personal Communication. November 19, 2012
John Walbridge. Battalion Chief. Central Fire Protection District of Santa Cruz County. Email Communication. November 15, 2012 and November 22, 2012
Jeff Terpstra. Fire Chief. Aptos/La Selva Fire Protection District. Email Communication. November 28, 2012
Larry Richard. Lieutenant. Santa Cruz Police Department. Email Communication. November 22, 2012
Traci Hernandez. City of Capitola Police Department. Personal Communication. December 5, 2012
Rob Ryan. Fire Marshal. Watsonville Fire Department. Email Communication. November 29, 2012
Chris W. Orman. Fire Chief. North County Fire Protection District. Email Communication. November 29, 2012
Notes:
Not Provided – for these service providers, response time estimates were not provided. However, response times would be expected to vary depending on the location of the incident.
n/d=no data (response time estimates not provided by service provider; therefore, it is unknown whether future response times would meet or exceed current average response times).

As shown in Table 4.12-1, response times to the proposed MBSST Network project would vary, but would generally be within the existing average response times to those areas. Of the 16 providers listed in Table 4.12-1, only three providers estimate that the response times to the

proposed MBSST Network project may exceed existing average response times. For each of those providers (CAL FIRE and AMR in the northern reach, and AMR in the Watsonville reach), exceedances would occur only some of the time. For four of the 16 providers, future response time estimates were not provided. However, response times for these agencies would be expected to vary depending on the nature and location of the incident, and may exceed current averages. However, for all providers, the need to respond to an emergency along the trail would be expected to be infrequent and only occasional exceedances of average response times would occur.

As described previously, the proposed MBSST Network project would not generate additional population (i.e. residents or employees) that would require police, fire, or EMS services. In addition, emergency access to the proposed trail network would be sufficient, and the project would not cause emergency providers to consistently exceed existing average response times. As such, the MBSST network project would not generate sufficient demand for emergency services such that the construction of new facilities would be required. Impacts would be less than significant.

Mitigating Design Features. The proposed MBSST Network project contains risk management strategies and design guidelines that would limit potential adverse impacts related to emergency access and response times. For example, the Trail Manager and Trail Ranger would be responsible for observing trail operations to ensure the trail can accommodate all emergency (i.e. police, EMS, and fire) vehicles that might need to obtain access. In addition, removable bollards would be installed at various locations along the MBSST Network to prevent unauthorized motorists from entering the trail. Where removable bollards are installed, the Trail ~~Manager~~ Ranger would ensure that all appropriate agencies (i.e. fire, police, and EMS service providers) have the keys for access.

Mitigation Measures. No mitigation is required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

Impact PS-3 **The proposed MBSST Network may result in safety hazards due to conflicts between different types of trail users. However, with adherence to strategies and design requirements contained in the proposed MBSST Network Master Plan, impacts would be Class III, *less than significant*.**

Northern Reach. The northern reach of the proposed MBSST Network project would include 4.61 miles of coastal bluff trails, a Class III on-street/road shoulder bike route, a new multi-use paved path adjacent to Highway 1, and would accommodate pedestrian, bicycle, as well as equestrian uses. Equestrian use on the MBSST Network would be limited to the north coast area extending from Wilder Ranch to Davenport. Trail safety hazards in the northern reach may occur between different types of trail users (i.e. between bicyclists and pedestrians, bicyclists and equestrians, and/or pedestrians and equestrians); among trail users within the same group (i.e. between two bicyclists or two pedestrians with dogs); and as a result of factors not related to users' trail activities at all. Conflicts may be related to activity style (mode of travel, level of technology, or trail dominance), focus of trip, and attitudes toward other trail

users. Specific hazards include collisions or near misses among users, reckless behavior, or accident caused by unsafe trail conditions (e.g. uneven pavement or presence of debris).

Central and Watsonville Reaches. Trail safety hazards in the central and Watsonville reaches may occur between different types of trail users (e.g. between bicyclists and pedestrians); among trail users within the same group (i.e. between two bicyclists or two pedestrians with dogs); and as a result of factors not related to users' trail activities at all. Conflicts may be related to activity style (mode of travel, level of technology, or trail dominance), focus of trip, and attitudes toward other trail users. Specific hazards include collisions or near misses among users, reckless behavior, or accident caused by unsafe trail conditions (e.g. uneven pavement or presence of debris). In addition, a lack of trail security could result in safety concerns related to crime, emergency response, and vandalism throughout segments of the MBSST Network. Impacts related to emergency response are address above, in Impact PS-2.

Mitigating Design Features. The MBSST Network Master Plan identifies preventative measures to anticipate heavy use and preclude user conflict in multiple-use trails permitting use by walkers, runners, bicyclists, etc. These include the following:

1. *Involve all potential user groups in the planning process to raise issues and help address them*
2. *Design to minimize conflicts with separate trails or shoulders for pedestrian and equestrian use where possible, provide adequate width and sight lines, furnish turnouts at stopping points, etc.*
3. *Use clear signage or pavement markings to define etiquette and yielding protocol*
4. *Set expectations for multi-use*
5. *Enforcement of rules by volunteer trail patrols and/or a uniformed presence – especially when a trail is new to establish precedent and expectations*

The proposed Master Plan emphasizes trail etiquette through both informal and formal means. The proposed Master Plan recommends visual and simple displays of expectations, including the following courtesy advisories:

- *Wheels yield to heels*
- *Be courteous to all trail users*
- *Travel at a reasonable speed in a consistent and predictable manner*
- *Always look ahead and behind before passing*
- *Pass slower traffic on their left; yield to oncoming traffic when passing*
- *Give a clear warning signal before passing – use voice signal, not horn or bell, when passing horses*
- *Keep all pets on a short leash*
- *Respect the rights of adjacent property owners*
- *Don't be a litterbug*
- *Please clean up after your pets*
- *Move off the trail when stopped to allow others to pass*
- *Yield to other users when entering and crossing the trail*
- *Motorized vehicles are prohibited (except electric wheelchairs)*
- *Alcoholic beverages and illegal drugs are not permitted on the trail*
- *Firearms, fireworks, and fires are not permitted on the trail*
- *All trail users should use a light and reflectors after dusk and before dawn*
- *Travel no more than two abreast*

- *Be aware and courteous to others while using a cellular phone*

In addition, various types of fencing would be used for the following reasons: safety, security, trespass prevention, environmental impacts, and privacy. Moreover, a primary contact point (the Trail Manager) would be identified and be made available to the general public within their jurisdictions for general inquiries and management.

The Trail ~~Manager~~ Ranger would be responsible for the day-to-day operation and maintenance of the MBSST Network. This includes trash clean up and disposal and repairs to trail features. This would help ensure proper maintenance of the trail, thereby avoiding potential collisions or accidents caused by unsafe trail conditions (e.g. uneven pavement or presence of debris).

Mitigation Measures. No mitigation is required.

Significance After Mitigation. With adherence to the existing requirements of the proposed MBSST Network Master Plan, impacts would be less than significant.

c. Cumulative Impacts.

Water Supply and Infrastructure. Additional development resulting from buildout of Santa Cruz County and the cities of Santa Cruz, Capitola, and Watsonville would increase the demand for water and the associated infrastructure. As discussed in Impact PS-1, although the proposed MBSST Network project is not anticipated to result in substantial water demand, some segments of the trail are located in areas where water supply cannot be assured. In addition, the water landscape in Santa Cruz is evolving, and fewer (or more) supplies may be available at the time a specific segment is proposed for development. Implementation of mitigation measure PS-1 would prevent the project from incrementally contributing to cumulative effects on water supply availability and provision of adequate infrastructure within the water service areas that serve the trail corridor; therefore, no significant cumulative impacts are anticipated.

Emergency Services. New development in the County would increase demands on fire, EMS, and police protection services and generate additional traffic congestion that could hinder emergency response. In addition, as development continues to occur, it could create the need for new or expanded fire, police, or EMS facilities in the future, the construction of which could cause environmental impacts. However, the location, size and type of such facilities is speculative at this point in time, and would be subject to subsequent environmental review. Until such facilities are constructed, impacts would continue to be mitigated on a case-by-case basis. The proposed MBSST Network would incrementally contribute to this cumulative effect. Project design features would in part address these impacts. In addition, the infrequent demand generated by the proposed MBSST Network would not necessitate the construction of new or expanded police, fire or EMS facilities. Therefore, it is anticipated that the project's contribution to cumulative impacts across the County would be less than significant.

Trail Conflicts. Future bike/pedestrian trail projects in Santa Cruz County could increase the potential for safety hazards due to trail conflicts. However, safety hazards associated with the various types of trail conflicts, as described in Impact PS-3, are project specific. As such, impacts associated with trail conflicts would be evaluated on a case-by-case basis as new development is proposed in the future and no significant cumulative impacts would occur.

5.0 LONG-TERM IMPACTS

5.1 GROWTH-INDUCING EFFECTS

The *State CEQA Guidelines* require that an EIR include a discussion of the ways in which a project could cultivate economic or population growth, either directly or indirectly. Growth does not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant adverse environmental effects. Therefore, the proposed MBSST Network project's growth-inducing potential would be considered significant if it could result in significant physical effects in one or more environmental issue areas. A project may be growth-inducing (either directly or indirectly) if it fosters economic or population growth, removes obstacles to growth (e.g., roadway widening projects), or taxes community service facilities to the extent that the construction of new facilities would be necessary.

5.1.1 Economic and Population Growth

As a multi-use trail, the proposed MBSST Network project would not increase the residential or employment populations of Santa Cruz County. Rather, it would facilitate increased recreational opportunities for current residents and an alternative to passenger car travel for employees in the County. Consequently, no direct growth inducement is expected to result from MBSST Network Master Plan implementation.

The increased recreational opportunities associated with the MBSST Network project may, however, have indirect impacts by attracting trail users from outside the County. Although the proposed MBSST Network would have beneficial effects on County circulation by increasing opportunities for the use of alternative modes of transportation, an influx of visitors may result in increased recreational traffic in the County, particularly on weekends. In addition, an influx of tourists may indirectly influence the market for the development of additional commercial establishments (e.g., restaurants, hotels, bike shops) in the vicinity of the proposed MBSST Network, due to a minor increase in demand for such services that may be created by trail visitors. The proposed MBSST Network project would also directly generate short-term employment during construction of the trail. However, jobs created by this additional activity would likely be filled by the local workforce and would not result in a significant source of employment or economic growth.

For the reasons described above, the proposed MBSST Network would not directly induce economic growth, but has the potential to indirectly induce a limited amount of economic growth in the unincorporated Santa Cruz County area, as well as cities of Santa Cruz, Capitola, and Watsonville, where the proposed MBSST Network would connect to existing and under-construction trails, existing bicycle facilities, or existing commercial development in those urban areas. However, it should be recognized that the ultimate extent of urban expansion in Santa Cruz County will largely be dependent upon a variety of other factors, including market forces and land use policies. Therefore, the proposed MBSST Network project would not be growth-inducing as it would not affect long-term employment opportunities or increase the region's population.

5.1.2 Removal of Obstacles to Growth

The proposed MBSST Network project would result in the construction of new facilities for active modes of transportation in Santa Cruz County, including bicycle, pedestrian, and equestrian paths. One new public restroom facility would be constructed within the Watsonville reach, which would be constructed to serve the incremental and intermittent needs of future trail users. The new restroom facility would not require expansion or construction of new water treatment infrastructure. In addition, any new water utility lines, if required, would be sized to serve the project only. Also, no new roads would be required to serve the MBSST Network project. Because of the nature of the project as a recreational multi-use trail, the proposed MBSST Network project itself does not remove an obstacle to growth. Because the proposed MBSST Network would not require the expansion or development of new infrastructure to serve the project, it would not remove an obstacle to growth.

5.2 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL EFFECTS

The *State CEQA Guidelines* specify that an EIR shall include a discussion of significant irreversible environmental changes which would occur if the proposed project were implemented. This includes analysis of the use of nonrenewable resources, primary and secondary impacts which commit the project area to similar uses in the future, and irreversible environmental damage.

Construction and maintenance of the proposed MBSST Network would consume building materials and energy, some of which are non-renewable resources. However, by providing opportunities for the use of alternative transportation modes (e.g., walking and bicycling), Master Plan implementation may help reduce long-term dependence on the automobile and non-renewable petroleum resources. Consequently, the MBSST Network project may have beneficial impacts related to the long-term use of non-renewable resources.

CEQA also requires decision makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. The analysis contained in this EIR did not identify any Class I, *significant and unavoidable* impacts relative to the implementation of the proposed MBSST Network project.

6.0 ALTERNATIVES

As required by Section 15126(d) of the *State CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed MBSST Network project that could feasibly achieve similar objectives. Included in this analysis are the CEQA-required "no project" alternative and two alignment alternatives.

The goals of the proposed MBSST Network project are as follows:

- *Define a continuous trail alignment that maximizes opportunities for a multi-use bicycle and pedestrian trail separate from roadway vehicle traffic spanning the length of Santa Cruz County;*
- *Develop public trail access along the Monterey Bay National Marine Sanctuary to enhance appreciation, understanding, and protection of this special resource;*
- *Promote awareness of the trail, trail opportunities, and trail user responsibilities;*
- *Develop a long- and short-term program to achieve the policies set forth in this plan through a combination of public and private funding, regulatory methods, and other strategies; and*
- *Develop the necessary organizational, staffing, and funding mechanisms to ensure that all trail segments, trailheads, and accessory features are safe, well-maintained, and well-managed.*

Based on the potentially significant impacts that could result from implementation of the MBSST Network project, as identified in Section 4.0 of this EIR, the goals identified above, and input from the community, three alternatives were chosen for analysis in this section. These alternatives include the following:

- Alternative 1: No Project
- Alternative 2: On-Road Alignment
- Alternative 3: Reduced Project

As required by CEQA, this section also includes a discussion of the "environmentally superior alternative" among those studied.

6.1 ALTERNATIVE 1: NO PROJECT

6.1.1 Description

The No Project alternative assumes that the proposed MBSST Network is not constructed. However, since regional plans endorse trail construction, this alternative assumes that bicycle/pedestrian trail planning and construction in areas other than the MBSST Network corridor would continue as envisioned under existing plans. Under this alternative, bicyclists would either follow existing bike paths, lanes, routes or other city and county roadways where formal facilities do not exist. Pedestrians would utilize existing sidewalks.

6.1.2 Impact Analysis

With the implementation of the No Project alternative, no new development would occur within the MBSST Network project area, including the Santa Cruz Branch Rail Line right-of-

way. Since new development would not occur, potential impacts related to construction and long-term site disturbances, such as aesthetics; air quality; biological resources; cultural resources; greenhouse gas emissions; hazards and hazardous materials; and noise would not occur. In addition, since no new daily vehicle trips would be added to local roadways by trail users accessing the trail, impacts based on vehicle trip generation would not occur. These issues include air quality; greenhouse gas emissions; noise; and transportation/traffic. It should be noted, however, that the proposed MBSST Network would link the urban areas within the County of Santa Cruz, thereby providing an active mode of travel between these areas that was not previously available. The MBSST Network would therefore be expected to encourage increased use of bicycles and walking for local commuting, thus decreasing overall vehicle miles traveled (VMT). Because this alternative would not provide an alternative transportation link throughout the County, it would not reduce VMT. Some air quality and greenhouse gas impacts may therefore be worse under this alternative. Since no new development would occur in or adjacent to areas currently used for agricultural production, this alternative would not result in impacts to agricultural resources.

Overall, impacts would be less than for the proposed MBSST Network project with the exception of a potential increase in VMT.

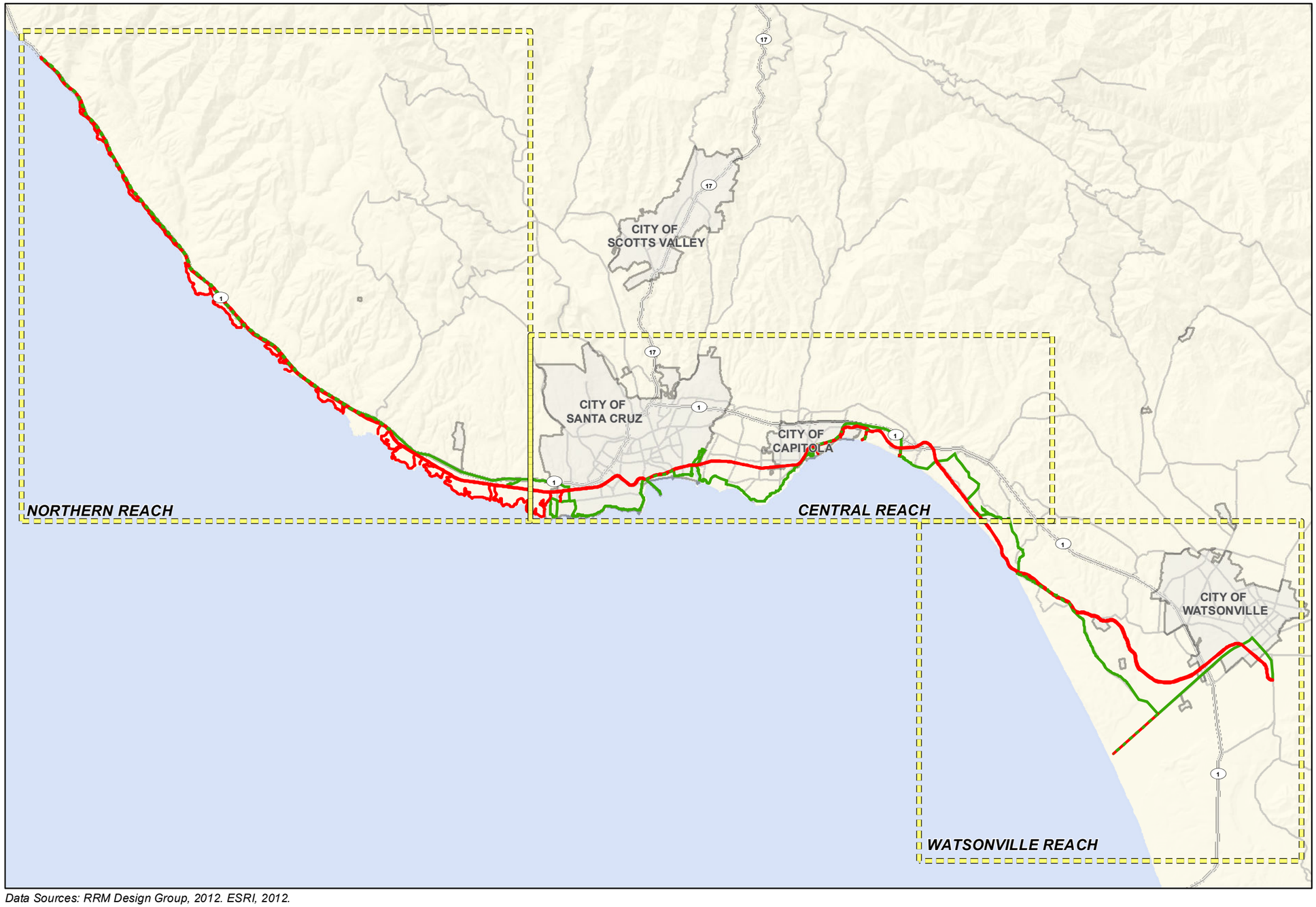
6.2 ALTERNATIVE 2: ON-ROAD ALIGNMENT

6.2.1 Description

This alternative would eliminate the multi-use trail along the rail right-of-way and would instead utilize existing on road facilities, constructing new on-road bicycle improvements where needed. Pedestrians would utilize existing sidewalks or road shoulders. No equestrian facilities would be provided.

The On-Road Alignment alternative is shown in Figure 6-1. In the northern reach, this alternative would align with Highway 1. In the central reach, the alignment would follow the previously defined MBSST core alignment, utilizing existing on-road sidewalks, bicycle lanes (Class II), and separated bike paths (Class I) facilities along the shoreline through Santa Cruz, Capitola, and unincorporated urban areas. Some new on-road bicycle improvements would be constructed, where exiting facilities are absent. In the Watsonville reach, this alternative would utilize Rio Del Mar Boulevard to Clubhouse Drive to Sumner Avenue to Seascape Boulevard to San Andreas Road to West Beach Street to Main Street/Porter Drive in Watsonville. On road facilities would also be constructed along West Beach Street, and a connection would be provided on Thurwacher Road from West Beach Street to connect to the Monterey County reach of the Monterey Bay Sanctuary Scenic Trail at the Pajaro River.

Improvements associated with this alternative would be limited to on-road bicycle facilities where existing facilities are not available. It is assumed that this alternative would only construct Class II designated bicycle lanes or Class III designated bicycle routes (and not a separated Class I bikeway), and would therefore not require roadway widening.



Legend

- Proposed MBSST Network
- On Road Alignment Alternative
- Reaches

N

0 1.25 2.5 Miles

Data Sources: RRM Design Group, 2012. ESRI, 2012.

On Road Alignment Alternative

Figure 6-1

This alternative would utilize the existing street network. As a result it would have substantially more roadway crossings than the proposed project. In addition, because it would not utilize the existing rail corridor, there would be no rail bridge crossings.

Because this alternative would be limited to on-road bicycle lanes or bicycle routes, it would not provide many of the trail amenities associated with the proposed project. This includes: trail staging areas and rest areas containing benches, trash receptacles, bike racks, and picnic and shade shelters; landscaping; trail fencing; or lighting. Because these facilities would not be provided, this alternative would not include rail trail design standards or a Trail Manager.

The overall width and length of this alternative would also be substantially reduced when compared to the proposed project, and would therefore result in less overall disturbance.

6.2.2 Impact Analysis

a. Aesthetics. This alternative eliminates the multi-use trail along the rail right-of-way, and instead utilizes existing on-road facilities and constructs new on road bicycle lane or bicycle route improvements where existing facilities are not available. Trail amenities included in the proposed project (such as staging and rest areas, landscaping, fencing, and lighting) would be eliminated under this alternative. In addition, because improvements would be limited to relatively narrow on road facilities, the extent of disturbance would be substantially reduced (from an average of approximately 25 feet for the proposed project to a maximum of five feet for the On-Road Alignment alternative). Because the extent and scale of improvements would be substantially reduced, overall effects to scenic vistas and visual character would be reduced when compared to the proposed project. Similar to the proposed project, these impacts would be less than significant, and no mitigation would be required. In addition, as no lighting would be added, impacts related to night lighting would be eliminated.

b. Agricultural Resources. Improvements associated with the On-Road Alignment alternative would be limited to within existing street rights-of-way. Therefore, this alternative would not disturb any land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. This impact, which is considered significant but mitigable for the proposed project, would be reduced to less than significant and no mitigation would be required.

As with the proposed project, some segments of this alternative would be adjacent to areas zoned for agriculture and/or adjacent to areas with existing Williamson Act contracts. Because this alternative would be limited to existing road right-of-ways, impacts related to conflicts with existing zoning or Williamson Act contracts would be less than significant, similar to the proposed project.

As with the proposed project, trail users would travel adjacent to ongoing agricultural operations in the northern and Watsonville reaches, and could be exposed to agricultural pesticides and dust generated by farm equipment. However, existing agricultural operations are already subject to pesticide restrictions limiting spraying adjacent to roadways such as Highway 1, San Andreas Road, and West Beach Street. Therefore, risk of pesticide exposure would be slightly lower with this alternative, as compared to the proposed project. Other

conflicts between trail users and agriculture would be slightly reduced, because agriculture would only be located on one side of the trail. Although impacts would be reduced, they would remain significant but mitigable, and mitigation measure AG-3(a) (Notice of Agricultural Activities) would continue to be required. Because this alternative would not include landscaping or a Trail Manager, mitigation measures AG-3(b) and AG-3(c) would not apply.

c. Air Quality. Similar to the proposed project, the On-Road Alignment alternative would not contribute to population growth, and would therefore be consistent with the growth assumptions in the *Air Quality Management Plan* (AQMP). In addition, this alternative would consist of "new and improved bicycle facilities," which is listed as a transportation control measure (TCM) in the AQMP. This alternative would therefore directly implement a TCM, and would result in beneficial impacts related to AQMP consistency, similar to the proposed project. It should be noted, however, that this alternative would not implement the proposed MBSST Network, which is specifically listed as a priority project in the AQMP. Thus, while beneficial, this alternative would be slightly less beneficial than the proposed project.

Improvements associated with this alternative would include on-road bicycle facilities where existing facilities are not available, which would be limited to a maximum of five feet in width (compared to an average of 25 feet for the proposed project). Therefore, construction of this alternative would require less earth-moving activity, resulting in lower criteria pollutant emissions from construction. Construction-related air quality impacts would therefore be reduced when compared to the proposed project, and would be less than significant, similar to the proposed project.

This alternative would include a limited number of new bicycle facilities, and would not construct new pedestrian or equestrian facilities. In addition, this alternative would not include the construction of staging areas, to which new vehicle trips may travel. As a result, this alternative would be expected to generate fewer vehicle trips than the proposed project. Operational air quality impacts would therefore be somewhat reduced when compared to the proposed project, and impacts would be less than significant. It should be noted, however, that the proposed MBSST Network would link the urban areas within the County of Santa Cruz, thereby providing an active mode of travel between these areas that was not previously available. The MBSST Network would therefore be expected to encourage increased use of bicycles and walking for local commuting, thus decreasing overall VMT. This alternative would only provide limited on-road bicycle improvements in some areas, and would not provide new pedestrian facilities. Because this alternative would be expected to generate fewer trail users, it would not reduce VMT to the extent of the proposed project, and would therefore not achieve the same level of beneficial effects as the project.

As with the proposed project, this alternative would not contribute to an exceedance of any level of service (LOS) standard. Impacts related to carbon monoxide hotspots would therefore be less than significant, similar to the proposed project.

d. Biological Resources. The overall width and length of this alternative would be substantially reduced when compared to the proposed project, resulting in less overall disturbance. In addition, improvements would be limited to within existing street rights-of-way. As a result, overall effects to special status plant and animal species would be reduced. As

described in Section 4.4, *Biological Resources,* the northern reach has the largest number of special status plant and animal species, most of which are associated with either coastal scrub habitat or drainages. The On-Road Alignment alternative would utilize the existing Highway 1 right-of-way through the northern reach, and would not widen the roadway into adjacent habitat. The Watsonville reach also contains habitat for special status plant and animal species, most notably within the Gallighan and Watsonville Sloughs, the Santa Cruz Long-toed Salamander Ecological Reserve, the Ellicott Slough National Wildlife Refuge, and the Pajaro River. Within the Watsonville reach, this alternative would utilize existing roadways primarily outside of these sensitive areas. Thus, overall effects to special status plant and animal species would be reduced when compared to the proposed project. However, some impacts could still occur, such that mitigation measures B-1(a) and B-1(b) would still be required. Other species-specific mitigations may also be required, depending on the precise location of improvements, such as B-1(d) for California red-legged frogs that may migrate across roadways, and B-1(i) for pallid bats roosting under bridges.

Because of the reduced level of disturbance and use of existing disturbed rights-of-way, impacts to riparian and other sensitive habitats would also be reduced. Depending on the precise location of alternative improvements, mitigation measures B-2(a) and B-2(b) may be required to identify and mitigate for lost wetland and riparian habitat. Because this alternative would not include landscaping, nor disturb areas outside the road right-of-way, mitigation measures B-2(c) and B-2(d) would no longer be required.

Because this alternative would not include trail amenities like landscaping or fencing, wildlife movement would not be restricted. Impacts would be less than significant, and mitigation measures B-3(a) and B-3(b) would not be required.

e. Cultural Resources. This alternative would utilize existing on-road facilities and would construct a limited number of new bicycle facilities within existing road rights-of-way. Disturbance outside of existing rights-of-way would not be required. Thus, the potential for damaging known prehistoric or archaeological resources would be substantially reduced when compared to the proposed MBSST Network. Similarly, the On-Road Alignment alternative would not use new or retrofitted rail bridges. Therefore, improvements associated with this alternative would not alter existing historical structures. Impacts would be reduced to less than significant and no mitigation would be required.

Because this alternative would result in less overall site disturbance and would not disturb areas outside of the existing roadway, the potential for unearthing previously unidentified prehistoric or historical cultural resources would be substantially reduced when compared to the proposed project. Based on this reduced potential, it is not anticipated that mitigation measure CR-2(a) (Archaeological Resource Construction Monitoring) would be required. However, mitigation measure CR-2(b) (Unearthed Prehistoric or Archaeological Cultural Remains) would still be required to ensure that any identified resources, should they be encountered, are appropriately mitigated.

f. Geology and Soils. As described in Section 4.6, *Geology/Soils,* the San Gregorio Fault lies under segments 1 and 2 of the MBSST Network. The On-Road Alignment alternative would

include some improvements along Highway 1 in this location, similar to the proposed project. Impacts related to fault rupture would therefore be similar and less than significant.

This alternative would utilize existing roadways and would not construct new bridges or a restroom facility. Therefore, seismically induced ground shaking impacts to these structures would be eliminated.

As shown in Figures 4.6-2a through 4.6-2c and Figures 4.6-4a through 4.6-4c in Section 4.6, *Geology/Soils,* areas of high liquefaction potential, expansive soils, landslide potential, and unstable soils occur throughout the MBSST Network reaches. Thus, although this alternative would move the proposed project to existing roadways, the potential for seismic-related ground failure, landslides, soil stability impacts, and expansion would generally be similar to the proposed project. Impacts would be significant but mitigable, and mitigation measures GEO-3, GEO-4, and GEO-7 would continue to be required.

The On-Road Alignment alternative would generally be located slightly closer to the coastline than the proposed project, particularly within the central and Watsonville reaches. Because this alternative would be limited to the construction of on-road bicycle improvements where existing facilities are not available, the extent of construction in these coastal areas would be substantially less than the proposed project. Therefore, coastal erosion hazards would not be expected to increase. In addition, although this alternative would not be subject to the design standards contained in the proposed Master Plan (including erosion control methods identified therein), it would still be required to comply with local regulatory policies. Thus, overall, erosion impacts would be similar to the proposed project and remain less than significant.

g. Greenhouse Gas Emissions. As described under the *Air Quality* discussion above, this alternative would result in lower criteria pollutant emissions from construction and would generate fewer vehicle trips than the proposed project. Therefore, this alternative would result in fewer greenhouse gas (GHG) emissions than the proposed project. Similar to the project, impacts would be less than significant. In addition, this alternative would be consistent with the Climate Action Team GHG reduction strategies, the 2008 Attorney General Greenhouse Gas Reduction Measures, the County of Santa Cruz Climate Action Strategy, and the City of Santa Cruz Climate Action Plan, similar to the proposed MBSST Network project.

It should be noted, however, that the proposed MBSST Network would link the urban areas within the County of Santa Cruz, thereby providing an active mode of travel between these areas that was not previously available. The MBSST Network would therefore be expected to encourage increased use of bicycles and walking for local commuting, thus decreasing overall VMT. This alternative would only provide limited on-road bicycle improvements in some areas, and would not provide new pedestrian facilities. Because this alternative would be expected to generate fewer trail users, it would not reduce VMT to the extent of the proposed project, and would therefore not achieve the same level of beneficial effect as the project.

h. Hazards and Hazardous Materials. The On-Road Alignment alternative would not utilize the rail line right-of-way and would not disturb areas outside of existing roadways. As discussed in Section 4.8, *Hazards and Hazardous Materials,* contamination is present in areas of the rail corridor as a result of historic rail operations and other adjacent activities. Because this

alternative would avoid this contamination by moving out of the rail corridor and require less grading overall, construction activities would have a lower potential to expose construction workers to health hazards by releasing contaminants that could be present in the soil. Impacts would be reduced when compared to the proposed project, and no mitigation would be required.

This alternative would not require retrofitting of any existing railroad bridge/trestle structures nor any new rail crossings. Therefore, impacts related to asbestos and lead-based paint on these facilities, which were less than significant for the proposed project, would be eliminated.

Similar to the proposed project, this alternative would be located adjacent to agricultural, commercial, and industrial activities, which may include the use of pesticides, herbicides, petroleum-based fuels, chlorinated solvents, or other chemicals considered to be a human health threat. However, this alternative would be expected to generate fewer trail users. Therefore, fewer people would be exposed to such hazards. As described in Section 4.8, *Hazards and Hazardous Materials,* the primary concern for trail users is related to potential pesticide exposure. As noted under the *Agricultural Resources* discussion above, existing agricultural operations are already subject to pesticide restrictions limiting spraying adjacent to roadways such as Highway 1, San Andreas Road, and West Beach Street. Therefore, risk of pesticide exposure would be lower with this alternative, as compared to the proposed project. Mitigation for the proposed project includes the creation of a communication system between the Santa Cruz County Agricultural Commissioner's office, RTC, implementing entities, and the Trail Manager to allow for trail closure following application of agricultural chemicals, should it be needed. This project would not require a Trail Manager, nor would trail closure be feasible, given that the alternative would be comprised of on-road facilities. Further, many of the on road facilities utilized by this alternative are already in place. Overall, impacts would be considered less than significant for this alternative, and no mitigation would be required.

Because this alternative would eliminate the multi-use trail along the rail right-of-way, public safety hazards associated with railway accidents involving hazardous materials and the subsequent exposure to contaminants would not occur. However, because this alternative would utilize the existing street network, it would have a higher potential for exposure to roadway accidents that involve hazardous materials. As noted in Section 4.8, *Hazards and Hazardous Materials,* due to the infrequency of train operations and the transient nature of trail use, the probability of an accident occurring when trail users are present would be low. In contrast, the On-Road Alignment would place trail users adjacent to roadways with substantially more activity than the rail line, thus increasing the probability of a roadway accident involving hazardous materials. This impact would be slightly worse for this alternative; however, due to the transient nature of trail use and regulations already in place, impacts would still be considered less than significant, similar to the proposed project.

Underground utility lines may be located beneath existing roadways utilized for this alternative, similar to the proposed project. This impact would be similarly mitigated through implementation of mitigation measure HAZ-5(a) (Utility Line Location and Consultation).

Finally, the On-Road Alignment alternative would construct new bicycle facilities in areas designated as having moderate to high wildland fire hazards, similar to the proposed project.

Although fewer users would be exposed to such potential hazards due to the expected reduction in trail use, given the relative infrequency of wildfires and the transient nature of trail use, as noted in Section 4.8, *Hazards and Hazardous Materials,* the potential for exposing trail users to a significant wildland fire hazard would be low. Therefore, impacts related to wildland fire hazards would be considered similar to the proposed project, and would be less than significant.

i. Hydrology and Water Quality. The overall width and length of this alternative would be substantially reduced when compared to the proposed project, resulting in less overall disturbance. In addition, improvements would be limited to within existing street rights-of-way. As a result, the On-Road Alignment alternative would not increase impervious surfaces and would consequently not increase stormwater runoff. The potential for increased stormwater runoff and related water quality impacts, which would be less than significant for the proposed project, would therefore be eliminated. Similarly, this alternative would not alter existing groundwater recharge. This impact, which would be less than significant for the proposed project, would also be eliminated.

The On-Road Alignment alternative would not construct a new restroom facility. Therefore, impacts associated with the degradation of water quality due to a septic system, which would be less than significant for the proposed project, would be eliminated.

The proposed MBSST Network Master Plan outlines drainage and erosion control methods that will be implemented during construction and operation of the MBSST Network. As described in Section 4.9, *Hydrology and Water Quality,* these methods would ensure that the MBSST Network would not contribute to water quality degradation of impaired water bodies. Because this alternative would consist of a few on-road improvements, it would not be subject to the design standards in the proposed Master Plan. However, the On-Road Alignment alternative would not increase runoff, and construction of the alternative would not be expected to contribute to water quality degradation of impaired water bodies. Therefore, similar to the proposed project, impacts from this alternative would be less than significant.

Portions of the On-Road Alignment alternative would be located within the 100-year floodplain, similar to the proposed project. However, this alternative would not construct any bridges, and therefore would not have the potential to alter flow characteristics or result in greater upstream flooding. Further, because less overall site disturbance would occur and fewer trail users would be exposed to potential flooding hazards, overall flooding-related impacts would be reduced when compared to the proposed project. Impacts would be less than significant, and mitigation outlined in Section 4.9, *Hydrology and Water Quality,* would not be required.

Similar to the proposed project, portions of the On-Road Alignment alternative would be constructed within tsunami inundation and seiche hazard zones. However, this alternative would generate fewer trail users, and therefore would expose fewer people to these potential hazards. This impact would be reduced and would be less than significant, similar to the proposed project.

j. Noise. Improvements associated with this alternative would include on-road bicycle facilities where existing facilities are not available, which would be limited to a maximum of

five feet in width (compared to an average of 25 feet for the proposed project). Therefore, construction of this alternative would require less earth-moving activity, resulting in less overall noise from construction. Construction-related noise impacts would be reduced; however, impacts to sensitive receptors could still occur, and mitigation measures N-1(a) through N-1(c) would be required.

This alternative would include a limited number of new bicycle facilities, and would not construct new pedestrian or equestrian facilities. As a result, this alternative would generate fewer operational noise impacts, such as trail users talking, maintenance workers collecting garbage or maintaining landscapes, or dogs barking. In addition, this alternative would not include the construction of staging areas, to which new vehicle trips may travel. As a result, this alternative would be expected to generate fewer vehicle trips than the proposed project. Operational noise impacts would therefore be reduced when compared to the proposed project, and would be less than significant, similar to the proposed project.

Users of the On-Road Alignment would not be exposed to noise from active rail operations, but would be exposed to greater amounts of noise from vehicles. Because fewer trail users would be generated by this alternative, fewer people would be exposed to noise overall. However, similar to the proposed project, this alternative would not be considered a sensitive use. Impacts would therefore be less than significant, similar to the proposed project.

k. Transportation/Traffic. This alternative would include a limited number of new bicycle facilities, and would not construct new pedestrian or equestrian facilities. In addition, this alternative would not include the construction of staging areas, to which new vehicle trips may travel. As a result, this alternative would generate fewer trail users, and would therefore reduce the overall number of vehicle trips (both locally to trail staging areas, and regionally). Impacts related to the exceedance of a level of service standard, which would be less than significant for the proposed project, would be reduced, and would also be less than significant.

Because this alternative would utilize the existing street network, it would have substantially more roadway crossings than the proposed project. Although fewer trail users would be generated, and thus fewer people exposed to such hazard, the number of additional crossings is such that potential conflicts between trail users and automobile traffic would increase when compared to the proposed project. Similarly, the potential for conflicts between pedestrians and bicyclists at street crossings would also increase. Mitigation measures T-3(a), T-3(b), and T-5 would be required, and would reduce conflicts to a less than significant level.

Because this alternative would not utilize the existing rail corridor, potential conflicts between trail users and railroad operations would be virtually eliminated, occurring only where network roadways cross the rail line. This impact, which would be less than significant for the proposed project, would be reduced for this alternative.

Improvements associated with this alternative would include on-road bicycle facilities where existing facilities are not available, which would be limited to a maximum of five feet in width (compared to an average of 25 feet for the proposed project). Therefore, less construction activity would be required and conflicts between construction vehicles and existing vehicle traffic would be reduced when compared to the proposed project. Mitigation measure T-6

would still be required to address potential safety conflicts, and impacts would be significant but mitigable.

The On-Road Alignment alternative would not include fencing. Impacts related to inhibiting pedestrian access and reducing local connectivity, which was considered significant but mitigable for the proposed project, would therefore be eliminated.

l. **Public Safety and Services.** The On-Road Alignment alternative would not construct a new restroom facility, and would not include any landscaping. Therefore, this alternative would not generate water demand. Impacts related to water supply, which were significant but mitigable for the proposed project, would be eliminated.

Improvements associated with this alternative would include on-road bicycle facilities where existing facilities are not available. Trail users would utilize the existing road network. Emergency access would therefore be readily available, and the alternative improvements would not result in an exceedance of average response times for police, fire, and emergency services. This impact would be reduced when compared to the proposed project, and would remain less than significant.

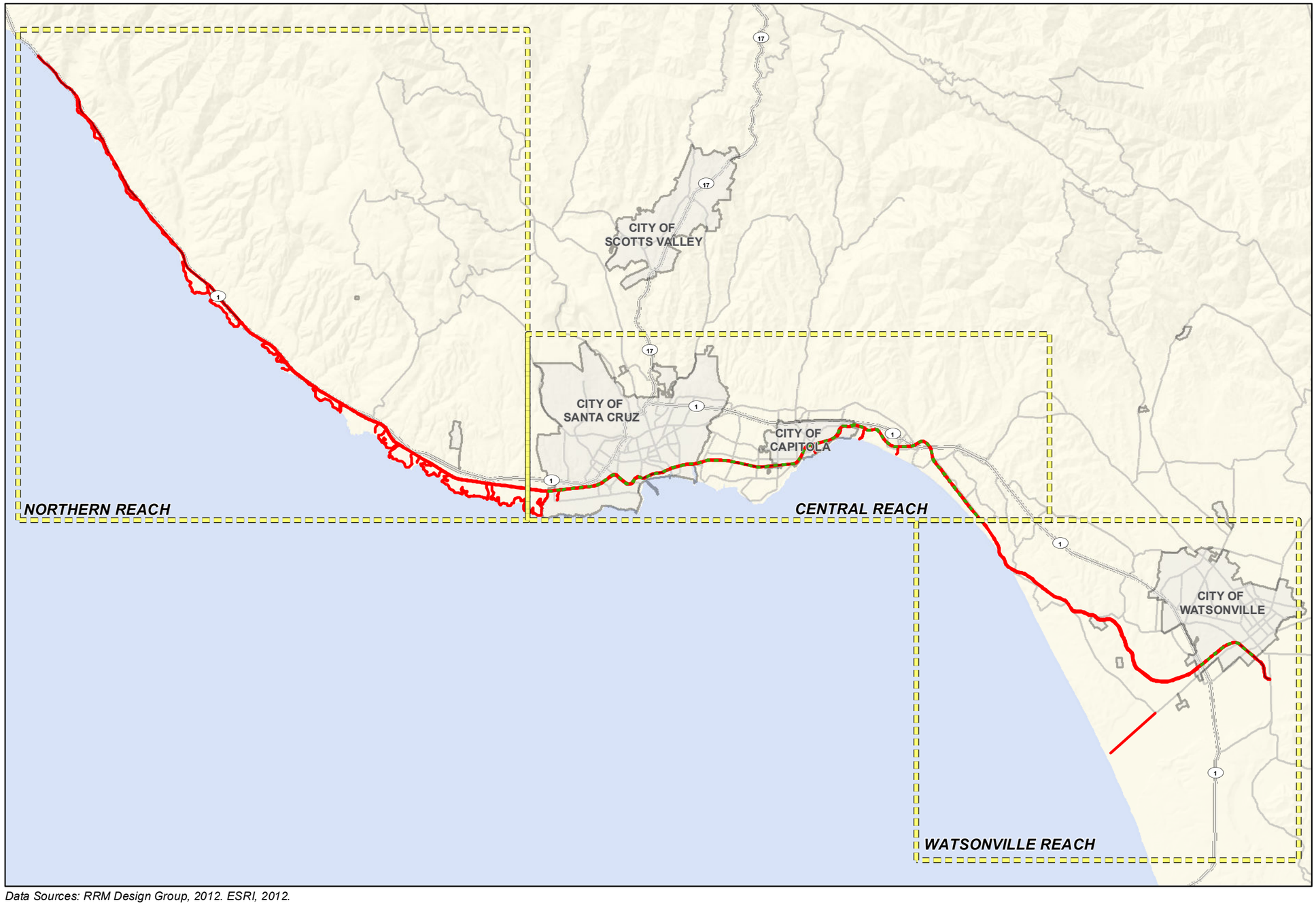
This alternative would not construct new pedestrian or equestrian facilities; only new on road bicycle facilities would be provided where currently absent. Conflicts between different types of trail users could still occur where pedestrians are present. However, this impact would be reduced when compared to the proposed project, and would continue to be less than significant.

6.3 ALTERNATIVE 3: REDUCED PROJECT

6.3.1 Description

This alternative would reduce the length of the project by eliminating ten segments from the proposed MBSST Network. Segments located in the more rural areas of the county would be eliminated (segments 1 through 6, segments 15 through 17, and segment 20). These segments total 31.5 miles, and are located in the northern and Watsonville reaches. The Reduced Project alternative would include construction of segments 7 through 14 (in the central reach) and segments 18 and 19 (in the Watsonville reach), for a total length of 18.1 miles. Along these ten segments, the alignment and design features would be identical to the proposed project. The Reduced Project alternative is shown in Figure 6-2.

The purpose of this alternative is to reduce environmental impacts while providing new bicycle and pedestrian facilities to the higher density areas anticipated to have a greater demand for pedestrian and bicycling facilities. Improvements along the ten urban segments would be identical to the proposed project, and would include: various types of trail fencing; trail furnishings such as benches and seating areas, trash receptacles, bike racks, and picnic and shade shelters; rest areas containing trail furnishings, kiosks with traveler information, and interpretive signage; new pre-engineered and/or retrofitted bridges; roadway and railway crossings; and wayfinding signage. No improvements would be constructed along the eliminated segments.



Data Sources: RRM Design Group, 2012. ESRI, 2012.

Reduced Project Alternative

Figure 6-2

This alternative would be the same width as the proposed project but would reduce the length of the project from 49.6 to 18.1 miles (a 63.5% reduction). Therefore, the overall disturbance area would be reduced. Because this alternative would eliminate improvements in the more rural areas of the Watsonville reach, the new restroom facility included in the proposed MBSST Network project for this location would not be included with this alternative.

6.3.2 Impact Analysis

a. Aesthetics. This alternative would follow the same alignment as the proposed project for approximately 18.1 miles in the more urbanized areas of the County, and would eliminate the remaining 31.5 miles of the trail in the northern and Watsonville reaches. Because this alternative would eliminate any improvements along the northern reach (segments 1 through 6), visual resource impacts along this highly scenic corridor would be eliminated. Similarly, no improvements would occur along rural areas of the Watsonville reach (segments 15 through 17 and 20), which provides expansive rural agricultural vistas. Although improvements would still occur along a portion of the MBSST Network, including areas with scenic coastal vistas and scenic areas, overall effects to scenic vistas and visual character would be reduced when compared to the proposed project. In addition, because fewer segments would be constructed, less overall lighting would be added to the trail corridor.

For the remaining segments, the Reduced Project alternative would continue to comply with design standards outlined in the Master Plan, including the provision of a uniform sign design and logo theme. A Trail ~~Manager~~ Ranger would also continue to be responsible for landscape maintenance, trash clean up and disposal, graffiti removal, possible trail closures, and repairs to trail components in accordance with a trail operations and maintenance plan. The establishment of a formal trail operations and maintenance plan would help ensure adequate maintenance of the Reduced Project alternative and facilities, thereby avoiding unsightly aesthetic conditions. Similar to the proposed project, impacts would be less than significant and no mitigation would be required.

b. Agricultural Resources. This alternative would eliminate ten segments of the proposed MBSST Network, and would only construct improvements within the urban areas of the central reach and the City of Watsonville. As shown in Figures 4.2-1b and 4.2-1c in Section 4.2, *Agricultural Resources,* these areas do not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Impacts related to conversion of these resources, which are considered significant but mitigable for the proposed project, would be eliminated. Similarly, because this alternative would be restricted to existing urbanized areas, it would not be located adjacent to areas zoned for agriculture and/or adjacent to areas with existing Williamson Act contracts. Impacts related to conflicts with these properties, which are considered less than significant for the proposed project, would also be eliminated.

Under the Reduced Project alternative, trail users would not travel adjacent to ongoing agricultural operations, and would thus not be exposed to agricultural pesticides or dust generated by farm equipment. This impact would also be eliminated, and mitigation measures outlined in Section 4.2, *Agricultural Resources,* would not be required.

c. Air Quality. Similar to the proposed project, the Reduced Project alternative would not contribute to population growth, and would therefore be consistent with the growth assumptions in the *Air Quality Management Plan* (AQMP). In addition, this alternative would consist of "new and improved bicycle facilities," which is listed as a transportation control measure (TCM) in the AQMP. This alternative would therefore directly implement a TCM, and would result in beneficial impacts related to AQMP consistency, similar to the proposed project. It should be noted, however, that this alternative would eliminate 63.5% of the project length, and would therefore not fully implement the proposed MBSST Network, which is specifically listed as a priority project in the AQMP. Thus, while beneficial, this alternative would be slightly less beneficial than the proposed project.

This alternative would construct 18.1 miles of trail compared to the proposed project's 49.6 miles. Based on the approximate average trail and shoulder width (disturbance area) of 25 feet wide, the disturbance area for this alternative would be approximately 54.8 acres (compared to 150.3 acres for the proposed project). Construction of this alternative would therefore require approximately 65.5% less earth-moving activity, resulting in lower criteria pollutant emissions from construction. Construction-related air quality impacts would therefore be reduced when compared to the proposed project, and would be less than significant.

Based on the trip generation rate used in Section 4.11, *Transportation/Traffic,* this alternative would generate an estimated 2,740 daily vehicle trips. This is a 63.5% reduction when compared to the proposed project. Because this alternative would generate fewer vehicle trips than the proposed project, operational air quality impacts would be reduced. Impacts would be less than significant. It should be noted, however, that the proposed MBSST Network would link the urban areas within the County of Santa Cruz, thereby providing an active mode of travel between these areas that was not previously available. The MBSST Network would therefore be expected to encourage increased use of bicycles and walking for local commuting, thus decreasing overall VMT. This alternative would only provide alternative transportation facilities within existing urban areas, and would therefore fail to provide a link between the urban area of Santa Cruz/Aptos/Capitola with the City of Watsonville. Because this alternative would be expected to generate fewer trail users, it would not reduce VMT to the extent of the proposed project, and would therefore not achieve the same level of beneficial effect as the project.

As with the proposed project, this alternative would not contribute to an exceedance of any LOS standard. Impacts related to carbon monoxide hotspots would therefore be less than significant, similar to the proposed project.

d. Biological Resources. This alternative would eliminate ten segments of the proposed MBSST Network and would disturb 65.5% less area than the proposed project. Improvements associated with this alternative would only occur in the urban areas of the central reach and City of Watsonville. As described in Section 4.4, *Biological Resources,* these areas contain fewer special status plant and animal species, as well as fewer riparian and other sensitive habitats. Impacts to these resources would therefore be substantially reduced when compared to the proposed project. Some impacts could occur, however, particularly along drainage crossings and riparian habitats within the central reach. Therefore, some species-specific mitigation may still be required.

As described in Section 4.4, *Biological Resources,* wildlife movement is most likely to occur in the northern reach of the proposed MBSST Network, as well as within the more rural areas of the Watsonville reach. The Reduced Project alternative would eliminate trail segments in these areas. Existing wildlife movement in the central reach and the City of Watsonville (where this alternative would be located) is limited by existing urban development and the presence of domestic animals. However, because the Reduced Project alternative would provide trail fencing in these areas, impacts to urban adapted species could still occur. While overall impacts related to wildlife movement would be substantially reduced under this alternative, mitigation measures B-3(a) and B-3(b) would be required to reduce impacts to a less than significant level.

e. Cultural Resources. This alternative would disturb 65.5% less area than the proposed project. Thus, the potential for damaging existing prehistoric or archaeological resources would be reduced when compared to the proposed MBSST Network. However, the Reduced Project alternative would construct the more urban segments of the proposed project, including those in the central reach and within the City of Watsonville. As described in Section 4.5, *Cultural Resources,* portions of the central and Watsonville reaches that have undergone limited previous ground disturbance or have not been subject to a prehistoric and archaeological cultural resources survey could result in potentially significant impacts to known prehistoric and archaeological resources. In addition, these reaches would include a number of railroad bridge/trestle crossings. One of the crossings has been identified through preliminary investigations as being located within a historic district. Other historic resources may also exist. Although overall impacts would be reduced, because this alternative would result in improvements similar to the proposed project within these areas, impacts would remain potentially significant and mitigation measures CR-1(a) through CR-1(c) would be required.

Because this alternative would result in less overall site disturbance, the potential for unearthing previously unidentified prehistoric or historical cultural resources would be reduced when compared to the proposed project. However, mitigation measures CR-2(a) and CR-2(b) would still be required.

f. Geology and Soils. As described in Section 4.6, *Geology/Soils,* the San Gregorio Fault lies under segments 1 and 2 of the MBSST Network. The Reduced Project alternative would eliminate these segments. Impacts related to fault rupture, which were less than significant for the proposed project, would be eliminated.

This alternative would require fewer new bridges than the proposed project, and would not construct a new restroom facility. Therefore, fewer structures would be exposed to seismically induced ground shaking. This impact would be reduced, and would be less than significant, similar to the proposed project.

As shown in Figures 4.6-2b, 4.6-2c, 4.6-4b, and 4.6-4c in Section 4.6, *Geology/Soils,* areas of high liquefaction potential, expansive soils, landslide potential, erosion, and unstable soils occur within the central reach and within the City of Watsonville. Thus, the Reduced Project alternative would be subject to these hazards, similar to the proposed project. However, the Reduced Project alternative would generate fewer trail users, and would therefore expose fewer people to these geologic hazards. Impacts related to seismic-related ground failure, landslides,

soil stability impacts, erosion, and expansion would therefore be reduced when compared to the proposed project, but would remain significant but mitigable. Mitigation measures GEO-3, GEO-4, and GEO-7 would continue to be required.

g. Greenhouse Gas Emissions. As described under the *Air Quality* discussion above, this alternative would result in lower criteria pollutant emissions from construction. In addition, based on the trip generation rate used in Section 4.11, *Transportation/Traffic,* this alternative would generate 63.5% fewer vehicle trips than the proposed project. Therefore, this alternative would result in fewer GHG emissions than the proposed project. Impacts would be reduced, and would be less than significant. In addition, this alternative would be consistent with the Climate Action Team GHG reduction strategies, the 2008 Attorney General Greenhouse Gas Reduction Measures, the County of Santa Cruz Climate Action Strategy, and the City of Santa Cruz Climate Action Plan, similar to the proposed MBSST Network project.

It should be noted, however, that the proposed MBSST Network would link the urban areas within the County of Santa Cruz, thereby providing an active mode of travel between these areas that was not previously available. The MBSST Network would therefore be expected to encourage increased use of bicycles and walking for local commuting, thus decreasing overall VMT. This alternative would only provide alternative transportation facilities within existing urban areas, and would not provide a link between the urban area of Santa Cruz/Aptos/Capitola and the City of Watsonville. Therefore, it would not reduce VMT to the extent of the proposed project, and would therefore not achieve the same level of beneficial effect as the project.

h. Hazards and Hazardous Materials. The Reduced Project alternative would utilize less of the rail line and would result in less ground disturbance overall than the proposed project. As discussed in Section 4.8, *Hazards and Hazardous Materials,* contamination is present in areas of the rail corridor as a result of historic rail operations and other adjacent activities. Because this alternative would require less grading in this corridor, construction activities would have a lower potential to expose construction workers to health hazards by releasing contaminants that could be present in the soil. Impacts would be reduced when compared to the proposed project. However, workers could still be exposed to such hazards along the portions of the trail included in this alternative. Thus, impacts would be potentially significant and mitigation measures HAZ-1(a) through HAZ-1(c) would be required.

This alternative would require retrofitting of fewer existing railroad bridge/trestle structures. Therefore, impacts related to asbestos and lead-based paint on these facilities would be slightly reduced when compared to the proposed project. As with the proposed project, compliance with applicable regulations regarding the removal, handling and disposal of asbestos and lead-based paint would reduce impacts to a less than significant level.

Because this alternative would be restricted to existing urbanized areas, it would not be located adjacent to areas with existing agricultural operations. Therefore, the potential to expose trail users to pesticides, herbicides, or other agricultural chemicals considered to be a human health threat would be eliminated and mitigation measure HAZ-3(a) would not be required. However, this alternative would pass by commercial and industrial activities within existing urban areas, which may include the use of petroleum-based fuels, chlorinated solvents, or other chemicals.

As described in Section 4.8, *Hazards and Hazardous Materials,* compliance with federal, state, and local regulations would reduce hazards from adjacent commercial and industrial operations to a less than significant level. Overall, hazardous materials impacts associated with this alternative would be less than significant.

This alternative would construct 18.1 miles of trail compared to the proposed project's 49.6 miles. Because the trail would be located adjacent to fewer miles of rail line and fewer roadways, public safety hazards associated with railway and roadway accidents would be reduced. Impacts would be less than significant, similar to the proposed project.

Although the trail length would be reduced by 65.5%, underground utility lines may be located beneath the segments of the trail that would be constructed. This impact would be slightly reduced when compared to the proposed project. However, mitigation measure HAZ-5(a) (Utility Line Location and Consultation) would still be required.

As described in Section 4.8, *Hazards and Hazardous Materials,* the potential for exposure of trail users to wildland fire hazards through the majority of the central reach and the City of Watsonville is minimal. Although some portions of the central reach contain moderate and high fire hazard designations, the Reduced Project alternative would generate fewer trail users, thus exposing fewer people to such hazards. Impacts would be reduced, and like the proposed project would be less than significant.

i. Hydrology and Water Quality. This alternative would disturb 65.5% less area than the proposed project. Thus, the Reduced Project alternative would introduce fewer impervious surfaces and would consequently reduce stormwater runoff and associated pollution when compared to the proposed project. Similar to the proposed project, this impact would be less than significant.

The Reduced Project alternative would not construct a new restroom facility. Therefore, impacts associated with the degradation of water quality due to a septic system, which would be less than significant for the proposed project, would be eliminated.

This alternative would require less overall construction, and would therefore reduce the potential for contributing to water quality degradation of impaired water bodies. Drainage and erosion control methods outlined in the proposed Master Plan would continue to be required. Therefore, impacts would be reduced, and would continue to be less than significant with implementation of erosion control and stormwater runoff measures.

This alternative would not alter existing groundwater recharge. This impact would be less than significant, similar to the proposed project.

Portions of the Reduced Project alternative would be located within the 100-year floodplain, similar to the proposed project. However, this alternative would construct fewer bridges, and would therefore reduce the potential for increasing upstream flooding. Further, because less overall site disturbance would occur and fewer trail users would be exposed to potential flooding hazards, overall flooding-related impacts would be reduced when compared to the proposed project. However, because some bridges would be constructed, impacts would still be

considered potentially significant, and mitigation measures H-5(a) and H-5(b) would be required.

Similar to the proposed project, portions of the Reduced Project alternative would be constructed within tsunami inundation and seiche hazard zones. However, this alternative would generate fewer trail users, and therefore would expose fewer people to these potential hazards. This impact would be reduced and would be less than significant, similar to the proposed project.

j. Noise This alternative would construct 18.1 miles of trail compared to the proposed project's 49.6 miles. Based on the approximate average trail and shoulder width (disturbance area) of 25 feet wide, the disturbance area for this alternative would be approximately 54.8 acres (compared to 150.3 acres for the proposed project). Construction of this alternative would therefore require approximately 65.5% less earth-moving activity, resulting in less overall noise from construction. Construction-related noise impacts would be reduced; however, impacts to sensitive receptors could still occur, and mitigation measures N-1(a) through N-1(c) would be required.

This alternative would generate fewer trail users, and would therefore generate fewer operational noise impacts, such as trail users talking, maintenance workers collecting garbage or maintaining landscapes, or dogs barking. Based on the trip generation rate used in Section 4.11, *Transportation/Traffic,* this alternative would generate an estimated 2,740 daily vehicle trips. This is a 63.5% reduction when compared to the proposed project. Operational noise impacts would therefore be reduced when compared to the proposed project, and would be less than significant.

Users of the Reduced Project alternative would be exposed to noise near busy roadways and active rail segments, similar to the proposed project, but would not be exposed to noise from agricultural operations. Because fewer trail users would be generated from this alternative, fewer people would be exposed to noise overall. However, similar to the proposed project, this alternative would not be considered a sensitive use. Impacts would therefore be less than significant, similar to the proposed project.

k. Transportation/Traffic. This alternative would construct 18.1 miles of trail compared to the proposed project's 49.6 miles. Based on the approximate average trail and shoulder width (disturbance area) of 25 feet wide, the disturbance area for this alternative would be approximately 54.8 acres (compared to 150.3 acres for the proposed project). Based on the per-acre trip generation rate used in Section 4.11, *Transportation/Traffic,* this alternative would generate an estimated 2,740 daily vehicle trips. This is a 63.5% reduction when compared to the proposed project. As a result, this alternative would generate fewer trail users, and would therefore reduce the overall number of vehicle trips (both locally to trail staging areas, and regionally). Impacts related to the exceedance of a level of service standard, which would be less than significant for the proposed project, would be reduced, and would remain less than significant.

Because this alternative would eliminate 31.5 miles of trail, it would have fewer roadway crossings than the proposed project. In addition, fewer trail users would be generated, and thus

fewer people exposed to such hazards. Similarly, because there would be fewer roadway crossings, the potential for conflicts between pedestrians and bicyclists at street crossings would also be reduced. Mitigation measure T-3(a) (Trail Crossing Warning Signs) and T-5 (Crosswalk Markings) would still be required, and would similarly reduce conflicts to a less than significant level. Because the Reduced Project alternative would not construct trail segments near agricultural operations, mitigation measure T-3(b) (Agricultural Access Safety) would not be required.

Because this alternative would utilize only 18.1 miles of the existing rail corridor, potential conflicts between trail users and railroad traffic would be reduced. This impact would be less than significant, similar to the proposed project.

The area of disturbance for this alternative would be approximately 54.8 acres, compared to 150.3 acres for the proposed project. Therefore, less construction activity would be required. Conflicts between construction vehicles and materials and existing vehicle traffic would therefore be reduced when compared to the proposed project. Mitigation measure T-6 would still be required to reduce potential safety conflicts, and impacts would be significant but mitigable.

Although the Reduced Project alternative would only construct trail facilities within existing urban areas, it would include the same design features as the proposed project in these areas, including fencing. Impacts related to inhibiting pedestrian access and reducing local connectivity, which would primarily occur within urban areas, would therefore be similar to the proposed project. Mitigation measure T-7 (Trail Access) would be required, and impacts would be significant but mitigable.

l. Public Safety and Services. The Reduced Project alternative would not construct a new restroom facility, but may include landscaping. Because the trail would be reduced from 49.6 to 18.1 miles, less landscaping would be included. Therefore, this alternative would generate less water demand than the proposed project. Because water supply in Santa Cruz County is evolving, some areas of the Reduced Project alternative may not have access to adequate water supply upon implementation. Therefore, impacts would be significant but mitigable, and mitigation measures PS-1(a) (Landscaping Irrigation) and PS-1(b) (Retrofitting Existing Facilities) would still be required. Because this alternative would not construct a new restroom facility, PS-1(c) (New Bathroom in Watsonville Reach) would not be required.

The Reduced Project alternative would only construct trail improvements in existing urban areas of the County, and would eliminate planned trail segments in the more rural areas of the County. As a result, impacts related to emergency access and response times would be reduced when compared to the proposed project, since included facilities would be located closer to existing emergency service providers. Impacts would be less than significant, similar to the proposed project.

The Reduced Project alternative may result in safety hazards due to conflicts between different types of trail users, similar to the proposed project. Because fewer trail users would be generated, fewer people would be exposed to such hazards. In addition, strategies and design requirements contained in the proposed Master Plan would continue to apply. Therefore, this

impact would be reduced when compared to the proposed project, and would remain less than significant.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

This section evaluates the impact conclusions for the proposed MBSST Network project and the three alternatives under consideration. It then identifies the environmentally superior alternative for each issue area. In accordance with the *State CEQA Guidelines*, if the No Project alternative is identified as the environmentally superior alternative, the alternative among the remaining scenarios that is environmentally superior must also be identified.
Table 6-1 shows whether each alternative's environmental impact is greater, lesser, or similar to the proposed project for each issue area.

Table 6-1. Impact Comparison Summary

Issue	Proposed Project	No Project (Alternative 1)	On-Road Alignment (Alternative 2)	Reduced Project (Alternative 3)
Aesthetics	=	+	+	+
Agricultural Resources	=	+	+	+
Air Quality	=	+/-	+/-	+/-
Biological Resources	=	+	+	+
Cultural Resources	=	+	+	+
Geology and Soils	=	+	=/+	+
Greenhouse Gas Emissions	=	+/-	+/-	+/-
Hazards and Hazardous Materials	=	+	=/+	+
Hydrology and Water Quality	=	+	+	+
Noise	=	+	+	+
Transportation/Traffic	=	+	+/-	+
Public Safety and Services	=	+	+	+
Overall	**=**	**+**	**+**	**+**

\+ *Superior to the proposed MBSST Network project*
\- *Inferior to the proposed MBSST network project*
+/- B*oth better and worse than the proposed MBSST Network project*
= *Similar impact to the proposed MBSST network project*

Based on the comparison provided in Table 6-1, the No Project alternative (Alternative 1) and the Reduced Project alternative (Alternative 3) are considered environmentally superior, since each would result in 12 superior effects (+) and just two inferior effects (-), when compared to the proposed MBSST Network Project. Because the No Project Alternative would eliminate (rather than reduce) many of the anticipated environmental effects of the project, it would be considered the most environmentally superior alternative. However, this alternative would not accomplish any of the objectives of the proposed project, including: defining a continuous trail alignment that maximizes opportunities for a multi-use bicycle and pedestrian trail separate from roadway vehicle traffic; developing public trail access along the Monterey Bay National Marine Sanctuary; or promoting awareness of the trail. Further, the proposed MBSST Network project would be expected to encourage increased use of bicycles and walking for local commuting, thus decreasing overall VMT. The No Project alternative would not promote alternative forms of commuting, and therefore would not result in a decrease in VMT or associated air quality and greenhouse gas improvements.

By eliminating ten segments totalling 31.5 miles, the Reduced Project alternative would avoid numerous constraints anticipated in the northern reach and the more rural segments of the Watsonville reach, particularly related to biological resources. Since fewer segments would be constructed, construction-related impacts to air quality, noise, and traffic would also be reduced, as would ground-disturbance related effects (cultural resources, erosion and erosion-related water quality, biological resources). However, this alternative would not meet the goal of a providing a continuous trail alignment through the length of Santa Cruz County. In addition, because this alternative would fail to provide a link between urban areas of the County (through unincorporated and rural areas), it would not reduce VMT to the extent of the proposed project. Thus, this alternative would not achieve the same level of air quality and greenhouse gas emissions benefits as the proposed project.

The On-Road Alignment alternative (Alternative 2) can also be considered environmentally superior to the proposed MBSST Network project. This is primarily because this alternative would substantially reduce the number of improvements required, as well as overall disturbance area (due to the use of existing, disturbed roadway rights-of-way). As a result of the reduced area of disturbance, and the relocation of improvements away from the rail corridor, this alternative would reduce impacts related to: conflicts with rail operations, soil contamination, and ground-disturbance related effects (cultural and biological resources, erosion and erosion-related water quality, biological resources). However, this alternative would not provide safe separation from vehicles or between trail users, and would therefore be in conflict with the project goal of developing a continuous trail alignment that maximizes opportunities for a multi-use bicycle and pedestrian trail separate from roadway vehicle traffic. There would also be substantially more roadway crossings, thus increasing vehicle-related conflicts.

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7.0 REFERENCES AND PREPARERS

7.1 REFERENCES

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7.1.2 Agencies/Individuals Contacted

Eric Aasen. Fire Division Chief. City of Santa Cruz Fire Department. Telephone Communication. November 19, 2012.

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Larry Richard. Lieutenant. Santa Cruz Police Department. Email Communication. November 22, 2012.

John Ricker. Santa Cruz County Water Resources. Divisions Director. Telephone Communication. November 26, 2012.

Rob Ryan. Fire Marshal. Watsonville Fire Department. Email Communication. November 29, 2012.

John Swenson. Davenport County Sanitation District. Telephone Communication. December 18, 2012.

Jeff Terpstra. Fire Chief. Aptos/La Selva Fire Protection District. Email Communication. November 28, 2012.

John Walbridge. Battalion Chief. Central Fire Protection District of Santa Cruz County. Email Communication. November 15, 2012 and November 22, 2012.

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8.0 ADDENDA and ERRATA/ COMMENTS and RESPONSES

8.1 ADDENDA and ERRATA

This section of the Final EIR for the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan presents minor modifications to the Draft EIR text following publication. Deletions are noted by ~~strikeout~~ and insertions by underline. Individual typographical corrections are not specifically indicated here. A section by section breakdown of deletions and insertions are provided in Section 8.1. Deletions and insertions made in direct response to a comment are reflected in Section 8.2.

The changes incorporated into this EIR correct minor errors or clarify information. The changes do not result in presentation of new substantial adverse environmental effects that cannot be mitigated by existing mitigation.

A global distinction was added throughout the EIR to clarify that the Santa Cruz County Regional Transportation Commission now owns 31-miles of the 32-mile Santa Cruz Branch Rail Line right-of-way.

Executive Summary

The following text on page ES-3 has been revised for consistency with the Final Master Plan:

> *Trail Crossings and Intersections.* The proposed MBSST Network would require the construction of ~~17~~ 23 new, pre-engineered bridges; retrofitting of ~~one~~ 1 existing bridge; ~~and would require 93~~ 76 roadway crossings (including 1 undercrossing); ~~or~~ and 20 railway crossings (including 1 undercrossing).[1]

The *Project Prioritization* section on page ES-3 has been revised as follows:

The proposed MBSST Master Plan prioritizes projects based on the following criteria:

- *Proximity to activity centers*
- *Population density*
- *Coastal access connectivity*
- *Trail segment cost*
- *Trail s~~S~~egment length*
- *Minimal or no ~~Number of~~ bridge crossings*

[1] ~~*The precise number of bridges and roadway/railway crossings may differ from the MBSST Network Draft Master Plan (October 2012) and the figures presented in Section 2.0, Project Description. However, the information included herein is considered the most up to date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

- *Limited right-of-way*
- *Gap closures (and connections to existing and planned non-motorized facilities)*
- *Public input*

In addition, Table ES-1 has been updated where appropriate, based on revisions to impact statements or mitigation measures. These changes are outlined below.

Section 2.0 Project Description

The language on page 2-5 of the EIR has been modified to read as follows:

> There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach~~,~~ south of Davenport and the City of Watsonville to east of Manresa State Beach.

The footnote on page 2-13 has been amended as follows:

> ~~*The improvements listed for each segment on the following pages may differ from the MBSST Network Draft Master Plan (October 2012) and the figures included in this section. However, the information included herein is considered the most up-to-date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

The description of *Segment 3: Upper Coast Dairies at Scott Creek* on page 2-13 has been modified to read as follows:

> *Segment 3: Upper Coast Dairies at Scott Creek.* The Upper Coast Dairies at Scott Creek segment extends for 1.11 miles from Scott Creek Beach to the intersection of Davenport Landing Road and Highway 1, along a small northern stretch of property owned by Coast Dairies (refer to Figure 2-6c and 2-6d). Segment 3 is the northernmost stretch where the publicly held coastal land is sufficiently wide to offer ample space for trail alignment options. Segment 3 proposed improvements include:
>
> - *1.11 miles (5,870 LF) multi-use paved path*
> - *One (1) pre-engineered bike/pedestrian bridge, 150-foot span*

The description of *Segment 4: Davenport Landing/End of Railroad Tracks* on pages 2-13 and 2-14 has been modified to read as follows:

> *Segment 4: Davenport Landing/End of Railroad Tracks.* The Davenport Landing/End of Railroad Tracks segment extends for 3.64 miles from the intersection of Davenport Landing Road and Highway 1 to the end of the railroad tracks (refer to Figure 2-6d). This segment would include a new multi-use paved path trail on the west side of Highway 1 until connection with the

northernmost extent of the railroad right-of-way, just south of the intersection of Davenport Landing Road, Highway 1, and Cement Plant Road. The trail would become a "rail trail" at this location and would include a paved multi-use path on the east side of Highway 1. Segment 4 proposed improvements include:

- *1.38 miles (7,300 LF) multi -use paved path*
- *1.41 miles (7,470 LF) coastal bluff trails*
- *0.85 miles (4,510 LF) on-street ~~improvements and/or sidewalks~~ bike lanes*
- *~~Four~~ Three (~~4~~ 3) road crossings*
- *One (1) rail crossing*

The description of *Segment 5: Davenport and Wilder Ranch* on page 2-14 has been modified to read as follows:

Segment 5: Davenport and Wilder Ranch. The Davenport and Wilder Ranch segment is the longest segment, extending for 10.55~~66~~ miles from Davenport to the existing Wilder Ranch staging area and trailhead parking lot. The rail corridor through this segment begins to narrow in places with the rail line and Highway 1 in close proximity to one another as they parallel their way along the coast.

This segment is broken up into three sub-segments (refer to Figures 2-6d through 2-6g). Sub-segment 5.1 starts at the Highway 1 rail crossing just up the coast from downtown Davenport and ends at the existing Highway 1 informal pull-off parking area at Bonny Doon Beach. Sub-segment 5.2 starts at the Bonny Doon Beach parking lot and continues down coast to Scaroni Road. Sub-segment 5.3 begins at upper Scaroni Road and ends at the existing Wilder Ranch staging area. Sub-segment 5.1 proposed facilities include:

- *1.49 miles (7,890 LF) multi -use paved path*
- *1.26~~7~~ miles (6,68~~9~~0 LF) coastal bluff trails*
- *Parking lot improvements to existing dirt lot near the Davenport Overlook*
- *Two (2) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Sub-segment 5.2 proposed facilities include:

- *2.58 miles (13,630 LF) multi-use paved path*
- *1.~~7~~60 miles (~~8,960~~ 8,430 LF) coastal bluff trails*
- *Three (3) road ~~or rail~~ crossings*
- *One (1) rail crossing*

Sub-segment 5.3 proposed facilities include:

- *3.51 miles (18,520 LF) multi-use paved path*
- *0.11 miles (570 LF) coastal bluff trails*
- *Twelve (12) road ~~or rail~~ crossings*

- *One (1) rail crossing*

The description of *Segment 6: Wilder Ranch Trail Head/Shaffer Road* on page 2-15 has been modified to read as follows:

Segment 6: Wilder Ranch Trail Head/Shaffer Road. Segment 6 would extend for 1.49 miles from the existing trailhead facilities at Wilder Ranch to down coast from the Schaffer Road/Moore Creek rail bridge trestle crossing near Antonelli Pond (refer to Figure 2-6g).This segment of the MBSST Network has some level of duplication with the existing Wilder Ranch Class I facilities running along the coastal side of Highway 1. The Wilder Ranch State Park trailhead provides parking, restrooms, and serves both travelers arriving by car or along existing multi-use trail from the south. An existing below-grade tunnel crossing of Highway 1 provides connectivity to existing trails leading to inland portions of the Wilder Ranch State Park trail network and the UC Santa Cruz campus lands. Segment 6 proposed facilities include:

- *1.36 miles (7,160 LF) multi -use paved path*
- *0.13 miles (670 LF) coastal bluff trails*
- ~~*One (1) pre-engineered bike/pedestrian bridge, 200-foot span*~~
- ~~*Six (6) rail or roadway crossings*~~
- *Four (4) roadway crossing*
- *Two (2) rail or culvert crossings*

The description of *Segment 7: Coastal Santa Cruz* on page 2-16 has been modified to read as follows:

Segment 7: Coastal Santa Cruz. The coastal Santa Cruz segment extends for 3.10 miles from Antonelli Pont to the Pacific Avenue and Beach Street intersection in the City of Santa Cruz (refer to Figure 2-8a). This segment represents the transition from a rural and agricultural environment in the northern reach to an urban and built-up environment in the central reach. This segment boasts several existing trail system networks as well as recreational facilities such as Wilder Ranch State Park, Younger Lagoon Reserve, Antonelli Pond Park, Natural Bridges State Beach, and connectors to the Cliff Drive coastal walk. The proposed trail facility would be located within the rail right-of-way on the coastal side of the rail tracks with at-grade crossings at Swift Street, Fair Avenue, Almar Avenue, and Rankin Street. The trail would cross from the coastal side of the tracks to the inland side at the Rankin Street at-grade crossing, and parallel the inland rail right-of-way toward Neary Lagoon Park. Segment 7 proposed facilities include:

- ~~*3.02 miles (15,930 LF) multi -use paved path*~~
- *2.17 miles (11,450 LF) multi-use paved path along rail right-of-way*
- *0.85 miles (4,480 LF) multi-use paved path along the coastal side of the rail right-of-way*
- *0.08 miles (410 LF)* ~~*Class III*~~ *on-street bike route*
- ~~*Eighteen*~~ *Fifteen (*~~*18*~~ *15)* ~~*rail or*~~ *roadway crossings*

- *Three (3) rail crossings*
- *One (1) pre-engineered bike bridge*

The description of *Segment 8: Santa Cruz Beach Boardwalk* on page 2-24 has been modified to read as follows:

Segment 8: Santa Cruz Beach Boardwalk. The Santa Cruz Beach Boardwalk segment extends for 0.77 miles through the City of Santa Cruz, from Beach Street to the San Lorenzo River Rail Bridge crossing (refer to Figure 2-8a). This existing segment of the MBSST Network consists of a two-way cycle-track which follows the coastal side of Beach Street to the San Lorenzo River Rail Bridge. The two-way cycle-track continues between the pedestrian beach boardwalk and the one-way travel lanes along Beach Street. Segment 8 proposed facilities include:

- *~~0.38~~ 0.77 miles (~~2,000~~ 4,070 LF) on-street facilities (Class II, III, and sidewalks)*
- *One (1) pre-engineered bike and pedestrian bridge, ~~300~~400-foot span*
- *Improvements of striping to existing cycle track with future roadway roundabout at Pacific Avenue and Beach Street (2,000 LF)*
- *Upgrade existing rail trail to the minimum eight- (8-) foot standard from Depot Park to the intersection of Pacific Avenue and Beach Street*
- *Two (2) road crossings*
- *One (1) rail ~~or road~~ crossing*

The description of *Segment 9: Twin Lakes* on page 2-24 has been modified to read as follows:

Segment 9: Twin Lakes. The Twin Lakes segment extends for 1.73 miles from the eastside of ~~through~~ the City of Santa Cruz to the middle of Live Oak in the unincorporated County, from the San Lorenzo Bridge crossing, over the Harbor, to the 17th Avenue at-grade railroad crossing (refer to Figures 2-8a and 2-8b). The multi-use paved path would cross from the coastal side of the tracks to the inland side at 17th Avenue. The existing San Lorenzo River Rail Bridge (part of Segment 8) offers pedestrian access on the bridge superstructure. However, the attached pedestrian walkway on the inland side of the bridge is narrow and difficult to accommodate passing pedestrian and cyclists walking their bikes across the bridge. Existing facilities along this segment include both off-street and on-street trails and sidewalks as well as sandy beach routes within the City of Santa Cruz. Segment 9 proposed facilities include:

- *1.53 miles (8,100 LF) multi -use paved path*
- *0.20 miles (1,040 LF) on-street facilities (Class II, III, and sidewalks)*
- *~~One~~ Three (~~1~~3) pre-engineered bike/pedestrian bridge crossings~~, 200 foot span~~*
- *~~Five~~ Four (~~5~~4) ~~rail or~~ road crossings*
- *Two (2) rail crossings*

The description of *Segment 10: Live Oak – Jade Street Park* on page 2-24 has been modified to read as follows:

> *Segment 10: Live Oak – Jade Street Park*. The Live Oak – Jade Street Park segment extends for 1.50 miles from the 17th Avenue at-grade railroad crossing in ~~Santa Cruz~~ Live Oak to Jade Street Park at 47th Avenue in Capitola (refer to Figure 2-8b). This segment would include a new multi-use trail on the inland side of the tracks. However, the railroad right-of-way is narrow (approximately 30 feet wide) through this segment, posing a constraint to multi-use trail development. Existing surface street bike lanes and pedestrian sidewalks through this segment would serve as alternate access until design solutions are identified. Segment 10 proposed facilities include:
>
> - *1.50 miles (7,940 LF) multi -use paved path*
> - *Relocation of 1.~~5~~0 miles ~~(7,940~~ 5,280 LF) of rail track and signal arm assemblies*
> - *One (1) pre-engineered bike/pedestrian bridge crossing, 200-foot span (Rodeo Gulch Creek)*
> - ~~*Five*~~ *Four (~~5~~4) ~~rail or~~ road crossings*
> - *One (1) rail crossing*

The description of *Segment 11: Capitola – Seacliff* on page 2-25 has been modified to read as follows:

> *Segment 11: Capitola – Seacliff.* The Capitola – Seacliff segment extends for 3.20 miles through Capitola, from Jade Street Park at 47th Avenue to State Park Drive (refer to Figures 2-8b and 2-8c). This segment is characterized by extreme topography, dense urban development, and infrastructure constraints. The greatest challenge in this segment of the trail is the rail trestle crossing of Soquel Creek. The current rail trestle passes through an historic district. Discussions are currently ongoing regarding improvements to this bridge trestle due to structural conditions. Coastal trail access through this area would continue on existing surface streets and sidewalks to cross Soquel Creek and navigate through Capitola Village. Segment 11 proposed facilities include:
>
> - *3.20 miles (16,880 LF) multi -use paved path*
> - *Bike and pedestrian facilities to be included in any design plans for rail bridge replacement of the Soquel Creek rail crossing*
> - ~~*One*~~ *Two (~~1~~2) pre-engineered bike/pedestrian bridges~~, 50 foot span~~*
> - ~~*Ten*~~ *Eight (~~10~~8) ~~rail or~~ road crossings*
> - *One (1) rail crossing*

The description of *Segment 12: Aptos Village* on page 2-25 has been modified to read as follows:

> *Segment 12: Aptos Village*. The Aptos Village segment extends for 1.14 miles from State Park Drive to Rio Del Mar Boulevard in Aptos. As shown in Figures 2-6c and 2-6d, this segment crosses Highway 1 into Aptos Village and then crosses back over Highway 1 before heading southwest to the coastline. This

segment would include two rail bridge crossings over Highway 1, four other rail bridge crossings, and would require redesign of existing parking along Soquel Drive in Aptos Village. The new facility would include a multi-use paved path on the inland side of the railroad tracks in the northern half of the segment and on the side of the tracks in the southern half. Segment 12 proposed facilities would include the following:

- *1.14 miles (6,030 LF) multi -use paved path*
- *Three (3) pre-engineered bike/ped bridges, bridge spans vary*
- *One (1) modification to an existing bridge*
- ~~*Eight*~~ *Three* (~~*8*~~*3*) ~~*rail or*~~ *road crossings*
- *One (1) rail crossing*

The description of *Segment 13: Rio Del Mar – Hidden Beach* on page 2-25 has been modified to read as follows:

Segment 13: Rio Del Mar – Hidden Beach. The Rio Del Mar – Hidden Beach segment extends for 0.85 miles from Rio Del Mar Boulevard to Cliff Drive/Hidden Beach in Aptos (refer to Figures 2-8d and 2-8e). This segment contains steep hillsides on either side of the alignment, and may require retaining walls to accommodate the proposed width of the trail. The close proximity of residences along this segment may also require privacy fences on the rail right-of-way boundary. Segment 13 proposed improvements include:

- *0.85 miles (4,510 LF) multi -use paved path*
- *One (1) existing undercrossing connection to Rio Del Mar Boulevard*
- *One (1) pre-engineered bike/pedestrian bridge, 200-foot span*
- ~~*One (1) road or rail crossing*~~

The description of *Segment 14: Seascape* on page 2-31 has been modified to read as follows:

Segment 14: Seascape. The Seascape segment extends for 1.17 miles from Cliff Drive/Hidden Beach to Seascape Park in the Rio del Mar area (refer to Figure 2-8e). The proposed trail would use an existing rail trestle as a grade-separated crossing on the south abutment and cross under the tracks to the inland side of the rail corridor. The trail would continue on the inland side of the tracks next to Sumner Road with an at-grade street crossing at Clubhouse Drive. The trail would continue down the coast between Sumner Road and the rail tracks to the next trestle crossing near Sumner Road and Dolphin Drive. This segment includes several existing unpaved trails that would connect the proposed new facility to the beach. Segment 14 proposed improvements include:

- *1.17 miles (6,160 LF) multi -use paved path*
- ~~*One*~~ *Two* (~~*1*~~*2*) *road* ~~*or rail*~~ *crossings*
- *One (1) trail undercrossing of the existing rail bridge at Hidden Beach*

The description of *Segment 15: Manresa State Beach* on page 2-31 has been modified to read as follows:

> *Segment 15: Manresa State Beach.* The Manresa State Beach segment extends for 1.37 miles from Seascape Park to the Manresa State Beach railroad bridge at San Andreas Road in unincorporated Santa Cruz County (refer to Figures 2-8e and 2-10a). This segment would include a new multi-use paved path on the inland side of the railroad tracks, and would connect to Manresa State Beach via existing, unpaved trails. This segment would include two rail bridge crossings. The multi-use paved path would cross to the coastal side of the tracks near the end of this segment. Segment 15 proposed improvements include:
>
> - *1.37 miles (7,240 LF) multi -use paved path*
> - *Two (2) pre-engineered rail bridge crossings, one ~~200~~300-foot span, one ~~100~~225-foot span*
> - ~~*Five*~~ *Four (~~5~~4) road ~~or rail~~ crossings*
> - *One (1) rail crossing*

The description of *Segment 16: Ellicott Slough* on page 2-33 has been modified to read as follows:

> *Segment 16: Ellicott Slough.* This segment extends for 2.66 miles from the existing rail bridge crossing of San Andreas Road at Manresa State Beach to Buena Vista Drive in unincorporated Santa Cruz County (refer to Figure 2-10a). Within this segment, the proposed multi-use paved path would begin to head inland toward Watsonville. Manresa State Beach provides coastal access with public parking, restrooms, an accessible scenic overlook, and picnic areas, stairs and ramps down to the beach, drinking water, and State Park controlled gated access to the parking lot off San Andreas Road. The proposed trail would be located on the coastal side of the tracks connecting to the inland State Beach public facilities. Segment 16 proposed facilities include:
>
> - ~~*2.18*~~ *1.78 miles (~~11,500~~ 9,400 LF) multi -use paved path along the rail right-of-way*
> - *0.40 miles (2,100 LF) multi-use paved path along coastal trail*
> - *0.48 miles (2,530 LF) on-street facilities (Class II~~, III, and sidewalks)~~ bike lanes)*
> - ~~*Four*~~ *Two (~~4~~2) road ~~or rail~~ crossings*
> - *One (1) rail crossing*

The description of *Segment 17: ~~Gallighan~~ Harkins Slough* on page 2-33 has been modified to read as follows:

> *Segment 17: ~~Gallighan~~ Harkins Slough.* The ~~Gallighan~~ Harkins Slough segment extends for 4.00 miles from the Buena Vista Drive and San Andreas Road intersection to Lee Road (refer to Figure 2-10a). This segment is heavily wooded with several smaller rail trestle bridge crossings over small drainages and sloping ravines, and may require retaining walls on the uphill side of the ravines. This segment would include a new multi-use paved path on the inland side of the railroad tracks, and would pass by agricultural fields, a mineral quarry, and wooded slopes as it descends toward the Gallighan Slough-Harkins Slough

wetland area. The Harkins Slough is seasonally flooded and a 400 foot segment of the trail may need to be a boardwalk type bridge structure to cross the wetland area to reach the south side of the Slough. Segment 17 proposed facilities include:

- *4.0 miles (21,140 LF) multi -use paved path*
- ~~*Four*~~ *Seven (~~4~~7) ~~pre- engineered~~ rail bridge/culvert crossings*
- ~~*Two*~~ *Three (~~2~~3) road ~~or rail~~ crossings*

The description of *Segment 18: Watsonville Slough Open Space Trails* on page 2-33 has been modified to read as follows:

Segment 18: Watsonville Slough Open Space Trails. The Watsonville Slough open space trails segment extends for 4.01 miles from Lee Road to Walker Street in the City of Watsonville (refer to Figures 2-10b and 2-10c). This segment would include a new multi-use paved path on the inland side of the railroad tracks, which would cut across agricultural fields before entering the southeastern portion of the City of Watsonville. The proposed alignment crosses the Ohlone Parkway at-grade rail crossing and connects to the Watsonville Wetlands trail system. This segment ends east of the industrial areas on the inland side of the tracks, just as they connect to Walker Street in the City of Watsonville. Segment 18 proposed facilities include:

- *1.20 miles (6,350 LF) multi-use paved path*
- *2.81 miles (14,820 LF) on-street facilities (Class II, III, and sidewalks)*
- ~~*Five*~~ *Two (~~5~~2) road ~~or rail~~ crossings*
- *One (1) rail culvert crossing*

The description of *Segment 19: Walker Street, City of Watsonville* on pages 2-33 and 2-34 has been modified to read as follows:

Segment 19: Walker Street, City of Watsonville. This segment extends for ~~0.65~~ 0.47 miles from Walker Street to the north bank of the Pajaro River in the City of Watsonville (refer to Figures 2-10c). This segment would be part of the City of Watsonville bike facility network. Segment 19 starts as an existing Class II bike lane facility at the intersection of Walker Street and Coastal Beach Street. New Class II bike lanes would be added along Walker Street and sidewalks on the inland side of the street south of Riverside Drive, all the way to the terminus of Walker Street, to connect with the Pajaro River levy trail network. Segment 19 proposed facilities include:

- ~~*0.47 miles*~~ *0.29 miles (~~2,460~~ 1,510 LF) ~~multi-use paved path~~ existing on-street facilities (Class II)*
- *0.18 miles (950 LF) on-street facilities (Class II~~, III, and sidewalks~~)*
- *New sidewalks on the inland side of Walker Street*
- *One (1) road ~~or rail~~ crossing*

The description of *Segment 20: Pajaro River* on page 2-34 has been modified to read as follows:

> *Segment 20: Pajaro River*. The Pajaro River segment is the final segment of the proposed MBSST Network corridor, and would extend for 0.74 miles from the north bank of the Pajaro River to Railroad Avenue in Monterey County (refer to Figure 2-10c). This segment is a short connection that includes a new pre-engineered bridge crossing the Pajaro River. This segment would extend through County of Monterey jurisdiction, and would require cooperation with the Transportation Agency for Monterey County (TAMC) and the County of Monterey. The purpose of segment 20 is to provide a regional connection to the existing and proposed Pajaro River levee-top trail network in Watsonville and the Monterey County section of the Monterey Bay Sanctuary Scenic Trail, which will span the entire coast of the Monterey Bay National Marine Sanctuary, from Pacific Grove to Santa Cruz. Segment 20 proposed facilities include:
>
> - *0.74 miles (3,930 LF) multi-use paved path*
> - *One (1) new pre-engineered bike/pedestrian bridge, 200-foot span*
> - *3,930 feet of fencing for agricultural operations and safety*

The following text on page 2-40 has been revised for consistency with the Final Master Plan:

> The proposed MBSST Network would require the construction of ~~17~~ 23 new, pre-engineered bridges; retrofitting of ~~one~~ 1 existing bridge; ~~and would require 93~~ 76 roadway crossings (including 1 undercrossing); ~~or~~ and 20 railway crossings (including 1 undercrossing).[2]

The following text on page 2-41 has been revised for consistency with the Final Master Plan:

> *Type 3 Crossing: New Multi-Use Trail Bridge.* Where retrofit of existing rail bridge structures is infeasible, a new separate trail bridge parallel to the existing rail bridge structure could be constructed. This scenario would include new abutments, a prefabricated bridge, and permitting for the new crossing. A total of ~~17~~ 23 such bridges are planned for the length of the MBSST Network.
>
> Additional bridge design considerations, including consideration of drainage way characteristics, bridge length and placement, load consideration, aesthetics, and rail track realignment/relocation, are described ~~on page 5-15~~ in Section 5.3 of the ~~proposed~~ Master Plan.

[2] ~~*The precise number of bridges and roadway/railway crossings may differ from the MBSST Network Draft Master Plan (October 2012) and the figures presented in Section 2.0, Project Description. However, the information included herein is considered the most up to date and accurate information regarding the planned improvements at the time of DEIR preparation. It is anticipated that the Final Master Plan will be updated to reflect this information. In addition, t*~~*The actual improvements proposed on any given segment may vary from what is described herein and will be reviewed prior to implementation. Given the programmatic nature of this DEIR, supplemental environmental analysis may be required depending on the final segment design.*

Roadway and Railway Crossings. The proposed trail alignment would intersect public and private roadways and/or the railway at ~~93~~ 96 locations. ~~Eleven~~ Ten types of treatments are included in the MBSST Master Plan for these crossing locations.

The following text on page 2-42 has been revised for consistency with the Final Master Plan:

~~Figures 5.8 through 5.10 in the proposed Master Plan detail roadway crossing concepts that illustrate how the trail would interact with existing streets and with the rail tracks.~~

Custom Crossing Treatments. Twenty six custom crossing treatments are identified in the MBSST Network Master Plan. Each custom treatment contains unique features not found in Types A through K above. The custom treatments are depicted in ~~Figures 5.14 through 5.38~~ Figures F-4 through F-30 in the ~~proposed~~ Master Plan. The locations of these treatments are shown in Figures ~~5.11 to 5.13~~ F-1 to F-3 in the proposed Master Plan. Please refer to ~~Chapter 5~~ Appendix F of the proposed MBSST Network Master Plan.

The following text on page 2-43 has been revised for consistency with the Final Master Plan:

Bollards. The purpose of bollards is to keep unauthorized motorists off the path. Bollards would be removable for emergency and maintenance access, light in color, reflectorized for visibility, lit with solar-powered LED lights (where feasible), and between 36 inches tall and 46 inches tall. Bollards, if used, would be positioned at least 5 feet apart and include diversion striping on the pavement.

Text on page 2-44 has been revised for consistency with the Final Master Plan:

A concept for future trail access/staging areas is identified in Figure 5-~~5~~8 of the proposed Master Plan.

Text on page 2-50 regarding equestrians on the trail has been revised as follows:

Equestrians on Trails. Equestrian use on the MBSST Network would be limited to the north coast area extending from Wilder Ranch to Davenport, i.e. along segments 5.1, 5.2, 5.3 and 6. Equestrians would utilize the existing facilities located in Wilder Ranch. The proposed Master Plan suggests specific design considerations when planning for equestrian use on multi-use paths, including trail width of at least 8 feet with a vertical clearance of at least 10 feet, separated a minimum of three feet from the paved multi-use path.

The *Project Prioritization* discussion on page 2-50 has been revised as follows:

The proposed MBSST Master Plan prioritizes projects based on the following criteria:

- *Proximity to activity centers*
- *Population Density*
- *Coastal access connectivity*

- *Trail segment cost*
- *Trail s~~S~~egment length*
- *Minimal or no ~~Number of~~ bridge crossings*
- *Limited right-of-way constraints*
- *Gap closures (and connections to existing and planned non-motorized facilities)*
- *Public input*

The specific methodology for project prioritization, including the points awarded to each of the above criteria, is described in ~~Chapter 6~~ Appendix E of the MBSST Network Master Plan.

All phases of the MBSST design and implementation may require various outside agency sources to match local funding. Outside funding sources may include, but would not be limited to: the Federal Highway Administration (FHWA) (including Federal Lands Highway Funds, Recreational Trails Program, and Transportation, Community and System Preservation Program); California Transportation Commission (including the Transportation Alternatives Program); Caltrans (including the Highway Safety Improvement Program, Bicycle Transportation Account, and Community-Based Transportation Planning Program, and Environmental Enhancement Program); the National Park Service (NPS) (including the Land and Conservation Fund, and the Rivers, Trails, and Conservation Assistance); the California Coastal Conservancy; the California Department of Parks and Recreation (Habitat Conservation Funds); California State Parks (Statewide Park and Community Revitalization Program); the Wildlife Conservation Board (Public Access Program); and the Resources Agency (River Parkways Program).

Text on page 2-51 has been amended as follows:

The following describes the RTC's implementation responsibilities in greater detail:

- ~~*Phasing - Using the Master Plan identified phasing as a guide, the RTC would coordinate with implementing entities to identify segments that are to be implemented.*~~
- *Funding - Upon identification of a segment, the RTC would organize a funding strategy to design, construct, and maintain the segment. RTC staff would assist implementing entities in developing fundable projects, matching projects with funding sources, and helping to complete competitive funding applications. In some cases, RTC may act as the project sponsor or cosponsor.*
- *Progress - Through board presentations, website notifications, and other venues, the RTC would provide regular updates to the public regarding the status of the trail development.*
- *Oversight - The RTC would work closely with implementing entities, planning, parks, and public works staff to implement trail segments.*
- *Coordination - Finally, should the RTC incur additional operating expenses to coordinate implementation, maintenance, operation and liability of the trail through agreements with implementing entities, funding would need to be identified.*

The descriptions of the roles and responsibilities of the Trail Manager and Trail Ranger have been clarified as follows on pages 2-53:

> Trail Manager. A primary contact point (the Trail Manager) would be identified and be made available to the general public within their jurisdictions for general inquiries and management. The RTC board would work to identify the agency most appropriate to house a Trail Management Program and how to fund a Trail Manager, Trail Ranger, and/or an Adopt-A-Trail Coordinator position. The Trail Manager would ensure that each element described in the operations and maintenance is completed.
>
> The following list represents the major tasks that may be the responsibility of the Trail Manager:
>
> - *Coordinate development of the MBSST*
> - *Organize, coordinate, and implement trail operations plan*
> - *Implement maintenance plan and assure adequate funding*
> - *Obtain bids and manage contracts for maintenance and improvements*
> - *Monitor security and safety of the trail through routine inspections*
> - *Oversee maintenance and rehabilitation efforts*
> - *Manage and respond to issues and incidents*
> - *Act as the local trail spokesperson with the public, including elected officials, and respond to the issues and concerns raised by trail users*
> - *Develop and manage an emergency response system in coordination with local fire and police*
> - *Respond to direction regarding development and construction of the project and ongoing maintenance*
> - *Maintain records*
> - *Manage an operation and maintenance budget*
> - *Pursue outside funding sources*
>
> The following list represents the major tasks that may be the responsibility of the Trail Ranger:
>
> - *Trail patrol*
> - *Ensure temporary trail closure gates are open or closed, should they be needed*
> - *Ensure temporary trail closure signage is in place*
> - *Ensure maintenance needs are addressed*

The following text on page 2-53 and 2-54 has been revised for consistency with the Final Master Plan:

> *Emergency Vehicle Access.* The Trail Manager would be responsible for observing trail operations to ensure the trail can accommodate all emergency (police and fire) vehicles that might need to access the trail. Where removable bollards are installed, the Trail Manager would ensure that all appropriate agencies have ~~the keys for~~ direct access. The MBSST itself is generally accessible from adjacent public rights-of-way. However, where

it is not, a minimum 10 feet of pathway clearance and 12 feet of vertical clearance would be provided.

Trail and Rail Operation Interface. There are few universally accepted national standards or guidelines to dictate trails facility design adjacent to active railroad tracks, therefore trail designers would work closely with the railroad operator and maintenance staff to achieve a suitable design. Well-designed trails can meet the operational requirements of railroads, often providing benefits in the form of reduced trespassing and dumping. ~~However, a poorly designed trail would compromise safety and function for both trail users and the railroad.~~

The following text has been added to page 2-55:

- *Signage would direct trail users to nearby restroom facilities*

Ability for Trail Closures

- *The trail would be designed with the ability for its physical closure (of isolated segments) in the event it becomes necessary to facilitate permitted spraying*
- ~~*Notification to the Trail Manager of impending spraying activity would be the responsibility of the agricultural operators*~~
- *Agricultural operators are responsible for notifying the Agricultural Commissioner of any impending spraying activity*

Figures 2-2, 2-6a through 2-6g, 2-8a through 2-8e, 2-9, and 2-10a through 2-10e have been updated. Please refer to Section 2.0, *Project Description,* for the updated figures. The revisions made to these figures are minor, and were included in the EIR for consistency with the Final Master Plan. It should also be noted that the revised Figure 2-9 shows a connection from the City of Watsonville to the coast near Palm Beach. This is not a newly proposed segment of the trail, but rather a proposed on-street facility on West Beach Street, which was previously included on Figure 2-10d and analyzed in the Draft EIR.

Section 4.1 Aesthetics

The following change has been made to the text on page 4.1-21 to clarify the role of the Trail Ranger:

Finally, the proposed MBSST establishes a Trail ~~Manager~~ Ranger who would be responsible for the day-to-day maintenance of the trail facility components. The Trail ~~Manager~~ Ranger would be responsible for landscape maintenance, trash clean up and disposal, graffiti removal, and repairs to trail components.

Section 4.2 Agricultural Resources

The following amendments have been made to the text on pages 4.2-19 to 4.2-20:

> The proposed MBSST Network project contains several design features intended to limit potential conflicts between agricultural operations and trail users. This includes the installation of continuous fencing between the trail and most adjacent agricultural properties, which would discourage access to neighboring lands. In addition, notices would be posted at entrances to the trail of on-going agricultural activities, stating that the trail user agrees to use of the trail at his/her own risk. Implementing entities would require pet waste removal and provide dog waste bag dispensers at trailheads. Rural areas may include a simple regulation sign requiring pet owners to collect their pet waste, and dogs may also be restricted in trail sections that are adjacent to agricultural lands where sensitivity relating to contamination exists. Trail users would additionally be advised that agricultural operations will be occurring and may include pesticide spraying, agricultural dust and debris, and burning activities in accordance with State and local laws and ordinances. Finally, notices would state that the trail may be subject to closure without notice to accommodate such activities.

The following amendments have been made to the text on page 4.2-20 to clarify the role of the Trail Ranger:

> The trail would be designed with the ability for its physical closure (of isolated segments) in the event it becomes necessary to facilitate permitted spraying. The Trail Manager would work to establish a plan for receiving notices of impending spraying activity and follow-up actions, as appropriate, and the Trail Ranger would be responsible for ensuring that temporary trail closure gates are open or closed, should they be needed.
>
> Finally, the proposed MBSST establishes a Trail ~~Manager~~ Ranger who would be responsible for the day-to-day maintenance of the trail facility components, including trash clean up and disposal, graffiti removal, and repairs to trail components. The Trail Manager would ensure that each element described in the operations and maintenance plan is completed. The establishment of a formal trail operations and maintenance plan would help ensure adequate maintenance of the trail corridor and facilities, thereby reducing litter-related conflicts.

Section 4.7 Greenhouse Gas Emissions

The following amendments have been made to the text on page 4.7-32 to clarify the role of the Trail Ranger:

> In accordance with the O&M Plan, the Trail ~~Manager~~ Ranger would be responsible for monitoring security and safety of the trail through routine inspections, while the Trail Manager would be responsible for~~;~~ overseeing

maintenance and rehabilitation efforts~~,~~ and managing and responding to issues and incidents. Through routine maintenance and inspections, it is anticipated that the Trail Manager and/or Trail Ranger would identify any areas of the trail that are experiencing excessive coastal erosion as a result of sea level rise.

Section 4.8 Hazards and Hazardous Materials

The language on page 4.8-7 of the EIR has been modified to read as follows:

> There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach, south of Davenport and the City of Watsonville to east of Manresa State Beach.

The following amendments have been made to various portions of the text on page 4.8-24 to clarify the role of the Trail Ranger:

> In addition, in the event of a chemical or pesticide spill on an agricultural property adjacent to the trail, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with the responding agency's direction, and would only reopen the trail after the responding agency with jurisdiction over the spill indicates that it is safe to do so.
>
> This would allow the Agricultural Commissioner's office to inform RTC and/or implementing entities of all spraying within 100 feet of the trail so that the RTC and Trail Manager and/or Trail Ranger could take appropriate action (e.g., closure of that segment of the trail to prevent access and exposure).
>
> **HAZ-3(a) Trail Closure.** A communication system shall be established between the Santa Cruz County Agricultural Commissioner's office, the RTC and/or implementing and managing entities, to convey any notices of intent to spray chemicals in a timely manner. The Trail ~~Manager~~ Ranger or its designee shall be responsible for closing trail segments during and following application of agricultural chemicals, and posting additional warning signs, as appropriate.

The language on page 4.8-25 of the EIR has been modified to read as follows:

> The active rail line is currently used very infrequently for seasonal passenger services from Santa Cruz to the northern reach~~,~~ south of Davenport and the City of Watsonville to east of Manresa State Beach, and to transport perishables (including raspberries, strawberries, and other agricultural products), lumber, and biofuels within Watsonville.

The following changes have been made to the text on page 4.8-26 to clarify the role of the Trail Ranger:

> In the case of a railway or roadway accident involving hazardous materials in the vicinity of the MBSST Network, the Trail ~~Manager~~ Ranger would be responsible for closing the trail in the vicinity of the accident, in accordance with Fire

Department direction, and would only reopen the trail after the appropriate entity (CHP, Caltrans, or Fire Department) indicates that it is safe to do so.

The Trail Manager and Trail Ranger ~~is~~ are responsible for managing and responding to issues and incidents along the trail (refer to Section 2.0, *Project Description*). In the case of a pipeline rupture in the vicinity of the MBSST Network, the Trail ~~Manager~~ Ranger would be responsible for closing the trail in the vicinity of the accident, in accordance with Fire Department direction, and would only reopen the trail after the appropriate entity (CHP, Caltrans, or Fire Department) indicates that it is safe to do so.

The following change has been made to the text on page 4.8-27 to clarify the role of the Trail Ranger:

In the event of a wildland fire near the northern reach, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with Fire Department direction, and would only reopen the trail after the Fire Department with jurisdiction over the fire indicates that it is safe to do so.

The following changes have been made to the text on page 4.8-28 to clarify the role of the Trail Ranger:

In the event of a wildland fire near the central reach, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with Fire Department direction, and would only reopen the trail after the Fire Department with jurisdiction over the fire indicates that it is safe to do so.

In the event of a wildland fire near the Watsonville reach, the Trail ~~Manager~~ Ranger would be responsible for closing the trail, in accordance with Fire Department direction, and would only reopen the trail after the Fire Department with jurisdiction over the fire indicates that it is safe to do so.

Section 4.10 Noise

The language on page 4.10-7 of the EIR has been modified in two places to read as follows:

There is a seasonal passenger rail service that operates between the City of Santa Cruz ~~and~~ to the northern reach~~,~~ south of Davenport and the City of Watsonville to east of Manresa State Beach.

Railroad operations along the MBSST Network are currently limited to seasonal passenger rail service that operates between the City of Santa Cruz and the northern reach south of Davenport and the City of Watsonville to east of Manresa State Beach as well as ~~and~~ weekday freight trips in the Watsonville/Pajaro area.

Section 4.11 Transportation and Traffic

The language on page 4.11-3 of the EIR has been modified to read as follows:

b. Existing Rail Network. The MBSST Network corridor would primarily align with the Santa Cruz Branch Rail Line railroad right-of-way, a 32-mile, continuous travel corridor, 31-miles of which are now owned by the RTC. The railroad generally runs along the coast, parallel to the Pacific Ocean, except where it turns inland near Manresa State Beach. From there, the tracks run inland toward Watsonville and ultimately end at the Watsonville Junction. The rail right-of-way would serve both rail service and bike/pedestrian trail functions. There would be ~~14~~ 20 locations where the trail would cross the railroad tracks (in one case via an existing undercrossing) as it switches from one side to the other or would travel over existing culverts adjacent to the rail line.

Table 4.1-11 has been revised as follows:

Table 4.11-1
Connections with the Existing Roadway Network

Crossing	Roadway	Jurisdiction	Classification
Segment 4			
~~1~~	Private Rd	County of Santa Cruz	Private Road
~~2~~	Private Driveway (RMC Pacific)	County of Santa Cruz	Private Road
~~3~~	State Route (SR) 1	County of Santa Cruz	Minor Arterial
	Private Road	County of Santa Cruz	Private Road
~~4~~	~~n/a (rail crossing)~~	~~County of Santa Cruz~~	~~n/a~~
Segment 5			
~~5~~ 20	Private Roads, including Highway 1, Wilder Ranch Park (~~3~~ 7), Scaroni Road (2), and ~~Agricultural~~ Private Crossings (~~11~~ 7)	County of Santa Cruz	~~Private Road~~ Various
Segment 6			
~~21-24~~	~~Private Roads (~~Wilder Ranch Park (3)	County of Santa Cruz	Private Road
~~25~~	Shaffer Rd	City of Santa Cruz	Local
Segment 7			
~~26~~	Natural Bridges Dr	City of Santa Cruz	Collector
~~27~~	Swift St	City of Santa Cruz	Collector
~~28~~	Fair Ave	City of Santa Cruz	Collector
~~29~~	Almar Ave	City of Santa Cruz	Collector
~~30~~	Rankin St	City of Santa Cruz	Local
~~31~~	Seaside St	City of Santa Cruz	Local
~~32~~	Younglove Ave	City of Santa Cruz	Collector
~~33~~	Bellevue St	City of Santa Cruz	Local
~~34~~	Dufour St	City of Santa Cruz	Local
~~35~~	Palm St	City of Santa Cruz	Local
~~36~~	Lennox St	City of Santa Cruz	Local
~~37~~	Bay St	City of Santa Cruz	Arterial
~~38~~	California St	City of Santa Cruz	Collector
	Private Roads (2)	City of Santa Cruz	Private Road
Segment 8			
~~41~~	Pacific Ave/Beach St (2)	City of Santa Cruz	Arterial
~~42~~	~~Main St~~	~~City of Santa Cruz~~	~~Local~~
~~43~~	~~Westbrook St~~	~~City of Santa Cruz~~	~~Local~~
~~44~~	~~Cliff St~~	~~City of Santa Cruz~~	~~Local~~

Table 4.11-1
Connections with the Existing Roadway Network

Crossing	Roadway	Jurisdiction	Classification
Segment 9			
~~51~~	Mott Ave	City of Santa Cruz	Local
~~52~~	Seabright Ave	City of Santa Cruz	Arterial
~~53~~	7th Ave	City of Capitola	Collector
~~54~~	El Dorado Ave	City of Capitola	Local
Segment 10			
~~55~~	17th Ave	City of Capitola	Minor Arterial
~~56~~	30th Ave	City of Capitola	Collector
~~57~~	38th Ave	City of Capitola	Local
~~58~~	41st Ave	City of Capitola	Arterial
Segment 11			
~~59~~	47th Ave	City of Capitola	Collector
~~60~~	49th Ave/Cliff Dr	City of Capitola	Local/Minor Arterial
~~61~~	Monterey Ave	City of Capitola	Arterial
~~62~~	Grove Lane	County of Santa Cruz	Private Road
~~63~~	New Brighton Rd	County of Santa Cruz	Local
~~64~~	Estates Dr	County of Santa Cruz	Local
~~65~~	Mar Vista Dr	County of Santa Cruz	Local
	Private Road	County of Santa Cruz	Private Road
Segment 12			
~~66~~	State Park Dr	County of Santa Cruz	Minor Arterial
~~67~~	Aptos Creek Rd	County of Santa Cruz	Local
~~68~~	~~Bayview Hotel Driveway~~	~~County of Santa Cruz~~	~~Private Road~~
~~69~~	Trout Gulch Rd	County of Santa Cruz	Collector
Segment 13			
70	Clubhouse Dr	County of Santa Cruz	Local
Segment 14			
	Clubhouse Dr	County of Santa Cruz	Local
~~71~~	Seascape Blvd	County of Santa Cruz	Local
Segment 15			
~~72~~	~~EVA (Seascape)~~	~~County of Santa Cruz~~	~~Private Road~~
~~73~~	Camp St. Francis/agricultural Access	County of Santa Cruz	Private Road
~~74~~	Private ~~agricultural access~~ Roads (2)	County of Santa Cruz	Private Road
~~75~~	Camino Al Mar	County of Santa Cruz	Private Road
Segment 16			
~~76~~	Private Driveway	County of Santa Cruz	Private Road
~~77~~	Spring Valley Rd	County of Santa Cruz	Local
Segment 17			
~~78~~	~~Elicott Slough Rd~~ Private Roads (2)	County of Santa Cruz	~~Local~~ Private Road
~~79~~	Buena Vista Drive	County of Santa Cruz	Minor Collector
Segment 18			
~~80-81~~	~~Private Crossing~~	~~County of Santa Cruz~~	~~Private Road~~
~~82~~	Lee Rd	City of Watsonville	Minor Arterial
~~83~~	Ohlone Parkway	City of Watsonville	Minor Arterial
Segment 19			
~~84~~	~~Walker St/Beach St~~ Riverside Dr	City of Watsonville	Minor Arterial/Arterial

Source: Caltrans California Road System (CRS) Maps.

Table 4.11-2 has been revised as follows:

Table 4.11-2
Class II Bicycle Facilities Connecting to the MBSST Network Corridor

Crossing	Existing Roadway	Bicycle Facilities
Segment 6		
~~25~~	Shaffer Rd	Bike Lanes (Proposed)
Segment 7		
~~26~~	Natural Bridges Dr	Bike Lanes
~~27~~	Swift St	Bike Lanes
~~28~~	Fair Ave	Bike Lanes
~~37~~	Bay St	Bike Lanes
~~38~~	California St	Bike Lanes
Segment 8		
~~41~~	Pacific Ave/Beach St	Bike Lanes / Cycletrack
Segment 9		
~~52~~	Seabright Ave	Bike Lanes
~~53~~	7th Ave	Bike Lanes
Segment 10		
~~55~~	17th Ave	Bike Lanes
~~56~~	30th Ave	Bike Lanes
~~57~~	38th Ave	Bike Lanes (Proposed)
~~58~~	41st Ave	Bike Lanes
Segment 11		
~~59~~	47th Ave	Bike Lanes
~~60~~	49th Ave/Cliff Dr	Bike Lanes (on Cliff Dr)
~~61~~	Monterey Ave	Bike Lanes
Segment 12		
~~66~~	State Park Dr	Bike Lanes
Segment 18		
~~83~~	Ohlone Parkway	Bike Lanes (Proposed)
Segment 19		
~~84~~	Walker St/Beach St	Bike Lanes, Bike Route

Sources: City of Santa Cruz Bicycle Transportation Plan, 2008; City of Capitola Bicycle Plan, 2005; City of Watsonville Draft Trail and Bicycle Master Plan, 2012; County of Santa Cruz Bicycle Plan, 2011.

The language on page 4.11-12 has been revised as shown:

Trail Crossing Methodology. The proposed MBSST Network project includes ~~93~~ 96 locations where the path would cross a public or private street or driveway, or would cross the railway, with most of these (approximately ~~84~~ 76) occurring at existing street crossings of the rail line.

Table 4.11-4 has been revised as shown on the following page:

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
Segment 4					
~~1~~	Private Rd	J	The trail is on the east side of the tracks. Provide a standard private road crossing	County	
~~2~~	Private Driveway (RMC Pacific)	F	The trail is on the east side of the tracks. Provide a standard midblock crossing, as use is expected to exceed 20 pph at least once daily by employees.	County	
~~3~~	State Route (SR) 1	A,D	To/from the north the trail aligns on the east side of the tracks and to/from the south it's on the west side. This creates a trail at-grade rail crossing, which will need to be integrated into the existing SR 1 crossing of the rail. The addition of the trail crossing requires modifying the rail signal, together with the addition of an active enhanced crossing for trail users to cross SR 1.	County	X
Segment 5					
~~4~~	Davenport Parking Lot	A	The proposed trail is on the west side of the tracks. A new railroad crossing is proposed to formalize a popular pedestrian crossing between a parking lot on the east side of the tracks and Davenport Beach on the west side, and to allow east-west access to the trail. The new railroad crossing could be accomplished with installation of a new pedestrian-only rail signal.	County	X
~~5-24~~	Private Roads, including Wilder Ranch Park (3), Scaroni Road (2), and Agricultural Crossings (11)	J	The trail is on the west side of the tracks. Provide standard private road crossings at all 20 locations.	County	
Segment 6					
~~21-24~~	Private Roads (Wilder Ranch Park)	J	The trail is on the west side of the tracks. Provide standard private road crossings at all 4 locations.	County	
~~25~~	Shaffer Rd	A, F	The trail is on the west side of the tracks. A new railroad crossing is proposed to formalize a popular pedestrian crossing between two existing dead ends of Shaffer Road on either side of the tracks. The new railroad crossing should include pedestrian rail signal improvements. The City plans new roadway crossing with bike lanes. Additional markings would be required on street crossing for bike guidance.	Santa Cruz	X
Segment 7					
~~26~~	Natural Bridges Dr	F	The trail is on the west side of the tracks. Provide a standard midblock crossing.	Santa Cruz	
~~27~~	Swift St	E	The trail is on the west side of the tracks. Provide a passive enhanced crossing.	Santa Cruz	
~~28~~	Fair Ave	E	The trail is on the west side of the tracks. Provide a passive enhanced crossing.	Santa Cruz	
~~29~~	Almar Ave	E	The trail is on the west side of the tracks. Provide a passive enhanced crossing.	Santa Cruz	
~~30~~	Rankin St	H	The trail is on the west side of the tracks. Provide connection facilities, adding a crosswalk at the intersection of Rankin St/ Seaside St., together with a path on the south side of Seaside St. between Rankin St and the rail crossing location 100 ft east.	Santa Cruz	X
~~31~~	Seaside St	F, I	The trail is on the west side to/from the north and on the east side to/from the south. Rather	Santa Cruz	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			than the trail crossing along Seaside St, it may be possible to locate the trail in a vacant triangular parcel on the SW corner of Seaside/Younglove St. While the trail will not cross Seaside, it will cross the rail, with the crossing to be oriented perpendicular to the tracks. The existing vehicular rail crossing of Seaside St will remain, and since it is unsignalized, it's recommended that the new rail-trail crossing also be provided without signal equipment.		
~~32~~	Younglove Ave	H	The trail is on the east side of the tracks. Provide a pedestrian connection to the intersection of Younglove Ave and Seaside St and adding a crosswalk on the southeast leg of the intersection.	Santa Cruz	X
~~33~~	Bellevue St	F	The trail is on the east side of the tracks. Provide a standard midblock crossing.	Santa Cruz	
~~34~~	Dufour St	F	The trail is on the east side of the tracks. Provide a standard midblock crossing.	Santa Cruz	
~~35~~	Palm St	J	The trail is on the east side of the tracks. Provide a standard private crossing (existing barricades prohibit vehicle travel across rail tracks).	Santa Cruz	
~~36~~	Lennox St	F,H	The trail is on the east side of the tracks. Provide pedestrian connection along the north side of the street and a bicycle connection via SLM in Lennox Street, to minimize the distance pedestrians and bicyclists have to travel in the street at this acute angled crossing. Provide a standard midblock crossing at the far easterly end of the existing rail-street crossing.	Santa Cruz	X
~~37~~	Bay St	D	The trail is on the east side of the tracks. Provide an active enhanced midblock crossing.	Santa Cruz	X
~~38~~	California St	E,G	The trail is on the east side of the tracks. Provide traffic calming at the intersection of Bay St/California St (north) to reduce the curb radii and travel speeds of NB right turning vehicles. Move the trail crossing 20 feet north of the existing crossing on California Street, to increase the distance from the Bay St intersection. The path should shift to the north side of the City's water treatment plant access road via a standard midblock crossing on the access road so that it minimizes interference with truck movements at the intersection with California Street. Curb extensions and a passive enhanced crossing should be provided at the relocated street crossing. Barriers should be installed as necessary to discourage crossings at the existing location.	Santa Cruz	X
~~39, 40~~	Neary Lagoon Park (2)	A	The trail is on the east side of the main line tracks. The 2 new railroad crossings are spur track crossings rather than mainline crossings. May need to tie into rail signal controls due to high volume of trail pedestrians/bicyclists expected at this popular Santa Cruz location.	Santa Cruz	X
Segment 8					
~~41~~	Pacific Ave/Beach St	A	The trail is on the east side of the tracks. The city has designed a roundabout to control the intersection of Pacific Ave/Beach St, which includes pedestrian and bicycle crossing facilities of the streets but does not extend north to the railroad. There is an existing sidewalk crossing of the tracks on the west side of Pacific Avenue, and while the street crossing has signalized rail equipment, the sidewalk/ pedestrian facility is not. Modify this railroad signal to include pedestrian crossing signals, allowing trail users to use the new roundabout to cross Beach Street, and travel along the boardwalk, some distance west of the tracks. Concept plans also include the recommended trail crossing features for the existing intersection conditions should the roundabout not be pursued by the City.	Santa Cruz	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
~~42~~	Main St	K	The trail is on the west side of the tracks. No additional improvements.	Santa Cruz	
~~43~~	Westbrook St	K	The trail is on the east side of the tracks. No additional improvements.	Santa Cruz	
~~44~~	Cliff St	K	The trail is on the east side of the tracks. No additional improvements.	Santa Cruz	
~~45-50~~	Boardwalk Crossings (6)	K	The trail is on the east side of the tracks. No additional improvements.	Santa Cruz	
Segment 9					
~~51~~	Mott Ave	F	The proposed trail is on the east side of the tracks and this street crossing of Mott Ave is approximately 20 feet north of the north leg of the intersection of Mott Ave/Murray Street. However there is a partial road closure of Mott Ave at the crossing, with SB traffic prohibited at the crossing. The NB crossing is situated such that a standard midblock crossing is recommended.	Santa Cruz	
~~52~~	Seabright Ave	B	The trail is on the east side of the tracks. Modify the traffic signal at the intersection of Seabright Ave/Murray Street to add pedestrian phases to north leg of the intersection for crossing Seabright Ave. There may be a concern for westbound queuing in the through/right turn combined lane on Murray Street. Although not part of these concept plans, the need and feasibility in providing a westbound right turn lane should be explored.	Santa Cruz	X
~~53~~	7th Ave	A,D	To/from the north the trail is on the east side and to/from the south the trail is on the west side. This represents a rail crossing, which will need to be integrated into the existing signalized rail crossing. Trail users can use the existing sidewalks on both sides of the street to travel south of the tracks approximately 50 feet, and cross 7th Avenue on the north leg of the intersection of 7th Ave/Harbor Beach Court. As an alternative, the crosswalk could be located north of the crossing. This street crossing includes an active enhanced crosswalk, and the rail signal should be modified to add pedestrian gates and barriers on either side of 7th Ave. One parking space would be eliminated on the west side of the street.	Capitola	X
~~54~~	El Dorado Ave	A	The trail is on the west side of the tracks. A new railroad crossing is proposed, to formalize a popular pedestrian crossing between El Dorado Ave and the Simkins Swim Center. The new railroad crossing should include a new pedestrian-only rail signal.	Capitola	X
Segment 10					
~~55~~	17th Ave	A,C	To/from the north the trail is on the west side and to/from the south the trail is on the east side. This represents a rail crossing, which will need to be integrated into the existing signalized rail crossing. Trail users can use the existing sidewalks on both sides of the street to travel south of the tracks approximately 30 feet, and cross 17th Avenue on the north leg of the intersection of 7th Ave/Simkins Swim Center driveway. This street crossing includes an active enhanced crosswalk and improved median. The rail signal should be modified to add pedestrian gates and barriers on either side of 17th Ave.	Capitola	X
~~56~~	30th Ave	E	The trail is on the east side of the tracks. Provide a passive enhanced midblock crossing	Capitola	
~~57~~	38th Ave	E	The trail is on the east side of the tracks. Provide a passive enhanced midblock crossing.	Capitola	
Segment 11					
~~58~~	41st Ave	D	The trail is on the east side of the tracks. There is sidewalk on both sides of the street	Capitola	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			between the railroad and Melton St to the north. Provide an active enhanced crosswalk on the south side of Melton Ave. Alternatively, install a HAWK signal on either the south leg of Melton St or just on the north side of the tracks.		
~~59~~	47th Ave	A,H	To/from the north the trail is on the east side and to/from the south the trail is on the west side. This represents a rail crossing, which will need to be integrated into the existing signalized rail crossing. Trail users can use the existing crosswalk on 47th Ave at the intersection of 47th Ave/Portola Dr. This leads the trail users outside the railroad crossing barrier on the east side and also to a controlled crossing of 47th Ave. The existing walkway on the west side of 47th Ave should be extended across the tracks to the crosswalk. Pedestrian gates and barriers should be added to the rail signal.	Capitola	X
~~60~~	49th Ave/Cliff Dr	A, D	The trail is on the west side of the tracks. A new railroad crossing is proposed, to formalize a popular pedestrian crossing between 49th Ave/Prospect Ave and Cliff Drive/Capitola Wharf. The new railroad crossing should include a new pedestrian-only rail signal located at 49th Ave/Prospect Ave and also a connection to a passive enhanced midblock crosswalk located in proximity to the existing crosswalk on Cliff Drive.	Capitola	X
~~61~~	Monterey Ave	D	The trail is on the west side of the tracks. To avoid expensive railroad signal changes, the trail users will be directed to cross Monterey Avenue in a new midblock crosswalk 50 feet south of the tracks. Barriers at the back of sidewalk must be placed to prevent pedestrians crossing within the existing rail barriers. Existing sidewalk is available on both sides of Monterey Ave. Provide an active enhanced midblock crosswalk.	Capitola	X
~~62~~	Grove Lane	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	X
~~63~~	New Brighton Rd	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	
~~64~~	Estates Dr	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	
~~65~~	Mar Vista Dr	A,H	To/from the north the trail is on the west side and to/from the south the trail is on the east side. The existing rail signal must be modified to add pedestrian gates and barriers on both sides of Mar Vista Dr, and the trail users must be provided guidance (barriers) and connection facilities to cross 2 streets, including a new sidewalk on the west side of the street between the tracks and Cedars Street, a new crosswalk on Cedar Street at its intersection with Mar Vista Dr, and a new crosswalk on the south leg of Mar Vista Dr at Cedar St. A sidewalk connection is also needed on the east side of Mar Vista Dr between Cedar St and the new trail entrance on the north side of the tracks.	County	X
Segment 12					
~~66~~	State Park Dr	C, G, H	The proposed trail is on the east side of the tracks. Provide a HAWK signal and medians on State Park Dr at the south leg of its intersection with Sea Ridge Rd. This HAWK signal location should eliminate the need to modify the railroad signal on State Park Dr. Sidewalk must be added on the east side of State Park Dr between the new trail and Sea Ridge Rd, to connect to the new HAWK crossing.	County	X
~~67~~	Aptos Creek Rd	E,G	The trail is on the east side of the tracks. Provide a passive enhanced midblock crossing on Aptos Creek Rd and install a striped or raised curb extension on the SE corner of the	County	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			intersection of Aptos Creek Rd/Soquel Dr., in an effort to reduce the speed of right turning vehicles. Crossing should consider planned traffic signal installation at Soquel Drive intersection.		
~~68~~	Bayview Hotel Driveway	J	The trail is on the east side of the tracks. Provide a standard private crossing, and if the private crossing is paved, add a marked crosswalk.	County	
~~69~~	Trout Gulch Rd	A,H	To/from the north the trail is on the east side and to/from the south the trail is on the west side. A trail at-grade rail crossing should be added to the north side of Trout Gulch Rd, including a 10 foot long sidewalk between Aptos St and Soquel Dr, and incorporated into the rail signal controls, including pedestrian barriers and gates. Provide a marked crosswalk on Trout Gulch Rd on the west leg of its intersection with Aptos St. The trail to/from the north appears to require removal of 7 parking spaces in a shopping center. Crossing should consider planned traffic signal installation at Soquel Drive intersection.	County	X
Segment 13					
~~70~~	Clubhouse Dr	H	The proposed trail is on the east side (it appears on RRM May update as switching from the west to the east at Hidden Beach Park to the north, which is not a study crossing). Provide connection facilities, including a curvilinear sidewalk from both trail heads that lead to a new crosswalk on Clubhouse Dr at its intersection with Sumner Ave, which is presently a stop-controlled approach. Install pedestrian barriers to guide trail users to the new intersection crosswalk.	County	X
Segment 14					
~~71~~	Seascape Blvd	H	The trail is on the east side of the tracks. The trail must deviate towards Sumner Ave to align the trail outside the existing rail signal at Seascape Blvd. There is a landscaped area that appears sufficiently wide to accommodate the necessary sidewalks. Provide a new crosswalk on the west leg of the intersection of Seascape Blvd/Sumner Ave. The landscaped median in Seascape Blvd will need to be reconstructed to accommodate the new crosswalk.	County	
Segment 15					
~~72~~	EVA (Seascape)	J	The proposed trail is on the east side of the tracks. The EVA for Seascape currently is equipped with rail signal equipment, including lights and signs but no barriers. Consistent with this approach, pedestrian should be permitted to pass the EVA without modifying the rail signal equipment. Provide a standard private crossing treatment, as the EVA is cordoned off, restricting vehicular crossing of EVA and therefore functioning like a private street.	County	
~~73~~	Camp St. Francis/ agricultural access	J	The trail is on the east side of the tracks. Provide a standard private crossing treatment.	County	
~~74~~	Private agricultural access	J	The trail is on the east side of the tracks. Provide a standard private crossing treatment.	Count	
~~75~~	Camino Al Mar	I, J	To/from the north the trail is on the east side of the tracks and to/from the south the trail is on the west side of the tracks. A connection across the tracks is necessary but signalization	County	X

Table 4.11-4
Summary of Selected Road Crossing Treatments

Crossing	Description	Recommended Crossing Treatment		Jurisdiction	Custom Crossing?
		Type	Description		
			appears unnecessary. In addition, provide a standard private crossing across Camino Al Mar.		
Segment 16					
~~76~~	Private Driveway	J	The trail is on the west side of the tracks. Provide a standard private crossing treatment.	County	
~~77~~	Spring Valley Rd	A,E,H	To/from the north the proposed trail is on the west side of the tracks and to/from the south the trail is on the east side. This creates a trail at-grade rail crossing, which will need to be integrated into the existing Spring Valley Rd crossing of the rail. The proposed trail crossing requires modifying the rail signal, together with the addition of connecting sidewalks or paths to the adjacent school campus and a passive enhanced midblock crosswalk on Spring Valley Road east of the tracks. Barriers should be installed at trail/street intersections to guide trail users towards the new crosswalk.	County	X
Segment 17					
~~78~~	Elicott Slough Rd	J	The trail is on the east side of the tracks. Provide standard private crossing treatment.	County	
~~79~~	Buena Vista Drive	J	The trail is on the east side of the tracks. Provide standard private crossing treatment.	County	
Segment 18					
~~80~~ 81	Private Crossing	J	The trail is on the east side of the tracks. Provide standard private crossing treatment. (2)	County	
~~82~~	Lee Rd	H	The trail is on the east side of the tracks. Lee Rd is stop-controlled at the rail crossing. This is an unsignalized rail-street crossing. Provide a new crosswalk on Lee Road at the trail, with no additional railroad modifications due to the existing controls.	Watsonville	
~~83~~	Ohlone Parkway	F,H	The trail is on the east side of the tracks. This is an existing signalized rail crossing and in order to avoid the expense associated with modifying the signal for pedestrian controls, the trail should be redirected north 50 feet. Both the existing and proposed crossing locations represent a standard midblock crossing of a low-volume road that has excellent sight distance. New connection facilities are needed on both sides of the street.	Watsonville	
Segment 19					
~~84~~	Walker St/ Beach St	H	The trail is on the east side of the tracks. Add a new crosswalk on the east leg of the intersection of Walker St/Beach St, to provide a connection to the existing bike lanes on Walker St.	Watsonville	

Notes: SLM = Bicycle Shared Lane Markings; pph = pedestrians per hour; EVA = emergency vehicle access; AWSC = All-Way Stop Controlled; NB = Northbound; SB = Southbound

Section 4.12 Public Safety and Services

The following change has been made to the text on page 4.12-16 to clarify the role of the Trail Ranger:

> *Mitigating Design Features.* The proposed MBSST Network project contains risk management strategies and design guidelines that would limit potential adverse impacts related to emergency access and response times. For example, the Trail Manager and Trail Ranger would be responsible for observing trail operations to ensure the trail can accommodate all emergency (i.e. police, EMS, and fire) vehicles that might need to obtain access. In addition, removable bollards would be installed at various locations along the MBSST Network to prevent unauthorized motorists from entering the trail. Where removable bollards are installed, the Trail ~~Manager~~ Ranger would ensure that all appropriate agencies (i.e. fire, police, and EMS service providers) have the keys for access.

The following change has been made to the text on page 4.12-18 to clarify the role of the Trail Ranger:

> The Trail ~~Manager~~ Ranger would be responsible for the day-to-day operation and maintenance of the MBSST Network.

Section 6.0 Alternatives

The following change has been made to the text on page 6-15 to clarify the role of the Trail Ranger:

> A Trail ~~Manager~~ Ranger would also continue to be responsible for landscape maintenance, trash clean up and disposal, graffiti removal, possible trail closures, and repairs to trail components in accordance with a trail operations and maintenance plan.

8.2 COMMENTS AND RESPONSES

This section includes the comments received during circulation of the Draft Environmental Impact Report (EIR) prepared for the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan and responses to those comments. Where a comment resulted in a change to the Draft EIR text, a notation is made in the response indicating that the text is revised. Changes in text are signified by strikeouts (~~strikeouts~~) where text is removed and by underlined font (underline font) where text is added. The changes incorporated into this EIR correct minor errors or clarify information. The changes do not result in presentation of new substantial adverse environmental effects that cannot be mitigated by existing mitigation.

The Draft EIR was circulated for a 45-day public review period that began on June 7, 2013, and concluded on July 22, 2013. The Santa Cruz County Regional Transportation Commission (RTC) received 14 comment letters on the Draft EIR. In addition, the RTC conducted two public meetings during the Draft EIR review period to provide a summary of the document and receive community input. The first meeting was held at the Louden Nelson Community Center in Santa Cruz on June 25, 2013. The second meeting was held at the City of Watsonville Civic Plaza Community Room on June 27, 2013. The commenters and the page numbers on which each commenter's letters appear (as applicable) are listed below.

Commenter	Page No.
1. Scott Morgan, Director State Clearing House	8-29
2. Lee Otter, Transportation & Public Access Liaison and Karen Geisler, Coastal Program Analyst, California Coastal Commission	8-32
3. Jennifer Calate, Associate Transportation Planner and District 5 Development Review Coordinator, Caltrans	8-40
4. Melissa A. Farinha, Environmental Scientist, California Department of Fish and Wildlife	8-46
5. Felix Ko, P.E., Utilities Engineer, Rail Crossing Engineer Section, Public Utilities Commission	8-52
6. Cy R. Oggins, Chief, Division of Environmental Planning and Management, State Lands Commission	8-59
7. Dee Woods	8-86
8. Leslie Dwyer	8-88
9. Diane K. Vaillancourt	8-90
10. Diane Levine	8-92
11. Sandra L. Cohen	8-94
12. Timothy J. Morgan, Attorney, Law Offices of Timothy J. Morgan	8-96
13. Timothy J. Morgan, Attorney, Law Offices of Timothy J. Morgan	8-115
14. Linda Wilshusen, Planning and Project Management	8-123
15. Public Comments Received at Draft EIR Comment Meeting in Santa Cruz	8-130
16. Public Comments Received at Draft EIR Comment Meeting in Watsonville	8-131

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

July 23, 2013

RECEIVED
JUL 26 2013
SCCRTC

Cory Caletti
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060

Subject: Monterey Bay Sanctuary Scenic Trail Network Master Plan
SCH#: 2012082075

Dear Cory Caletti:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on July 22, 2013, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

1.1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

Letter 1

SCH#	**2012082075**
Project Title	Monterey Bay Sanctuary Scenic Trail Network Master Plan
Lead Agency	Santa Cruz County Regional Transportation Commission

Type	**EIR** Draft EIR
Description	The purpose of the Master Plan is to establish the continuous alignment and set of design standards for a multi-use trail for the length of Santa Cruz County. The proposed trail alignment typically follows the Santa Cruz Branch line right-of-way (a 32-mile, continuous travel corridor now owned by the Santa Cruz RTC), and is separated into three reaches: The northern reach; the central reach; and the Watsonville reach. The project would include 49.6 miles of bicycle and pedestrian facilities. Implementation would require land clearing, grading, and construction (including asphalt, fencing, signage, landscaping, and other improvements). Administration of the proposed MBSST would involve the RTC, the local jurisdictions including the cities of Santa Cruz Capitola, and Watsonville, and the County of Santa Cruz, and any other implementing entity.

Lead Agency Contact

Name	Cory Caletti		
Agency	Santa Cruz County Regional Transportation Commission		
Phone	831 460 3200	**Fax**	
email	ccaletti@sccrtc.org		
Address	1523 Pacific Avenue		
City	Santa Cruz	**State** CA	**Zip** 95060

Project Location

County	Santa Cruz
City	Santa Cruz, Capitola, Watsonville
Region	
Lat / Long	
Cross Streets	multiple
Parcel No.	multiple
Township	**Range** **Section** **Base**

Proximity to:

Highways	multiple
Airports	multiple
Railways	multiple
Waterways	multiple
Schools	multiple
Land Use	Multiple; primary corridor aligns with Santa Cruz Branch Rail Line right-of-way

Project Issues	Agricultural Land; Air Quality; Biological Resources; Archaeologic-Historic; Geologic/Seismic; Other Issues; Toxic/Hazardous; Water Quality; Noise; Traffic/Circulation; Public Services; Aesthetic/Visual; Coastal Zone; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Forest Land/Fire Hazard; Minerals; Population/Housing Balance; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Vegetation; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects
Reviewing Agencies	Resources Agency; California Coastal Commission; Department of Conservation; Department of Fish and Wildlife, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 5; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 3; Native American Heritage Commission; Public Utilities Commission; State Lands Commission

Date Received	06/07/2013	**Start of Review**	06/07/2013	**End of Review**	07/22/2013

Letter 1

COMMENTER: Scott Morgan, Director, State Clearinghouse, Office of Planning and Research

DATE: July 23, 2013

RESPONSE:

Response 1.1

The commenter acknowledges that the EIR has complied with State Clearinghouse requirements pursuant to the California Environmental Quality Act. No further response is necessary.

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877
WEB: WWW.COASTAL.CA.GOV

July 22, 2013

To:
Cory Caletti, Senior Transportation Planner/Project Manager
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060

RECEIVED
JUL 22 2013
SCCRTC

From: California Coastal Commission
Lee Otter, Transportation & Public Access Liaison
Karen Geisler, Coastal Program Analyst KG

Memorandum

Draft Environmental Impact Report, Monterey Bay Sanctuary Scenic Trail Network Master Plan Santa Cruz County Regional Transportation Commission, June 2013 (SCH #2012082075)

Overall: We recommend certification of the subject Draft Environmental Impact Report (DEIR), subject to a commitment to pursue the additional study regarding connections across the Pajaro River as suggested at the end of this memorandum. We further recommend that the applicable elements of the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan be incorporated in the four applicable Local Coastal Programs (LCPs) that cover the Coastal Zone area of Santa Cruz County. 2.1

Relationship to previous comments. On December 21, 2012 we submitted written comments on the *Monterey Bay Sanctuary Scenic Trail Network Draft Master Plan*. Those comments were in addition to a substantial body of informal map edits and map notes previously provided to Santa Cruz County Regional Transportation Commission (SCCRTC) staff. The additional comments below reference and supplement our comments of December 21, 2012, and are specifically in response to the DEIR for the MBSST Network Master Plan, dated June 2013. 2.2

General comments. Our reaction to the MBSST Network Plan DEIR is that it confirms and underscores the environmental and public access value of SCCRTC's recent acquisition of the County's coastal rail corridor. The Network Plan integrates alignment plans for the coastal rail corridor, coastal bike routes and the various pedestrian accessways. As indicated by the DEIR, the rail corridor will function as the "spine" of the system, making possible a continuously-connected, "braided" coastal trail network. 2.3

Specifically, implementation of the Network Plan will assure continuity for the MBSST and the California Coastal Trail (CCT) around the northern perimeter of Monterey Bay. This will be made

possible through rehabilitation of the coastal railroad, and its reuse as an alternative transportation corridor. Accordingly, it represents a major step forward for public access along the entire Santa Cruz County coast, consistent with the Coastal Act's public access and recreation policies. And, because the MBSST Network will provide the premier vantage points for viewing and learning about the Monterey Bay National Marine Sanctuary, implementation of the MBSST Network Plan will present important opportunities for interpretation and environmental education. 2.3

Future implementation process. As we noted in our comments of December 21, 2012, we recognize that much of this plan will be implemented on a project-by-project basis. Each individual project will likely represent only a fraction of the distance for each of the plan's identified segments. Each will be subject to project-specific environmental review, including consideration of alternatives. Many of the projects will also require coastal development permits from the respective local governments--or upon appeal or in "original jurisdiction" areas, from the Coastal Commission itself. 2.4

Incorporation into Local Coastal Programs recommended. The MBSST Network Plan will provide the framework for planning non-automotive transportation infrastructure throughout the Santa Cruz County Coastal Zone. It will influence the kinds, location, and intensity of development in each of the County's four Coastal Zone jurisdictions: County of Santa Cruz, City of Santa Cruz, City of Capitola and City of Watsonville. Each of these has delegated coastal permit authority, and each has a certified Local Coastal Program (LCP) as a standard of review. The regulation of coastal zone development is also delegated through the University of California's Long Range Development Plan (LRDP), and through the Public Works Plan (PWP) for Wilder Ranch State Park. 2.5

Coastal Commission staff strongly recommends that each of these LCPs, as well as the LRDP and PWP, be updated to incorporate the respective applicable elements of the MBSST Network Plan. The Coastal Commission encourages your continued search for planning grants and other forms of support for such LCP updates. After the completion of each respective local government's review process, the updated portions of each LCP will be submitted to the Coastal Commission as prospective LCP amendments. Comparable hearing and adoption procedures apply to LRDP and PWP amendments.

Updating of the LCPs (and LRDP and PWP as needed) to incorporate the applicable elements of the MBSST Network Plan will assure that the Plan can be implemented as intended. The LCP (and LRDP and PWP) updates will provide for continuity and effective connectivity of bikeways and coastal trail segments across jurisdictional boundaries. In addition, opportunities for public access to and along the coast will be improved, while respecting the individual character of each community and consistently protecting sensitive coastal resources. Accordingly, environmental impacts resulting from non-congruent local plans would be avoided, and non-automotive transportation choices would be encouraged.

Supplemental study needed for connection to Monterey County portion of the MBSST. Coastal Commission staff finds that while the DEIR provides a commendable focus on the recently-acquired rail corridor, southwards to Watsonville and Pajaro, it does not adequately identify or evaluate the trail system alternatives where the logical alignment for the CCT component falls beyond the limited study area close to the existing rail right of way. 2.6

Section 2.3.1 Existing and Planned Trail Networks—California Coastal Trail. We recommend that this sub-section be amplified to emphasize that the CCT strand of the MBSST system will, wherever feasible, follow a blufftop alignment throughout the length of Santa Cruz County. This is especially applicable for the segment southwards from La Selva and Manresa State Beach through Sunset State Beach. Please see our prior comments on the Network Plan for additional recommendations on this topic. 2.7

Pages 2-37 & 2-38, Figures 2-10d & 2-10e, Watsonville Reach Pajaro River and Shoreline Beach Connection. We believe planning for the area southward from West Beach St. and seaward of Thurwachter Bridge is not sufficient to provide for rational connections to TAMC's projected alignment for that portion of the MBSST south of the Pajaro River. Specifically, we strongly recommend that a joint supplementary study of potential crossings and alignments along the lower Pajaro River be undertaken in partnership with TAMC. And, that this EIR be certified subject to the caveat that this area be subject to a supplementary analysis that identifies and evaluates the various alternatives for crossing the Pajaro River—and effectively connecting the Santa Cruz County portion of the MBSST to its Monterey County counterpart.

Examples of potential alternatives include, but are not limited to: 2.8

a. Rehabilitating and incorporating the paved bikeway on top of the Corps of Engineers levee, along the north side of the Pajaro River. This levee currently ends at the inland edge of Watsonville Slough. Thus, it falls a few dozen yards short of linking Watsonville to the unpaved sand path crossing the broad beach at the mouth of the Pajaro River. Map correction needed on DEIR p. 2-38.

b. Using the abandoned alignment of the Pajaro Valley Consolidated Rail Road (PVCRR) and levee-top roadway on the south side of the Pajaro River, as shown in Monterey County's LCP North County Land Use Plan and contemplated in TAMC's plans for the MBSST.

c. Enhancing the existing, informal, low-profile levee along the inland side of Watsonville Slough, parallel to the Pajaro Dunes development, to include a hiking and biking path. However, we are

not aware of a suitable public right of way at present. Accordingly, such a project would presumably be predicated upon a partnership agreement with adjoining private landowners.

d. Employing a permanent, seasonal or floating bridge for a pedestrian crossing of Watsonville Slough at its mouth.

e. Employing a permanent, seasonal or floating bridge for a bicycle and pedestrian crossing of the Pajaro River estuary. Alternatively, an on-call pontoon-boat ferry or self-propelled cable-tethered ferry facility could be evaluated as the least-impacting, most interesting way for hikers and bicyclists to cross the river. A good example of a pontoon boat operation can be seen at Elkhorn Slough Safaris, in Moss Landing. 2.8

f. Agreements with neighboring landowners for effective fencing, positive drainage control, security patrol, right-to-farm covenants, short term closure protocols (e.g., during application of pesticides), crop loss indemnification insurance, and other measures to assure compatibility between agricultural use and trail use.

g. Interagency protocols for seasonal exclusion zones, symbolic fencing and beach path (or inland) detours to protect Snowy plover nesting areas on the upper beach around the mouth of the Pajaro River.

Additional comments. Our intention is to provide additional, informal comments for the consideration of the SCCRTC, regarding potential edits and corrections of a minor nature not affecting our recommendation for CEQA certification. These will be forwarded under separate cover, following the CEQA process. 2.9

Letter 2

COMMENTER: Lee Otter, Transportation & Public Access Liaison
Karen Geisler, Coastal Program Analyst
California Coastal Commission

DATE: July 22, 2013

Response 2.1

The comment recommends certification of the Draft EIR subject to a commitment to perform additional study regarding connections across the Pajaro River. The commenter also recommends that applicable elements of the MBSST Network Master Plan be incorporated in the four Local Coastal Programs (LCPs) that cover the Coastal Zone area of Santa Cruz County.

Please see Response 2.8 for a response to the commenter's recommendation for additional study of trail connections across the Pajaro River.

Inclusion of the applicable elements of the MBSST Network Master Plan in the four LCPs that cover the Coastal Zone area of Santa Cruz County would be at the discretion of the jurisdictions which administer each of the LCPs; County of Santa Cruz, City of Santa Cruz, City of Capitola and City of Watsonville. As described in Section 2.8 (Required Approvals and Permits) of the EIR, discretionary approvals from local jurisdictions including plan adoption by the County of Santa Cruz and cities of Santa Cruz, Capitola, and Watsonville may be required prior to construction of individual segments. This could include amendment of the existing LCPs in these jurisdictions. In addition, receipt of Coastal Development Permits (CDPs) could be required, as acknowledged in Section 2.8. In response to this comment, Section 2.8 of the EIR has been amended as follows:

> The proposed project requires the certification of this EIR and approval of the Master Plan by the RTC prior to the initiation of the project. In addition, the following discretionary approvals from other agencies may be required prior to construction of individual segments:
>
> - *Local jurisdiction adoption and amendment of existing planning documents (including by the County of Santa Cruz, County of Monterey [for segment 20] and cities of Santa Cruz, Capitola, and Watsonville);*
> - *Coastal Development Permit(s) from the County of Santa Cruz, cities of Santa Cruz, Capitola and Watsonville, County of Monterey [for segment 20] or California Coastal Commission;*

Response 2.2

The comment notes that the current set of comments on the Draft EIR is an addition to previous comments dated December 21, 2012 submitted regarding the MBSST Draft Master Plan itself. This comment is noted.

Response 2.3

The commenter describes the environmental and public access values of the MBSST Network Master Plan and the RTC's acquisition of the coastal rail corridor. The commenter also states that the proposed project is consistent with the Coastal Act's public access and recreation policies. This comment is noted.

Response 2.4

The commenter recognizes that future implementation will be on a project-by-project basis and states that each project will require project-specific environmental review, including consideration of alternatives and potentially coastal development permits (CDPs) from the relevant jurisdictions or Coastal Commission.

As discussed in Section 2.8 (Required Approvals and Permits) of this EIR, subsequent environmental review of individual segments may be required, particularly if an individual trail segment differs from what was analyzed in this EIR. In such instances, this Program EIR may be used as a tiering document, as described in Section 15152 of the *State CEQA Guidelines*. Subsequent review, if required, may include a Negative Declaration, Mitigated Negative Declaration, EIR Addendum, or site-specific Project EIR. Review under the National Environmental Policy Act (NEPA) may also be required for individual segments. NEPA review could be as simple as a Categorical Exclusion, unless certain criteria are met. For example: (1) significant environmental impacts; (2) substantial controversy on environmental grounds; (3) significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or (4) inconsistencies with any federal, state, or local law. The following amendment has been made to Section 2.8 (Required Approvals and Permits) for clarification:

> Review under the National Environmental Policy Act (NEPA) may also be required for individual segments~~, if the segment is funded whole or in part by federal funds~~. NEPA review could be as simple as a Categorical Exclusion, unless certain criteria are met. For example: (1) significant environmental impacts; (2) substantial controversy on environmental grounds; (3) significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or (4) inconsistencies with any federal, state, or local law.

As noted in the Response to Comment 2.1, Section 2.8 of the EIR notes the potential requirement for receipt of a CDP for an individual trail segment. Text has been added to that section of the EIR referencing the individual jurisdictions which may issue CDPs for segments of the MBSST.

Response 2.5

The commenter recommends that each of four certified LCPs that cover the Coastal Zone area of Santa Cruz County, as well as the University of California's Long Range Development Plan and the Public Works Plan for Wilder State Ranch Park be updated to incorporate the respective applicable elements of the MBSST Network Plan and describes the procedure for the update

process. The comment states that updating the respective plans would assure that the MBSST Network Plan can be implemented as intended, that environmental impacts resulting from non-congruent local plans would be avoided, and that non-automotive choices would be encouraged.

Please see Response to Comment 2.1. Update of the individual Local Coastal Plans would be at the discretion of the relevant jurisdictions and is not under the authority of the RTC.

Response 2.6

The commenter states the opinion that the EIR does not adequately identify or evaluate trail system alternatives where the logical alignment for the California Coastal Trail (CCT) component falls beyond the study area around the existing rail right-of-way.

The project as proposed is designed to maximize the use of the railroad right-of-way and the EIR analyzed the project as proposed. While the MBSST would also serve as the CCT, as described in Section 2.3.1 (Existing and Planned Trail Networks – California Coastal Trail) of the EIR, additional alignments of the CCT planned beyond the MBSST Network are not included as part of the Master Plan. Therefore, the EIR does not identify or evaluate the alternatives mentioned because they are not within the scope of the proposed project. The EIR does analyze several proposed alternatives to the MBSST Network Plan (refer to Section 6.0, *Alternatives*). However, these alternatives were selected to reduce identified environmental effects rather than examine alternate alignments.

Response 2.7

The comment states the opinion that sub-section 2.3.1 (Existing and Planned Trail Networks – California Coastal Trail) in Section 2.0, *Project Description,* should emphasize that the CCT strand of the MBSST system would, wherever feasible, follow a blufftop alignment through the length of Santa Cruz County, particularly for the segment southwards from La Selva and Manresa State Beach through Sunset State Beach.

Please see Response 2.6.

Response 2.8

The commenter states the opinion that planning for the area southward from West Beach Street and seaward of Thurwachter Bridge is insufficient to provide for rational connections to the Transportation Agency of Monterey County's (TAMC) projected alignment for the portion of the MBSST south of the Pajaro River. The comment recommends that a joint supplementary study of potential crossings and alignments along the lower Pajaro River be undertaken in partnership with TAMC and that the EIR be certified subject to a caveat that this supplementary analysis be carried out.

This comment pertains to the design of the MBSST Network Plan as proposed and does not challenge or question the analysis or conclusions in the Draft EIR. In response to this comment the following language has been added to the MBSST Network Master Plan, "*While a footbridge*

or crossing of the Pajaro River and Watsonville Slough are not being proposed as part of this Master Plan, they will provide high-quality beach access. These links are regionally important because the levee-top trail proposed by the City of Watsonville Trails and Greenways Master Plan has the potential not only to complete beach access from the city of Watsonville, but also to provide Coastal Rail Trail continuity around the southern reach of the Monterey Bay. Therefore, a study should be conducted at a later date to identify and evaluate various ways for crossing the Pajaro River and the Watsonville Slough in order to connect the Santa Cruz County portion of the MBSST Network to its Monterey County counterpart and to maximize coastal access opportunities". As described in Section 2.8 (Required Approvals and Permits), subsequent environmental review may be required if the individual trail segment differs from that analyzed in this EIR.

Response 2.9

The commenter states that the Coastal Commission intends to provide additional, informal, comments for RTC consideration regarding potential edits and corrections of a minor nature under separate cover. These comments would not affect the recommendation for CEQA certification.

This comment is noted.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3329
TTY 711
http://www.dot.ca.gov/dist05/

Flex your power!
Be energy efficient!

July 22, 2013

PM: Varies
SCH: 2012082075

Ms. Cory Caletti
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060

Dear Ms. Caletti:

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE MONTEREY BAY SANCTUARY SCENIC TRAIL NETWORK MASTER PLAN (MBSST)

The California Department of Transportation (Caltrans/Department), District 5, Development Review, has reviewed the above referenced project and offers the following comments.

1. The Department supports local development that is consistent with State planning priorities intended to promote equity, strengthen the economy, protect the environment, and promote public health and safety. We appreciate that the MBSST is doing this in that its intent is to establish a continuous alignment, connection spurs, and a set of design standards for a bicycle/pedestrian (multi-use) trail for the length of Santa Cruz County. These goals are in line with State planning priorities and align with the principles of the California Coastal Trail. 3.1

2. The DEIR still references a "multi-use paved path" and is confusing. A clear distinction should be made between Class I paths and multi-use trails, as defined by the Highway Design Manual (HDM). The term "multi-use" in the HDM is only applied to trails, not paths. A "multi-use path" trail classification is therefore a confusion of terms and could complicate the design phase of a project. Please be aware that all trail segments on the Caltrans Right of way (ROW) must be clearly designed according to the HDM bikeway designations. Any trail segment (even those outside of the Caltrans ROW) not following HDM design standards will not qualify for State or federal funding. For additional information the HDM can be accessed at: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm. 3.2

3. The Traffic Impact Study (TIS) did not include a main-line analysis of the impacts on State Route (SR) 1. The TIS should include an analysis of the SR 1, including the following traffic analysis scenario: project only traffic conditions, existing plus project traffic conditions, cumulative traffic conditions, and cumulative plus project conditions, including project-phasing. To ensure that the traffic impacts of the project are properly evaluated, it is recommended that the TIS be prepared in accordance with the 3.3

Department's "Guide for the Preparation of Traffic Impact Studies." Please visit the Department's Internet site for a copy of these guidelines at: http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf. An alternative methodology that produces technically comparable results can also be used. 3.3

4. The DEIR does not mention any safety barriers between the MBSST and SR 1. Safety features that create a positive barrier between trail users, the rail line, and SR 1 and that accommodate for the need of a clear recovery zone should be included in the DEIR. 3.4

5. An engineering analysis will be needed to identify the type of treatments that will be required at the proposed highway crossings and/or intersections. The analysis should evaluate the variety of alternatives based on site-specific operational characteristics. In addition, the DEIR should outline a purpose and need for any future modifications (i.e., to facilitate or enhance pedestrian and/or bike access across SR 1 at specific locations). 3.5

6. Please be aware that in areas where the Department's ROW is environmentally constrained and shoulders are not current standard width, there may be conflicts between providing for a Class I facility and widening the shoulder. 3.6

7. Please note that any work completed in the Department's ROW will require an encroachment permit, and must be done to the Department's engineering and environmental standards, and at no cost to the State. The conditions of approval and the requirements for obtaining the encroachment permit are issued at the sole discretion of the Permits Office, and nothing in this letter shall be implied as limiting those future conditions and requirements. For more information regarding the encroachment permit process, please contact Mr. Steve Senet at (805) 549-3206 or visit the Department's Website at http://www.dot.ca.gov/hq/traffops/developserv/permits/. 3.7

Thank you for the opportunity to review the DEIR for the MBSST and provide comments. If you have any questions or need further clarification on the items discussed above, please contact me at (805) 549-3099 or by email at jennifer.calate@dot.ca.gov.

Sincerely,

JENNIFER CALATÉ
Associate Transportation Planner
District 5 Development Review Coordinator

bc. J. Olejnik, A. Fukushima, file

Letter 3

COMMENTER: Jennifer Calate, Associate Transportation Planner and District 5 Development Review Coordinator, Caltrans

DATE: July 22, 2013

Response 3.1

The commenter states that the goals of the MBSST Network Plan are in line with State planning priorities and align with the principles of the CCT. This comment pertains to the goals of the MBSST Network Plan and does not challenge or question the analysis or conclusions in the Draft EIR. The comment is noted.

Response 3.2

The comment notes that the Draft EIR references a "multi-use paved path" and recommends that a clear distinction be made between Class I paths and multi-use trails, noting that the term "multi-use" only applies to trails, not paths in the Highway Design Manual.

The Draft EIR utilizes the same terminology as is used in the proposed Master Plan. This comment therefore pertains to the terminology used in the MBSST Network Plan and does not challenge or question the analysis or conclusions in the Draft EIR. In response to this comment, the MBSST Network Master Plan has been amended with the following clarifications:

- Description of multi-use trails have been supplemented with the "Class I" designation in each of the following locations:
  - In the segment description, under the section describing proposed improvements;
  - In each segment Summary Table;
  - In each map legend; and
  - In the Cost Estimate Summary Table in Appendix D.

In addition, the following text has been added to Section 4.0, *Trail Alignment Overview*, of the MBSST Network Master Plan in response to this comment:

> *Unless otherwise noted, the terms "trails" and "paths" in this document are used synonymously to refer to paved bike/pedestrian multi-use facilities, defined by Caltrans as "Class I Bikeways (Bike Paths)" – Caltrans Highway Design Manual, Chapter 1000 Bicycle Transportation Design, Topic 1003 – Bikeway Design Criteria.*

The text above has also been added as a footnote to Section 2.0, *Project Description,* sub-section 2.4.1 (Trail Classifications) of the Final EIR, as shown below.

> [1] *Unless otherwise noted, the terms "trails" and "paths" in this document are synonymously used to refer to paved bike/pedestrian multi-use facilities, defined by Caltrans as "Class I Bikeways (Bike Paths)" – Caltrans Highway Design Manual, Chapter 1000 Bicycle Transportation Design, Topic 1003 – Bikeway Design Criteria.*

Response 3.3

Following correspondence with Caltrans staff, it was determined that in the case of the MBSST Network project, a Traffic Impact Statement as requested in the comment would not be required (Jennifer Calate, Associate Transportation Planner and District 5 Development Review Coordinator, Personal Communication, August 27, 2013).

The following reference has been added to Section 7.0, *References:*

> Jennifer Calaté. Associate Transportation Planner. District 5 Development Review Coordinator, California Department of Transportation. E-mail Communication. August 27, 2013.

No further response is necessary.

Response 3.4

The commenter states that the EIR does not mention provision of safety barriers between the MBSST and State Route (SR) 1 that create a barrier between trail users, the rail line, and SR 1.

As described in Section 2.0, *Project Description,* fencing would be provided along segments of the trail and would be used for safety, security, trespass prevention, environmental impacts, and privacy. The placement and type of fencing would vary depending on the location and agreements between adjacent land owners and the RTC. This would include Caltrans for those areas where the MBSST is located in adjacent to the SR 1.

Response 3.5

The commenter states that an engineering analysis will be needed to identify the type of treatments that would be required at the proposed highway crossing and/or intersections. The commenter also states that the EIR should outline a purpose and need for future modifications (i.e. to facilitate or enhance pedestrian and/or bike access across SR 1 at specific locations).

The specific types of treatment required for the individual highway crossings and/or intersections would be determined as each of the segments is designed. The requirement of an engineering analysis is noted.

As stated in Section 2.7 (Project Goals) of Section 2.0, *Project Description*, one of the overall goals of the MBSST Network project is to provide a continuous trail alignment that maximizes opportunities for a multi-use bicycle and pedestrian trail separate from roadway vehicle traffic spanning the length of Santa Cruz County. Definition of the purpose and need for each aspect of the proposed project, beyond its contribution to achieving the overall goal as a whole, is outside the scope of this EIR.

Response 3.6

The commenter notes that in areas where the Caltrans right-of-way is environmentally constrained and shoulders are not current standard width, there could be conflicts between providing for a Class I facility and widening the shoulder. This comment is noted and will need to be investigated further during the design phase of the individual segments.

Response 3.7

The comment notes that an encroachment permit will be required for any work completed in the Caltrans right-of-way and must be done to Caltrans' engineering and environmental standards.

The Caltrans requirement for receipt of an encroachment permit is listed in Section 2.8 (Required Permits and Approvals) in Section 2.0, *Project Description*. The comment regarding complying with Caltrans' engineering and environmental standards is noted and will be considering during design and construction of the individual segments.

From: Farinha, Melissa@Wildlife [mailto:Melissa.Farinha@wildlife.ca.gov]
Sent: Monday, July 22, 2013 6:07 PM
To: info@sccrtc.org
Subject: Monterey Bay Sanctuary and Scenic Trail Master Plan Draft Environmental Impact Report SCH#2012082075

Attn: Cori Caletti

The California Department of Fish and Wildlife has reviewed the Monterey Bay Sanctuary and Scenic Trail Master Plan Draft Environmental Impact Report (DEIR). As Trustee for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of the fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of such species for the benefit and use by the people of California. In this capacity, CDFW administers the California Endangered Species Act (CESA), the Lake and Streambed Alteration Program (LSA), the Native Plant Protection Act, and other provisions of the Fish and Game Code (FGC) that afford protection to the State's fish and wildlife public trust resources. Pursuant to our jurisdiction, CDFW submits the following comments and recommendations regarding the Project.

Page 4.4-28 States "Take under CESA is restricted to direct mortality of a listed species and does not prohibit indirect harm by way of habitat modification."

To clarify, FGC Section 86 defines "Take" as hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. Take is not limited to only direct mortality. For example, if a California tiger salamander will be captured and then moved from a project construction site, then such an activity must be authorized by CDFW through an Incidental Take Permit (ITP). 4.1

The Santa Cruz long-toed salamander is a fully protected species and may not be "taken" or possessed at any time as a result of this project. 4.2

Mitigation Measure B-1b: The "restoration plan" mentioned in this measure should be submitted to CDFW for approval before any construction activities commence. In addition, if take of plant species protected under CESA will occur, then an ITP authorizing activities resulting in take is required. 4.3

Mitigation Measure B-1d: Reconnaissance level surveys are not adequate for analyzing the project impacts or potential for take of CESA-listed species. Protocol level surveys should be included to determine presence of CESA-listed amphibians. In addition, there should be a measure specifying that if harm to a designated State Species of Special Concern or a CESA-listed species occurs, then construction shall halt and CDFW Bay Delta Region will be informed within 24 hours, construction will recommence when remedial measures are approved by CDFW. 4.4

Mitigation Measure B-3a: The "final fence design" should be submitted to CDFW for approval before any construction activities commence. 4.5

Additional impacts and correspondent mitigation measures that should be addressed include:

Impacts to marbled murrelet and snowy plovers: The project will become a source of anthropogenic subsidy for both corvids and raptors in the form of food (e.g., garbage and roadkill) and hunting perches (fences). Through anthropogenic subsidy, population densities of corvids and raptors will increase both within and adjacent to snowy plover and marbled murrelet critical habitats. The inflation of corvid and raven densities from the project will result in increased mortality rates and reduced reproduction of both snowy plover and marbled murrelet indirectly. Please include measures to reduce availability of food and hunting perches to corvids and raptors, (e.g., trash receptacles designed to reduce trash escapement and withstand raccoon invasion or perch deterrents installed on fencing). 4.6

Thank You,

Melissa A. Farinha
California Department of Fish and Wildlife
Environmental Scientist - Santa Cruz County
7329 Silverado Trail
Napa, CA 94558

Letter 4

COMMENTER: Melissa A. Farinha, Environmental Scientist
California Department of Fish and Wildlife (CDFW)

DATE: July 22, 2013

Response 4.1

The comment notes that "take" under the California Endangered Species Act (CESA) is not restricted to direct mortality of a listed species, but instead Fish and Game Code Section 86 defines "take" as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue catch, capture or kill. As such, if any animal listed under CESA will be captured and moved, the activity must be authorized through an Incidental Take Permit (ITP). This comment is addressed through modification of the following paragraph on page 4.4-28:

> California Department of Fish and Wildlife (formerly the California Department of Fish and Game). The CDFW derives its authority from the Fish and Game Code of California. The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 *et. seq.)* prohibits take of state listed threatened, endangered or fully protected species. Take under CESA ~~is restricted to direct mortality of a listed species and~~ is defined according to Fish and Game Code Section 86 as to hunt, pursue, catch, capture, or kill, or to attempt any of these activities, but it does not prohibit indirect harm by way of habitat modification. The CDFW also prohibits take for species designated as Fully Protected under the Code.

Additionally, CDFW approval was added to Section 2.8 (Required Approvals and Permits) in Section 2.0, *Project Description,* as follows:

> The proposed project requires the certification of this EIR and approval of the Master Plan by the RTC prior to the initiation of the project. In addition, the following discretionary approvals from other agencies may be required prior to construction of individual segments:
>
> - *Local jurisdiction adoption (including the County of Santa Cruz, County of Monterey [for segment 20] and cities of Santa Cruz, Capitola, and Watsonville);*
> - *Coastal Development Permit(s) from the County of Santa Cruz or California Coastal Commission;*
> - *Section 404 Permit(s) from the U.S. Army Corps of Engineers;*
> - *Section 1600 Permit(s) from the California Department of Fish and ~~Game~~ Wildlife;*
> - *Section 401 Water Quality Certification from the Regional Water Quality Control Board;*
> - *Approval by the U.S. Fish and Wildlife Service;*

- *Approval by the California Public Utilities Commission Rail Crossing Engineering Section;*
- *Caltrans Encroachment Permit(s); and/or*
- *Approval by Federal Railroad Administration.*

Response 4.2

The commenter states that the Santa Cruz long-toed salamander is a fully protected species and may not be "taken" or possessed at any time as a result of this project. The EIR identifies the Santa Cruz long-toed salamander as a fully protected species in Section 4.4, *Biological Resources*, under Impact B-1.

Response 4.3

The commenter states that the restoration plan described in mitigation measure B-1(b) should be submitted to CDFW for approval before any construction activities commence. The commenter also notes that if a take of a plant species protected under CESA will occur, then an Incidental Take Permit (ITP) authorizing activities resulting in take is required.

Mitigation measure B-1(b) in Section 4.4, *Biological Resources,* has been amended in response to this comment, as follows:

B-1(b) Special Status Plant Species Avoidance, Minimization, and Mitigation. If state listed, CRPR List 1B species, or naturally occurring stands of Monterey Pine are found during special status plant surveys [pursuant to mitigation measure B-1(a)], the implementing entity shall redesign the segment to avoid impacting these plant species. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent to protect them from harm.

If avoidance is not feasible, seed shall be collected from on-site rare plants prior to removal, and/or from other local populations of plant species to be impacted. Seed shall be distributed in areas not proposed for development that have the appropriate habitat characteristics necessary to support the restoration. Seed collection shall be conducted by a qualified biologist holding a rare plant collection voucher/permit. Topsoil may also be salvaged and distributed over temporarily disturbed areas following completion of construction activities provided it is free of non-native invasive species. For take of any plant species protected under CESA, an incidental take permit shall be obtained authorizing activities resulting in take.

The total number and/or total acreage for each special status plant species that will be impacted shall be determined once the final design of

the project is completed and prior to initiation of ground disturbance activities. Impacted species shall be restored on-site at a minimum of a 2:1 ratio (number of acres/individuals restored to number of acres/individuals impacted) for each species as a component of habitat restoration. Prior to start of construction activities a restoration plan shall be prepared and submitted for approval to the RTC and/or implementing entity and the CDFW. The restoration plan shall include, at a minimum, the following components:

- *Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);*
- *Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved];*
- *Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values);*
- *Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan);*
- *Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule);*
- *Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports);*
- *Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type;*
- *An adaptive management program and remedial measures to address any shortcomings in meeting success criteria;*
- *Notification of completion of compensatory mitigation and agency confirmation; and*
- *Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).*

The restoration plan shall be implemented for a period of at least five years or until restoration has been deemed complete based on the established success criteria. All restoration/compensatory mitigation areas shall be permanently protected through a conservation easement or deed restriction.

Response 4.4

The commenter states the opinion that reconnaissance-level surveys are not adequate for analyzing project impacts or potential for take of CESA-listed species. The commenter also states that a measure should be incorporated which specifies that if a CESA-listed or state

Species of Special Concern is harmed, project construction shall be halted and the CDFW consulted.

Regarding the survey effort, reconnaissance-level surveys provide data for a habitat suitability analysis in order to determine whether there is the potential for a special status species to occur and be affected by a proposed project. While the CESA may have stricter standards, this level of survey effort is sufficient for analyzing impacts under CEQA, particularly for a Program EIR. Furthermore, there are no specific survey protocols for all species with potential to occur on-site, and completion of protocol surveys would not result in a substantial change to the mitigation measures prescribed.

Regarding the response to harm of special status species, it is important to point out that harm to a state Species of Special Concern is not treated the same way under the Fish and Game Code as harm to a CESA-listed species. All mitigation measures addressing CESA-listed species and several addressing special status species [e.g., measure B-1(i)] include consultation with the CDFW. The remaining measures are standard and typical of CEQA analyses for similar projects.

Response 4.5

The commenter notes that the "final fence design" in mitigation measure B-3(a) should be submitted to CDFW for approval prior to any construction activities.

The proposed MBSST Network project analyzed in this EIR consists of conceptual design elements. The proposed MBSST Network project would be constructed in segments, with the RTC and/or implementing entities responsible for review and approval of segment-specific designs, and ensuring that required environmental review of these specific designs is completed. The CDFW's interest in being involved in the design of MBSST is noted and been received by the RTC.

Response 4.6

The commenter requests inclusion of measures aimed at reduction of food availability and hunting perches for corvids and raptors due to an anticipated increase associated with development and use of the MBSST and resultant impacts on marbled murrelet and snowy plovers.

Suitable habitat for marbled murrelet is not present within the proposed project area. Limited areas of suitable habitat were identified for western snowy plover, but data contained in the California Natural Diversity Database (CNDDB) indicated these nesting areas have become unsuitable due to ongoing anthropogenic disturbance. It is unlikely that development of the trail would result in substantially greater effects to either species.

It is agreed that the presence of trash can attract predatory species which can negatively affect a wide variety of wildlife. As described in Section 2.5.3 (Trail Amenities) in Section 2.0, *Project Description*, the project design incorporates the use of trash and recycling receptacles with

animal proof lids (see page 2-41).

With regards to fencing providing additional hunting perches for predatory species, fencing is not proposed along the entire length of the trail, but rather only those locations where user safety, trespassing, agricultural or rail operations, or protection of sensitive resources are a concern. Fencing proposed for rural areas is not expected to exceed 4.5 feet in height, and there are several power poles, trees, and other potential perches already present within the vicinity of the proposed trail. Furthermore, raptors were observed at various locations along the proposed trail during the reconnaissance site visit, indicating that predatory pressure for special status species is already present.

Perch deterrents are generally comprised of spikes or other sharp objects which raptors find uncomfortable to stand on. The addition of these sharp deterrents to fence posts that are 4.5 feet high or lower would be hazardous to trail users and is not recommended.

STATE OF CALIFORNIA Edmund G. Brown Jr., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

July 22, 2013

Cory Caletti
Sr. Transportation Planner
Santa Cruz County Regional Transportation Commission
1523 Pacific Ave
Santa Cruz, CA 95060

Re: Draft Environmental Impact Report
Monterey Bay Sanctuary Scenic Trail Network Master Plan
SCH # 2012082075

Dear Mr. Caletta,

As the state agency responsible for rail safety within California, the California Public Utilities Commission's (CPUC or Commission) Rail Crossing Engineering Section (RCES) staff recommends that development projects proposed near rail corridors be planned with the safety of these corridors in mind. The proposed project will greatly increase pedestrians and bicyclists along the rail corridor in Santa Cruz and Monterey County. Working with RCES staff early in project planning will help project proponents, agency staff, and other reviewers to identify potential project impacts and appropriate mitigation measures, and thereby improve the safety of motorists, pedestrians, railroad personnel, and railroad passengers. 5.1

The Monterey Bay Sanctuary Scenic Trail Network Master Plan is subject to a number of rules and regulations involving the Commission, including:

- California Public Utilities Code, Sections 1201 et al, which requires Commission authority to construct rail crossings;
- Commission's Rules of Practice and Procedure, which details the Formal Application process for construction or modification of a public crossing; and
- Commission's General Order (GO) 88-B, Rules for Altering Public Highway-Rail Crossings. 5.2

The design criteria of the proposed trail project shall comply with the following GOs:

- GO 26-D, Clearance on Railroads and Street Railroads as to Side and Overhead Structures, Parallel Tracks and Crossings;
- GO 72-B, Construction and Maintenance of Crossings – Standard Types of Pavement Construction at Railroad Grade Crossings;
- GO 75-D, Warning Devices for At-Grade Railroad Crossings;
- GO 118, Construction, Reconstruction and Maintenance of Walkways and Control, of Vegetation Adjacent to Railroad Tracks; and 5.3

Crossing Authorizations

RCES staff is available for consultation on crossing safety matters. The following link provides more information on the Commission's GO 88-B and formal crossing application process: http://www.cpuc.ca.gov/crossings.

1. Formal Application

Formal Applications are required for construction of all new at-grade and grade separated crossings along the corridor in accordance with the Commission's Rules of Practice and Procedure. The Santa Cruz County Regional Transportation Commission (SCCRTC) should contact me to arrange diagnostic meetings with all interested parties to discuss relevant safety issues at each crossing location. 5.4

The railroad line consists of numerous private highway-rail crossings. Current landowners with the private railroad crossing agreements are typically liable for any train incidents at their private crossings. Formal Applications may be required for the private railroad crossings adjacent to the proposed trail. RCES staff will deem any private railroad crossings along the trail a "publically used private crossing" and may require safety modifications and/or crossing closures based on necessity of the crossing. Any private crossings in which the properties have alternate access will be required to be closed. 5.5

As part of its mission to reduce hazards associated with at-grade railroad crossings, the Commission's policy is to reduce the number of such crossings. New at-grade crossings would typically not be supported by Commission staff and, long-term planning for the grade separation of the existing at-grade rail crossings should be considered. 5.6

2. GO 88-B Requests

Modification of existing rail crossings is typically authorized through the Commission's GO 88-B process. If interested parties do not reach agreement regarding proposed modifications, a Formal Application to the Commission will be required in order to obtain authorization to implement the modifications. 5.7

Prior to submission of a GO 88-B request for authorization, SCCRTC should arrange a diagnostic meeting with Commission staff and all interested parties to discuss relevant safety issues at each crossing location.

Mitigation Measures:

Safety along the entire rail corridor adjacent to the proposed trail will need to be evaluated. Mitigations include, but are not limited to: 5.8

- Installing high security fencing along the railroad right of way between the trail and railroad tracks.

- Installing pedestrian specific safety mitigations at each railroad crossing where the proposed trail borders.
- Placing the trail well away from the railroad tracks to provide separation.
- Accounting for the pedestrian phases at adjacent intersections during railroad preemption.

5.8

As the proposed trail travels adjacent to the existing railroad tracks, CPUC review and authorization will be required at every single existing and proposed railroad crossing, both at-grade and grade separated, along the entire trail corridor. Please call me at (415) 703-3722 or email me at felix.ko@cpuc.ca.gov in order to begin the process. Thank you for your consideration of these comments.

5.9

Sincerely,

Felix Ko
Utilities Engineer
Rail Transit and Crossings Branch
505 Van Ness Ave
San Francisco, CA 94102

Letter 5

COMMENTER: Felix Ko, P.E., Utilities Engineer, Rail Crossing Engineer Section, Public Utilities Commission

DATE: July 22, 2013

Response 5.1

The commenter states that the California Public Utilities Commission (CPUC) is the state agency responsible for rail safety in California and recommends that project proponents, agency staff and other reviewers work with the Rail Crossing Engineering Section (RCES) early in the project planning process to identify safety concerns and improve the safety of trail users, motorists, and railroad personnel and passengers.

Consultation with the CPUC will continue, as necessary, during design and development of the individual segments in order to identify and address safety issues. It is worth noting that consultation with the CPUC commenced early on in the process, including receipt by CPUC of the Notice of Preparation for the proposed project (refer to Appendix A).

Response 5.2

The commenter notes that the MBSST Network Master Plan is subject to a number of rules and regulations involving the CPUC.

The EIR currently notes that the CPUC has jurisdiction over the safety of rail crossings in California in Section 4.11, *Transportation/Traffic*, under Impact T-4. In addition, the following amendment to the discussion under Impact T-4 has been made in response to this comment:

> The CPUC has jurisdiction over the safety of rail crossings in California. As such, all applicable CPUC rules and regulations would apply to the proposed MBSST, including: California Public Utilities Code, Sections 1201 et al; the CPUC Rules of Practice and Procedure; and CPUC General Order 88-B. The CPUC recognizes that at-grade crossings present inherent hazards to the traveling public, particularly crossings on right or passenger main lines, and preference is to eliminate these crossings where possible. However, where it is not practicable to eliminate a pedestrian-rail at-grade crossing, pedestrian-rail at-grade crossing design and improvements are required to follow guidelines contained in the CPUC *Pedestrian-Rail Crossings in California: a Report Compiling the Designs and Devices Currently Utilized at Pedestrian-Rail Crossings within the State of California* (May 2008). Following these guidelines would ensure that hazards at any rail crossings are minimized. Thus, impacts would be less than significant.

In addition, the following amendment has been made to Section 2.8 (Required Approvals and Permits) in Section 2.0, *Project Description:*

The proposed project requires the certification of this EIR and approval of the Master Plan by the RTC prior to the initiation of the project. In addition, the following discretionary approvals from other agencies may be required prior to construction of individual segments:

- *Local jurisdiction adoption (including the County of Santa Cruz, County of Monterey [for segment 20] and cities of Santa Cruz, Capitola, and Watsonville);*
- *Coastal Development Permit(s) from the County of Santa Cruz or California Coastal Commission;*
- *Section 404 Permit(s) from the U.S. Army Corps of Engineers;*
- *Section 1600 Permit(s) from the California Department of Fish and ~~Game~~ Wildlife;*
- *Section 401 Water Quality Certification from the Regional Water Quality Control Board;*
- *Approval by the U.S. Fish and Wildlife Service;*
- *Approval by the California Public Utilities Commission, Rail Crossing Engineering Section;*
- *Caltrans Encroachment Permit(s); and/or*
- *Approval by Federal Railroad Administration.*

Response 5.3

The commenter provides a list of applicable general orders related to design of railroad crossings.

As discussed in Response 5.2, the CPUC has jurisdiction over the safety of rail crossings in California and all applicable rules and regulations would apply, including CPUC general orders. The EIR has been amended for clarity in response this comment.

Response 5.4

The commenter recommends that the RTC contact the CPUC to arrange diagnostic meetings with all interested parties to discuss relevant safety issues at each crossing location. The comment has been received by RTC and will also be forwarded to each of the implementing agencies for consideration during development of the individual segments.

Response 5.5

The commenter notes that the railroad line consists of numerous private highway-rail crossings. The commenter goes on to state that formal applications may be required for private railroad crossings adjacent to the proposed trail and that RCES staff will deem any private railroad crossing along the trail a "publically used private crossing" and may require safety modifications and/or crossing closures based on the necessity of the crossing. Any private crossings in which the properties have alternate access will be required to be closed.

This comment pertains to the permit and approval process for individual segments of the MBSST Network Plan and does not challenge or question the analysis or conclusions in the Draft EIR. No further response is required.

Response 5.6

The commenter notes that the CPUC aims to reduce hazards with at grade railroad crossings, and as such long term planning for the grade separation of the existing at grade rail crossings should be considered. This comment pertains to the design of the MBSST Network Plan as proposed and does not challenge or question the analysis or conclusions in the Draft EIR. This comment is noted and has been received by the RTC. No further response is required.

Response 5.7

The commenter states that modification of existing rail crossings is typically authorized through the CPUC's General Order (GO) 88-B process. Prior to submission of a GO 88-B request, the RTC should arrange a diagnostic meeting with the CPUC and all interested parties to discuss relevant safety issues at each crossing location.

This comment pertains to the permit and approval process for individual segments of the MBSST Network Plan and does not challenge or question the analysis or conclusions in the Draft EIR. This comment is noted and has been received by the RTC. No further response is required.

Response 5.8

The comment states the opinion that safety along the proposed trail will need to be evaluated and proposes four potential mitigation measures, including installing high security fencing between the trail and railroad tracks, installing pedestrian specific safety mitigation at each railroad crossing along the trail, siting the trail away from the railroad tracks, and accounting for pedestrian phases at adjacent intersections during railroad preemption.

Impact T-4 in Section 4.11, *Transportation/Traffic*, acknowledges that potential conflicts between trail users and railroad traffic could occur at railroad crossings, potentially resulting hazardous conditions for both trail users and rail operators and passengers. The discussion under Impact T-4 goes on to state that the CPUC has jurisdiction over the safety of rail crossings in California and that pedestrian crossing design and improvements would be required to following the guidelines contained in the CPUC document *Pedestrian-Rail Crossings in California: a Report Compiling the Designs and Devices Currently Utilized at Pedestrian-Rail Crossings within the State of California* (May 2008). This could include installing pedestrian-specific safety mitigation at each railroad crossing along the trail. In addition, as described in Section 2.0, *Project Description,* fencing would be provided along segments of the trail and would be used for safety, security, trespass prevention, environmental impacts, and privacy. The placement and type of fencing would vary depending on the location along the trail but would be used to reduce potential conflicts between railroad traffic and trail users.

Response 5.9

The commenter states that CPUC review and authorization will be required at every existing and proposed railroad crossing along the entire trail corridor.

Please see Responses 5.2 and 5.3.

STATE OF CALIFORNIA

EDMUND G. BROWN JR., *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

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July 22, 2013

File Ref: SCH # 2012082075

Santa Cruz County Regional Transportation Commission
Attn: Cory Caletti
1523 Pacific Avenue
Santa Cruz, CA 95060

Subject: Draft Environmental Impact Report (EIR) for the Monterey Bay Sanctuary Scenic Trail Network Master Plan, Santa Cruz County

Dear Ms. Caletti,

The California State Lands Commission (CSLC) staff has reviewed the Draft EIR for the Monterey Bay Sanctuary Scenic Trail Network Master Plan (Master Plan or Project), prepared by the Santa Cruz County Regional Transportation Commission (SCCRTC). The SCCRTC, as a public agency proposing to carry out a project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The CSLC is a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. Additionally, if the Master Plan proposes work on sovereign lands, the CSLC will act as a responsible agency. 6.1

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust. 6.2

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership 6.3

extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

The SCCRTC has proposed an approximately 50-mile-long Monterey Bay Sanctuary Scenic Trail Network (Trail) that runs adjacent to the Pacific Ocean and across various rivers, creeks and sloughs in Santa Cruz County. The Master Plan provides maps of the Trail or detailed locations of Project components. Based on CSLC staff's review of in-house records and maps and the Draft EIR, portions of the proposed Trail may cross or be located on lands owned in fee by the State and managed by the CSLC and, therefore, may require a lease from the CSLC (please refer to www.slc.ca.gov for a lease application). Staff requests that SCCRTC send updates on the Trail alignment location and coordinate with Grace Kato, Public Land Manager (see contact information below), as Project details are developed to determine if a lease will be required. 6.4

Project Description

The SCCRTC proposes to adopt the proposed Master Plan to meet its objective to ensure that the planned bicycle/pedestrian network will provide connectivity throughout the county and tie in the California Coastal Trail and Pacific Coast Bicycle Trails. The Trail will follow existing trails and a railroad easement, and create new trail segments from Davenport to Watsonville with a spur into Monterey County. Portions of the trail will use existing urban infrastructure; other portions will be in undisturbed natural areas. The Master Plan includes a description and analysis of trail design standards, trail alignment and reaches, implementation mechanisms, and maintenance. 6.5

Environmental Review

The CSLC staff requests that the following measures be addressed in the EIR.

Agency Jurisdiction

1. Based on information provided in the Draft EIR, the Project will likely occur on sovereign lands. Accordingly, please add the CSLC as a responsible and trustee agency on page 1-6 of the Draft EIR. Specific information on the CSLC's jurisdiction is provided above. 6.6

Program Environmental Review and Mitigation

2. Section 1.3, Type of EIR, identifies the document as a "program-level" EIR and describes how subsequent analyses may be "tiered" to address project specific details as segment alignments are refined. The State CEQA Guidelines, section 15168, subdivision (c)(5) states that a program EIR will be most helpful in dealing with subsequent activities if it analyzes the effects of the program as specifically and comprehensively as possible. In order to achieve this goal to the extent feasible and avoid the improper deferral of mitigation, mitigation measures should either be presented as specific, feasible, enforceable obligations, or should be presented as formulas containing "performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified 6.7

way" (State CEQA Guidelines, § 15126.4, subd. (b)). As such, the Draft EIR for the Master Plan should make an effort to distinguish what activities/facilities and their mitigation measures are being analyzed in sufficient detail to be covered under the PEIR without additional project specific environmental review, and what activities will trigger the need for additional (tiered) environmental analysis (see State CEQA Guidelines, § 15168, subd.(c)).

The Draft EIR contains mitigation measures that prescribe specific actions and/or performance standards that could be broadly applied during Trail construction, such as establishment of required compensatory mitigation ratios for disturbed plants and wetlands, and a requirement for developing restoration plans that achieve specific criteria (see also, however, Comment # 5 below). As currently written, however, several mitigation measures, while appearing to be specific at first, are either not enforceable as written or may be contingent on specific information/analysis that would be presented in a tiered document. For example, while the mitigation measure on page 4.4-60 related to San Francisco garter snake discusses how to look for the presence of the species in the Project area, it does not appear to prescribe specific, enforceable measures that would actually avoid or lessen potential impacts to the species, including loss of basking or sheltering habitat, or exposure to direct mortality (see also Comment # 10 below). Instead, the EIR defers the formulation and analysis of specific measures to future consultation with the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS). The EIR should either provide specific, stand-alone measures and analyze their effectiveness in reducing potential effects, or should clearly state that those impacts and any required mitigation would be disclosed and analyzed in a subsequent tiered document. 6.7 (con't)

Biological Resources

Significance Conclusions

3. Relocation/Translocation. The Draft EIR appears to rely heavily on the use of relocation of wildlife and translocation of plants to reduce biological resource impacts. However, the Draft EIR does not provide an explanation of the mechanism by which the proposed relocation actually results in reducing the impacts to a less than significant level, and as a result, the Draft EIR lacks sufficient fact-based support for its less than significant conclusions throughout the Section. CSLC staff views relocation as a viable *minimization* measure, when carried out appropriately, but it is not, in itself, a *mitigation* measure. As stated in the Draft EIR, portions of the Trail will be constructed in undisturbed areas, resulting in permanent impacts to sensitive species' habitat. Relocation of individuals does not mitigate for this loss of habitat and the Draft EIR does not appear to require permanent protection of compensatory habitat (see Comment # 5 below). Therefore, it is unclear how the identified impact, when compared to the significance criteria on page 4.4-40 which includes "habitat modifications," is sufficiently mitigated by the proposed measures. 6.8

4. Mitigation Ratios and Long-Term Protection. The Draft EIR prescribes 2:1 mitigation ratios for impacts to sensitive plants and wetlands. However, the Draft EIR does not: (1) demonstrate through a fact-based analysis how or why this ratio is adequate 6.9

to reduce impacts to less than significant or how the measures are responsive to the identified significance thresholds; (2) provide a process by which the mitigation areas would be selected and approved for use; or (3) require that these mitigation areas be permanently protected and managed given that the Trail construction would result in a permanent loss of habitat. Similarly, while the Draft EIR requires relocation of several wetland-associated species, it is not clear whether the mitigation requirement for wetlands in measure B-2(b) is meant to provide the mitigation for loss of these species' habitat. Therefore, the CSLC staff requests that the Draft EIR:

- provide more substantial support for the 2:1 mitigation ratio or replace the 2:1 ratio with a range of potential ratios that may be applied based on specific species requirements and possible consultation with the CDFW or the USFWS; and
- be revised to provide a mechanism by which the mitigation areas would be protected long-term.

6.9 (con't)

Plants

5. Surveys. Page 4.4-55, measure B-1(a) describes implementation of plant surveys to identify the locations and types of special-status plant species. However, the survey appears to be required only once ("no more than two years before" implementation). Please clarify how a one-time survey would adequately identify all locations of the sensitive plants, given that environmental factors such as the type of water-year, and natural plant expression variations can occur. One solution would be to require a botanist to re-survey the final alignment prior to construction of the Trail segment in order to document the locations and densities of sensitive plant species within the impact area. In addition, measure B-1(a) states that part of the survey's purpose is to "document the location(s) and number(s) of sensitive plant species within … *mitigation areas*" (emphasis added); however, "mitigation areas" are not discussed or defined anywhere else in Section 4.4. Please clarify if these "mitigation areas" are the same as the restoration areas identified in measure B-1(b) as "on-site."

6.10

6. Avoidance. CSLC staff supports avoidance as the primary means of reducing potentially significant impacts to sensitive plant species, and supports translocation efforts only as a last resort where avoidance is infeasible, and only with the following considerations addressed:

   - restoration feasibility, including factors such as the location and availability of receiver sites and potential impacts to receiver sites from supplemental seeding;
   - long-term protection and maintenance of the translocation site; and
   - whether successful restoration has previously been conducted for the rare plants with potential to be impacted by the Project.

   For example, has restoration of white-rayed pentachaeta been attempted or successfully completed, and if not, is restoration of this species feasible or recommended? Only one of the four known potential extant populations of white-rayed pentachaeta have been observed since 1854; therefore, the CSLC staff

6.11

suggests restoration is not likely a recommended mitigation measure for this and/or similarly situated plant species.

7. Buffers. The protection zone for sensitive plants is discussed on page 4.4-55, measure B-1(b) Special Status Plant Species Avoidance, Minimization, and Mitigation. It is unclear whether this "buffer" would completely surround the identified population or whether the referenced "30 feet beyond their extent" refers to a linear distance up and down the Trail alignment. The CSLC staff requests that the buffer zone width be determined by considering physical characteristics of the immediate environment around the plant population such as reproduction requirements, associated species, hydrology, slope, soil composition, drainage, invasive species, and the potential presence of a dormant seed bank beyond the perimeter of the surface vegetation. This will help ensure protection of the plants during construction and use of the Trail. 6.12

8. Incidental Take. While the Draft EIR states that seed collection would be performed by a qualified biologist with proper collection permits, it does not mention the need for incidental take authority from the CDFW for State-listed plants. The CSLC staff recommends the SCCRTC consult with the CDFW to determine whether an incidental take permit is necessary. 6.13

Terrestrial Wildlife

9. Relocation. The discussion in measure B-1(d), California Red-Legged Frog, Santa Cruz Long-toed Salamander and Foothill Yellow-Legged Frog, California Tiger Salamander Avoidance and Minimization on page 4.4-57 states, "*If relocation is authorized, a suitable relocation site shall be identified prior to initiation of construction activities and shall be located within the same watershed/streamcourse greater than 500 feet from the project site.*" The CSLC staff requests a discussion of what the criteria for considering habitat to be "suitable" would be, and whether such suitable habitat for relocation is available in the watersheds or watercourses known to contain these species. Important questions to address include the following. 6.14

    - Does the relocation site contain the same type of habitat that is being impacted (i.e., wetland or upland)?
    - What are the important physical parameters in the portions of the stream proposed for relocation, such as flow, depth, water temperature, water quality, adjacent upland habitat, and potential for predation from species such as bullfrogs?
    - If suitable habitat for relocation does not occur on the same stream or watershed, what is proposed as alternative mitigation?
    - How would the relocation site be protected and managed over the long term if the impacts to habitat are permanent?

10. San Francisco Garter Snake. Measure B-1(f) on page 4.4-60 of the EIR states "*If a San Francisco garter snake is located during the surveys, the garter snake shall not be captured and relocated. All further survey efforts at the location of the observation shall cease and the CDFW and USFWS shall be consulted.*" However, later in the measure, the capture and relocation of San Francisco garter snakes are 6.15

identified as a means of avoiding mortality. Because the San Francisco Garter snake is a fully protected species under the Fish and Game Code, this does not appear to be a feasible minimization measure. Additionally, because of its fully protected status, an incidental take permit from CDFW cannot be issued, as described in measure B-1(g). Because impacts to San Francisco garter snake are identified as potentially significant, the SCCRTC has an independent obligation to institute feasible measures to reduce the impact, rather than relying on later responsible agency approvals. Therefore, CSLC staff requests the EIR be revised to provide measures that contain specific, enforceable mechanisms for reducing this impact that could be carried out in compliance with the Fish and Game Code. 6.15 (con't)

11. Birds/Nests. Measure B-1(k) on page 4.4-63 provides a discussion of minimum buffer widths between Trail construction activities and nests with active breeding birds. The CSLC staff requests the measure additionally discuss which raptors with potential to be impacted by the Project have nest fidelity to determine whether permanent impacts to raptor breeding (i.e., site abandonment) will result from Trail construction and use, and whether alternative nesting habitat is available in the vicinity. In addition, please add a discussion of whether tree removal will be necessary, and if so, identify a measure or measures that would reduce this potential impact to nesting birds, including the fully protected white-tailed kite. 6.16

Aquatic Wildlife

12. Weed Management. The CSLC requests that Mitigation B-2(d), the Invasive Weed Prevention and Management Program on page 4.4-67, specify whether chemicals will be used for invasive species management and how chemical application methods will prevent overspray and runoff from affecting sensitive natural habitats and aquatic resources. 6.17

13. Water Quality. The Draft EIR mentions that water quality will be tested if Project activities could impact water quality (page 4.4-59, measure B-1(e) Tidewater Goby, Steelhead and Coho Salmon Impact Avoidance and Minimization). The CSLC staff requests additional information on how the potential for, and significance of, water quality impacts will be determined. For example, who will monitor water quality, who will make the determination as to when water quality impacts might occur, what is the significance threshold or criteria, and at what stage in Project planning and implementation will this occur? 6.18

14. Acoustic Impacts. Measure H-5(a) Bridge Design, on page 4.9-23 mentions the possible installation of bridge supports, but does not mention the potential impacts to fish species from increased noise and vibration from pile driving. The Draft EIR should discuss the type of piles and methods proposed for pile installation, evaluate the associated noise and vibration impacts, and analyze the potential for these activities to disturb, injure, or kill sensitive fish (including eggs and larvae) or other organisms. For example, barotrauma effects could occur if the underwater sound pressure levels caused by pile-driving activities exceed known injury thresholds. Mitigation measures could include species-specific work windows as defined by the CDFW, USFWS, and National Oceanic and Atmospheric Administration's Fishery 6.19

Service (NOAA Fisheries). The CSLC staff recommends early consultation with these agencies to minimize the impacts of the Project on sensitive aquatic species.

Cultural Resources

15. Some middens along the coastal bluffs are distinct mounds that may be apparent to trail users, particularly on the segment north of Natural Bridges State Park. The CSLC staff requests that Section 4.5 of the Draft EIR specify whether trail alignment borders these large, distinct middens, and if so, what mitigation measures will be used to prevent or minimize degradation or pilfering of artifacts that may be dug up or naturally uncovered in these cultural resource areas. 6.20

Geology/Soils

16. Mitigation measure GEO-4, Hillside Stability Evaluation on page 4.6-30 states that hazardous slopes will be analyzed in landslide hazardous zones and then setbacks or retaining walls will be used. The CSLC requests that this measure also address how sea level rise may result in additional bluff instability and affect the trail alignment, and how trail alignment will avoid existing and projected hazardous slopes and retreating bluff edges. Where retaining walls are required, the CSLC staff requests that the new Project envelope be surveyed for biological resources. At its meeting on December 17, 2009, the CSLC approved the recommendations made in a previously requested staff report, "A Report on Sea Level Rise Preparedness" (Report), which assessed the degree to which the CSLC's grantees and lessees have considered the eventual effects of sea level rise on facilities located within the CSLC's jurisdiction. (The Report can be found on the CSLC's website, www.slc.ca.gov.) One of the Report's recommendations directs CSLC staff to consider the effects of sea level rise on hydrology, soils, geology, transportation, recreation, and other resource categories in all environmental determinations associated with CSLC leases. 6.21

    Please note that, when considering lease applications, CSLC staff is directed to (1) request information from applicants concerning the potential effects of sea level rise on their proposed projects, (2) if applicable, require applicants to indicate how they plan to address sea level rise and what adaptation strategies are planned during the projected life of their projects, and (3) where appropriate, recommend project modifications that would eliminate or reduce potentially adverse impacts from sea level rise, including adverse impacts on public access

17. Impact GEO-6 on page 4.6-32 mentions trail design standards and indicates that the high and moderate erosive soils will not result in adverse impacts to resources. Impact H-1 on page 4.9-19 discusses additional stormwater runoff due to the increase in impervious surfaces. However, the Draft EIR and trail specifications do not discuss the feasibility of installing permeable pavement or applying other low impact development (LID) practices to reduce runoff and sedimentation in areas of high and moderate erosion. The CSLC staff recommends the use of permeable pavement and other LID features where feasible to increase infiltration and reduce runoff potential. 6.22

Climate Change/Sea Level Rise

18. Impact GHG-3, page 4.7-30, indicates that parts of the trail will be along coastal bluffs and could experience shoreline retreat associated with sea level rise, "*[H]owever, ongoing trail maintenance and inspection activities would ensure that sea level rise does not expose people or structures to the risk of loss, injury, or death.*" The Draft EIR should identify where coastal bluff retreat or failure associated with sea level rise may occur and consider areas of potential trail relocation to ensure the trail is safe. 6.23

Public Access

19. Impact T-4 on page 4.11-24 discusses interface between trail users and the railroad. The CSLC staff recommends implementation of a local trail-rail media campaign to educated potential trail users to common safety actions before public Trail use commences. 6.24

Thank you for the opportunity to comment on the EIR for the Project. As a responsible agency, the CSLC will need to rely on the Final EIR for the issuance of any amended or new lease and, therefore, we request that you consider our comments prior to certification of the EIR and send additional information on the Master Plan to the CSLC as plans become finalized. 6.25

Please send copies of future Master Plan-related documents, including an electronic copy of the Final EIR and Mitigation Monitoring and Reporting Program (MMRP), Notice of Determination (NOD), CEQA Findings and, if applicable, Statement of Overriding Considerations when they become available, and refer questions concerning environmental review to Mara Noelle, Staff Environmental Scientist, at (916) 574-2388 or via e-mail at Mara.Noelle@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Senior Staff Counsel Pam Griggs at (916) 574-1854 or via email at Pamela.Griggs@slc.ca.gov. For questions concerning CSLC leasing jurisdiction, please contact Grace Kato, Public Land Manager at (916) 574-1227, or via email at Grace.Kato@slc.ca.gov. 6.26

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Grace Kato, CSLC, LMD
Mara Noelle, CSLC, DEPM
Pam Griggs, CSLC, Legal
Shelli Haaf, CSLC Legal

Letter 6

COMMENTER: Cy R. Oggins, Chief, Division of Environmental Planning and Management, State Lands Commission

DATE: June 6, 2013

Response 6.1

The commenter notes that the Santa Cruz County RTC is the lead agency under CEQA and that the California State Lands Commission (CSLC) is a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement of navigable waters. Furthermore, if the Master Plan proposed work on sovereign lands, the CSLC will act as a responsible agency.

In response to this comment the final paragraph in Section 1.5 (Lead, Responsible and Trustee Agencies) in Section 1.0, *Introduction,* has been amended as follows:

> A "trustee agency" refers to a state agency having jurisdiction by law over natural resources affected by a project. As biological resources or State-owned lands may be affected by the MBSST Network project, the California Department of Fish and ~~Game~~ Wildlife and the California State Lands Commission would be ~~a~~ trustee ~~agency~~ agencies.

In addition, the CSLC was added to the list of agencies that may have discretionary approval authority described in Section 2.8 (Required Approvals and Permits) in Section 2.0, *Project Description*. The second paragraph in this section now reads:

> In addition, if individual segments proposed for implementation encroach onto properties managed by other agencies, approvals may also be required by these agencies. Agencies that may have discretionary approval authority include, but are not limited to: the California Department of Parks and Recreation, the California State Lands Commission, Bureau of Land Management, Caltrans, and/or United States Fish and Wildlife Service (who manages the Ellicott Slough National Refuge Reserve).

Response 6.2

The commenter further explains the jurisdiction of the CSLC.

This comment is noted. No response is required.

Response 6.3

The commenter provides general background on State of California acquired sovereign land and its relation to statewide Public Trust purposes.

This comment is noted. No response is required.

Response 6.4

The commenter notes that following a review of the project description and EIR, portions of the proposed MBSST may cross or be located on lands owned in fee by the State and managed by CSLC, and may require a lease from CSLC. CSLC requests that the RTC send updates on the trail alignment location and coordinate with the CSLC as project details are developed.

Please refer to Response 6.1.

Response 6.5

The comment provides a summary of the project description.

This comment is noted. No further response is required.

Response 6.6

The comment notes the agency's jurisdiction as a Trustee Agency. Please refer to Response 6.1.

Response 6.7

The commenter states that the Draft EIR for the MBSST Network project should distinguish what activities/facilities and their mitigation measures are being analyzed in sufficient detail to preclude the need for further project specific environmental review, and which activities will trigger the need for additional (tiered) environmental analysis. The commenter also states the opinion that the Draft EIR contains several mitigation measures that, as written, cannot be feasibly implemented and/or are deferred.

Regarding future tiered review, it is not feasible to identify specific facilities or segments that would or would not require future environmental review, as the design-level details regarding each segment are not currently available. As noted in Section 1.0, *Introduction,* the analysis provided in this Program EIR is intended to provide sufficient information to understand the environmental impacts of the proposed MBSST Network project at a planning level and to permit a reasonable choice of alternatives so far as the environmental aspects are concerned and is intended to allow informed decision making and public participation. As a program-level EIR, this document focuses on the broad changes to the environment that would be expected to result from implementation of the proposed MBSST Network project. Subsequent environmental review of individual segments may be required, particularly if an individual trail segment differs from what was analyzed in this EIR. In such instances, this Program EIR may be used as a tiering document, as described in Section 15152 of the *State CEQA Guidelines*. Subsequent review, if required, may include a Negative Declaration, Mitigated Negative

Declaration, EIR Addendum, or site-specific Project EIR. Review under NEPA may also be required for individual segments. NEPA review could be as simple as a Categorical Exclusion, unless certain criteria are met. For example: (1) significant environmental impacts; (2) substantial controversy on environmental grounds; (3) significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or (4) inconsistencies with any federal, state, or local law (refer also to Response 2.4).

Regarding deferred mitigation, mitigation identified in measure B-1(f) has been addressed under Response 6.15 below. The commenter does not provide additional specific examples of deferred mitigation present in the EIR. However, in response to this comment, the EIR has been reviewed for evidence of deferral of mitigation and no other measures were as identified.

Response 6.8

The commenter states that relocation/translocation of sensitive species does not itself constitute mitigation, and identifies a lack of compensatory mitigation for permanent impacts to species' habitat.

The proposed MBSST Network project would be constructed primarily within a railroad corridor that has been subject to previous disturbance, and several portions of the trail would be placed on existing surface streets. Many of the areas where special status species may be present within the project disturbance footprint are considered to have low habitat suitability.

Few special status plant species are expected to occur, and most would only be present in very specific areas (e.g., drainages). Mitigation for impacts to special status plant species is incorporated as a component of habitat restoration along the proposed project alignment. Most special status animal species that could occur on-site are associated with drainage features. Compensatory mitigation for impacts to wetland and riparian habitats is incorporated in mitigation measure B-2(b) in Section 4.4, *Biological Resources*, and this would benefit special status animal species occupying these areas. Note also that mitigation measures B-2(c) and B-2(d) would also support restoration of affected areas throughout the project alignment by preventing the establishment and spread of invasive weeds that could cause harm to special status plant and animal species. Since construction of the trail outside of wetland and riparian habitats would not permanently remove large areas of suitable habitat for special status animals, relocation as a form of avoidance and minimization is appropriate and compensatory mitigation for habitat impacts is not warranted.

Response 6.9

The commenter requests additional background information to support the establishment of a 2:1 ratio as adequate compensation for impacts to special status plant species and wetlands, or requests that the ratio be replaced with a range of ratios that may be applied on a species specific basis and in consultation with the CDFW and U.S. Fish and Wildlife Service (USFWS). The commenter also requests that a mechanism for long-term protection of mitigation areas be incorporated into the appropriate measures.

For the purposes of CEQA, a 2:1 mitigation ratio is sufficient to satisfy the goal of "no net loss" of habitat for special status species. Those agencies with discretionary permit authority, such as the CDFW and the US Army Corps of Engineers, can identify a larger mitigation ratio when issuing permits for impacts to areas under their jurisdiction. Please note that the mitigation ratio presented in measure B-1(b) is described as the minimum ratio. Mitigation measures B-2(b) has also be modified to read the same:

B-2(b) **Wetland and Riparian Habitat Restoration.** Impacts to jurisdictional wetland and riparian habitat shall be mitigated at a ratio of minimum 2:1 for each segment, and shall occur as close to the impacted habitat as possible. A Habitat Restoration Plan shall be developed by a biologist approved by the RTC and/or implementing entity in accordance with mitigation measure B-1(b) above and shall be implemented for no less than five years after construction of the segment, or until the RTC/implementing entity and/or the permitting authority (e.g., CDFW or USACE) has determined that restoration has been successful. All restoration/compensatory mitigation areas shall be permanently protected through a conservation easement or deed restriction.

Language regarding the long-term protection of compensatory mitigation has also been added to the above measure and to measure B-1(b):

B-1(b) **Special Status Plant Species Avoidance, Minimization, and Mitigation.** If state listed, CRPR List 1B species, or naturally occurring stands of Monterey Pine are found during special status plant surveys [pursuant to mitigation measure B-1(a)], the implementing entity shall redesign the segment to avoid impacting these plant species. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent to protect them from harm.

If avoidance is not feasible, seed shall be collected from on-site rare plants prior to removal, and/or from other local populations of plant species to be impacted. Seed shall be distributed in areas not proposed for development that have the appropriate habitat characteristics necessary to support the restoration. Seed collection shall be conducted by a qualified biologist holding a rare plant collection voucher/permit. Topsoil may also be salvaged and distributed over temporarily disturbed areas following completion of construction activities provided it is free of non-native invasive species. For take of any plant species protected under CESA, an incidental take permit shall be obtained authorizing activities resulting in take.

The total number and/or total acreage for each special status plant species that will be impacted shall be determined once the final design of the project is completed and prior to initiation of ground disturbance activities. Impacted species shall be restored on-site at a minimum of a 2:1 ratio (number of acres/individuals restored to number of acres/individuals impacted) for each species as a component of habitat restoration. Prior to start of construction activities a restoration plan shall be prepared and submitted to the RTC and/or implementing entity and the CDFW for approval and/or implementing entity. The restoration plan shall include, at a minimum, the following components:

- *Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);*
- *Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved];*
- *Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values);*
- *Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan);*
- *Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule);*
- *Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports);*
- *Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type;*
- *An adaptive management program and remedial measures to address any shortcomings in meeting success criteria;*
- *Notification of completion of compensatory mitigation and agency confirmation; and*
- *Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).*

The restoration plan shall be implemented for a period of at least five years or until restoration has been deemed complete based on the established success

criteria. All restoration/compensatory mitigation areas shall be permanently protected through a conservation easement or deed restriction.

Response 6.10

The commenter expresses concerns over the timing and adequacy of special status plant surveys, and suggests that a botanist resurvey the alignment prior to construction. The commenter also requests clarification as to whether the "mitigation areas" mentioned in mitigation measure B-1(a) also refers to the restoration areas described in mitigation measure B-1(b).

Mitigation measure B-1(a) is essentially a preconstruction survey requirement for special status plant species, and does require that seasonally-timed surveys be conducted "prior to any vegetation removal, grubbing, or construction activity." The measure further requires that surveys be conducted in accordance with CDFW and USFWS protocols. These protocols require multiple site visits during the survey year and utilization of reference populations where available. Therefore, this measure does not necessarily constitute a "one-time survey." Resurveying the project area prior to start of construction would not necessarily provide valuable information if the site is resurveyed outside of the typical bloom period for any of the target special status plant species. The surveys prescribed in mitigation measure B-1(a) are required to be seasonally–timed and completed within two years prior to the start of construction, and no additional surveys are warranted.

To provide clarification regarding the use of the words "mitigation" and "restoration," measure B-1(a) has been modified as follows:

B-1(a) **Special Status Plant Species Surveys.** Prior to any vegetation removal, grubbing, or other construction activity of each segment (including staging and mobilization), seasonally-timed special status plant surveys shall be conducted by a qualified biologist approved by the implementing entity no more than two years before initial ground disturbance. The purpose of these surveys is to document the location(s) and number(s) of sensitive plant species within construction and mitigation/restoration areas so that mitigation can be accomplished. The surveys shall coincide with the bloom periods for each species listed above in Tables 4.4-6, 4.4-7 and 4.4-8 and all special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and topographic map at a scale of no less than 1"=200'. Surveys shall be conducted in accordance with the County, CDFW, and USFWS protocols (California Department of Fish and Game 2009, United States Fish and Wildlife Service 2000). A report of the survey results shall be submitted to the RTC and/or implementing entity, and the CDFW for review and approval.

Response 6.11

The commenter states that avoidance of special status plant species is preferred and that translocation should be considered only when avoidance is not feasible. The commenter specifically cites concerns over restoration of white-rayed pentachaeta and suggests that restoration is not likely a recommended mitigation measure for this and similarly situated species.

Mitigation measure B-1(b) prescribed avoidance first, and mitigation if avoidance is not feasible. Additional language stating that a state ITP must be obtained pursuant to CESA has also been added to mitigation measure B-1(b) (see Response 4.3). The CDFW may, at its discretion and upon issuance of the ITP, require additional avoidance measures or compensatory mitigation above and beyond what is already prescribed in the EIR. However, the measures contained in the EIR are adequate for CEQA purposes.

Response 6.12

The commenter requests clarification regarding the establishment of buffer zones around special status plant species and suggests that the buffer size should be based on a variety of physical characteristics at the location of the buffer.

The buffer is intended to be placed between construction and special status plant species occurrences wherever they are identified along the proposed MBSST alignment. The primary purpose of the buffer is to protect special status plant species from being affected during construction of the project, as construction activity is expected to cause substantial soil disturbance in some areas. After completion of construction, use of the trail is not expected to cause substantial soil disturbance. Furthermore, special status plant species occurrences are candidates for installation of permanent protective fencing as described in the Master Plan.

Response 6.13

The commenter notes that acquisition of an ITM is not mentioned for state-listed species that may be impacted.

Additional language requiring acquisition of a state Incidental Take Permit pursuant to CESA has been added to mitigation measure B-1(b) (see Response 4.3).

Response 6.14

The commenter requests additional discussion regarding relocation sites for California red-legged frogs, Santa Cruz long-toed salamander foothill yellow-legged frog, and California tiger salamander described in mitigation measure B-1(d). The commenter is specifically concerned with defining the suitability of relocation sites and the long-term protections of relocation sites.

The watersheds/streamcourses along the MBSST Network have not been fully surveyed; however, the special status animal species are highly mobile and are expected to move

throughout the watersheds/streamcourses in which they occur. As such, it is expected that relocation sites with similarly suitable habitat will be available in the same watersheds. Note that none of these species would be relocated without authorization from the CDFW and/or USFWS, at which point these agencies will have the ability to provide specific requirements for relocation sites, if they so choose.

Regarding long-term protections, the relocation sites will not necessarily be restoration sites. This measure is designed to avoid and minimize harm to individual special status animals due to construction of the proposed MBSST Network project. This measure is not intended to provide compensatory mitigation as habitat impacts are expected to be minimal (see Response 6.8). Additionally, long-term protection of suitable habitat off-site is likely not feasible due to landowner rights, and long-term protection of suitable habitat does not necessarily protect the relocated individual if it should decide to leave the relocation site. The comment is noted and no changes to the EIR are warranted.

Response 6.15

The commenter states that the text in mitigation measure B-1(f) (San Francisco Garter Snake and Black Legless Lizard Surveys) is contradictory, noting that the measure requires consultation with the CDFW and USFWS if the species is identified during preconstruction surveys, and later stating that relocation of the species has been identified as means for avoiding mortality. The commenter further notes that the San Francisco garter snake is a state Fully Protected species under the Fish and Game Code.

The following modifications have been made to address concern over San Francisco garter snake:

B-1(f) ~~**San Francisco Garter Snake and**~~ **Black Legless Lizard Surveys.** Not less than three months prior to the start of construction activities (including staging and mobilization) for each segment, a CDFW ~~and USFWS~~-approved biologist shall place coverboards in areas with suitable habitat for ~~San Francisco garter snake and~~ black legless lizard. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground. The coverboards shall be checked by the biologist once per week for each week after placement up until the start of vegetation removal. All black legless lizards found under the coverboards shall be captured and placed in five-gallon buckets for transportation to relocation sites. All relocation sites shall be approved by the RTC and/or implementing entity and shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by construction of the project. Relocation shall occur on the same day as capture. CNDDB Field Survey Forms shall be submitted to the CDFW for all special status animal species observed.

~~If a San Francisco garter snake is located during the surveys, the garter snake shall not be captured and relocated. All further survey efforts at the location of the observation shall cease and the CDFW and USFWS shall be consulted.~~

During all initial ground vegetation removal activities for each segment, a qualified biologist shall be on-site to recover any ~~San Francisco garter snakes and~~ black legless lizards that may be excavated/ unearthed. If the animals are in good health, they shall be immediately relocated to the designated release area. If they are injured, the animals shall be released to a CDFW ~~and/or USFWS~~ approved specialist until they are in a condition to be released into the designated release area.

A report of all preconstruction survey efforts and monitoring during initial ground vegetation removal of each segment shall be submitted to the implementing entity within 30 days of completion of the survey effort to document compliance. The report shall include the dates, times, weather conditions, and personnel involved in the surveys and monitoring. The report shall also include for each captured special status animal, the UTM coordinates and habitat descriptions of the capture and release site (in UTM coordinates), the length of time between capture and release, and the general health of the individual(s).

B-1(g) **FESA and CESA Consultation.** To ensure compliance with FESA and CESA, the RTC and/or implementing entity shall obtain either Incidental Take Permits or written concurrence that implementation of the project will not result in take for CRLF, SCLTS, CTS, ~~San Francisco garter snake~~, steelhead, coho salmon, and tidewater goby.

B-1(n) **San Francisco Garter Snake Avoidance and Minimization.** The following measures shall be implemented in the Northern Reach in consultation with the CDFW and USFWS:

- All portions of the proposed project within the range of the San Francisco garter snake shall be designed to avoid impacts to aquatic habitat and to avoid or minimize impacts to adjacent upland habitat.
- Construction activities in the Northern Reach shall be avoided within 200 feet of suitable aquatic habitat to the greatest extent feasible.
- Construction equipment, personnel, and materials shall be confined to roadways and existing disturbed areas so as to

minimize habitat disturbance. If work must occur within 200 feet of suitable aquatic habitat, exclusion fencing shall be installed at the discretion of a qualified biologist to prevent San Francisco garter snakes from entering the work site.

- Construction shall occur between May 1 and October 1 when San Francisco garter snake is most active and would be expected to move and avoid danger. If construction must occur between October 2 and April 30, the USFWS and CDFW shall be consulted to determine if additional minimization measures are necessary.
- Impacts to suitable upland habitat shall be the minimum necessary to complete construction of the project. The limits of construction shall be delineated clearly with highly visible flagging or construction fencing.
- Not more than 24 hours prior to initiation of construction activities at the project site, including mobilization and staging, a qualified biologist shall conduct a survey of suitable habitat for San Francisco garter snake. If a San Francisco garter snake is observed within the disturbance footprint, construction activities shall be postponed until the CDFW and USFWS has been consulted for guidance.
- Trash shall be fully contained at all times and shall be removed from the site daily.
- A qualified biologist shall be present during all construction activities occurring within and adjacent to suitable habitat to ensure avoidance and minimization measures are implemented and effective.

Response 6.16

The commenter requests additional analysis of impacts to nesting raptors that could result from permanent impacts to breeding habitat, and requests that additional measures be identified to reduce the potential for impact to white-tailed kites.

Please note that the proposed MBSST Network project design is conceptual and the specific localized design elements are not yet available. As such, it is not known if trees that support raptor nesting will be removed. The potential for impacts to white-tailed kite if nest trees are removed is discussed under Impact B-1 in Section 4.4, *Biological Resources*. The following modifications to paragraphs on pages 4.4-41, 4.4-46, and 4.4-51, respectively, further elaborate on the potential for impacts to white-tailed kites due to loss of a nest tree:

> *White-Tailed Kite (Elanus leucurus).* White tailed kites are Fully Protected under the CFGC. Several white-tailed kites were observed foraging throughout the northern reach. Numerous nesting opportunities are available near the proposed MBSST Network. If white-tailed kites are nesting near the railroad corridor, construction of the MBSST Network may be disruptive and cause nest

failure due to noise and above-normal human presence. The impact could be substantial if a breeding site were located near the proposed MBSST Network. These impacts would only occur during the nesting season; however, removal of a nest site outside of the nesting season could be significant as white-tailed kites tend to return to the same nest sites during subsequent years. However, it is not anticipated that large numbers of trees in any given area would need to be removed as the majority of the trail would be constructed on an existing railroad corridor or on surface streets. Furthermore, the removal of one nest tree outside of the nest season should be no different than if that tree had been felled by natural means (e.g., rot). White-tailed kites do have the ability to build new nests and the loss of a single nest tree would be less than significant. Impacts to foraging habitat would be less than significant due to the relatively small disturbance area of the proposed MBSST Network project area.

White-Tailed Kite. Like the northern reach, several nesting opportunities are available for white-tailed kites in the central reach, particularly in the southern portion of the reach where the proposed MBSST Network transitions from urban developed areas to agriculturally developed areas that provide ample foraging opportunities. Impacts to white-tailed kites might occur during construction if kites are nesting near construction areas and/or trees need to be removed or trimmed. The impact could be substantial if a rookery is located near the proposed MBSST Network. These impacts would only occur during the nesting season; however, removal of a nest site outside of the nesting season could be significant as white-tailed kites tend to return to the same nest sites during subsequent years. However, it is not anticipated that large numbers of trees in any given area would need to be removed as the majority of the trail would be constructed on an existing railroad corridor or on surface streets. Furthermore, the removal of one nest tree outside of the nest season should be no different than if that tree had been felled by natural means (e.g., rot). White-tailed kites do have the ability to build new nests and the loss of a single nest tree would be less than significant. Impacts to foraging habitat would be less than significant due to the relatively small disturbance area of the proposed MBSST Network project area.

White-Tailed Kite ~~(Elanus leucurus)~~. Several nesting opportunities are available for white-tailed kites in the Watsonville reach, particularly in the southern portion of the reach where the proposed MBSST Network transitions from urban developed areas to agriculturally developed areas that provide ample foraging opportunities. Impacts to white-tailed kites might occur during construction if kites are nesting near construction areas and/or trees need to be removed or trimmed. The impact could be substantial if a rookery is located near the proposed MBSST Network. These impacts would only occur during the nesting season; however, removal of a nest site outside of the nesting season could be significant as white-tailed kites tend to return to the same nest sites during subsequent years. However, it is not anticipated that large numbers of trees in any given area would need to be removed as the majority of the trail

would be constructed on an existing railroad corridor or on surface streets. Furthermore, the removal of one nest tree outside of the nest season should be no different than if that tree had been felled by natural means (e.g., rot). White-tailed kites do have the ability to build new nests and the loss of a single nest tree would be less than significant. Impacts to foraging habitat would be less than significant due to the relatively small disturbance area of the proposed MBSST Network project area.

All other raptor species with potential to nest along the proposed MBSST Network are expected to have similar or less nest site fidelity.

Response 6.17

The commenter requests further details regarding the types and application of chemicals that may be used for invasive weed management.

In response to this comment, the following modification has been made to Section 4.4, *Biological Resources*:

B-2(d) **Invasive Weed Prevention and Management Program.** Prior to start of construction of each segment, an Invasive Weed Prevention and Management Program shall be developed by a qualified biologist approved by the RTC and/or implementing entity to prevent invasion areas adjacent native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication before any species can gain a foothold and out-compete native plant species for resources.

All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan.

Herbicides may be used on a limited basis to control the growth and spread of invasive weeds. Aqua-Master herbicides containing a dye to show overspray or a similar herbicide approved by the CDFW shall be used, and shall be applied by a certified pesticide application specialist under the direction of a qualified biologist. Herbicide application shall be plant species-dependent and can include foliar treatment or cut surface treatments. Herbicide shall not be broadcast over a large area; instead specific plant species

shall be targeted. The target plant species shall be removed and disposed of properly at a landfill once they are dead.

Response 6.18

The commenter requests additional information regarding water quality monitoring for special status fish species.

Mitigation measure B-1(e) in section 4.4, *Biological Resources,* has been modified as follows:

B-1(e) **Tidewater Goby, Steelhead and Coho Salmon Impact Avoidance and Minimization**. If suitable habitat for tidewater goby, steelhead, and/or coho salmon cannot be avoided, any in-stream portions of each segment (where drainage crossings require in-stream work) shall be dewatered/diverted. A dewatering/diversion plan shall be prepared and submitted to the NMFS, the USFWS and the CDFW for review and approval. All dewatering/diversion activities shall be monitored by a qualified fisheries biologist. The fisheries biologist shall be responsible for capture and relocation of fish species out of the work area during dewatering/diversion installation.
A *Programmatic Consultation and Conference for Listed Coastal Species, Ventura, Santa Barbara, San Luis Obispo, Monterey, and Santa Cruz Counties, California (1-8-96-F-11)* was established on August 29, 1991 between the USFWS and the USACE. The following measures are generally adapted from that document. Consultation shall occur with the USFWS to determine that 1) the project is covered under the above programmatic consultation through issuance of USACE permits under Section 404 of the Clean Water Act, or 2) that take of CRLF is not anticipated through implementation of the measures below as determined through informal consultation with the USFWS if no federal permits are pursued.

- *The implementing entity shall designate a representative to monitor on-site compliance of all avoidance and minimization measures. This representative shall be trained by a qualified fisheries biologist in the identification of the target species and the assessment of the potential for take based on the proposed activities. The representative shall consult with the biologist as necessary to ensure compliance. The representative and the biologist shall have the authority to halt any action which may result in the take of listed species.*
- *Only USFWS/NMFS/CDFW-approved biologists shall participate in the capture and handling of listed species.*
- *No equipment shall be permitted to enter wetted portions of any affected drainage channel.*

- *All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment and clean up materials shall be located in close proximity for easy access.*
- *Work within and adjacent to streams shall not occur between November 1 and May 1. Unless otherwise approved by NMFS and the CDFW.*
- *If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline.*
- *If water is to be pumped around work sites, intakes shall be completely screen with wire mesh not larger than five millimeters to prevent animals from entering the pump system.*
- *If any tidewater goby, steelhead, or coho salmon are harmed during implementation of the project, the project biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid further harm to CRLF.*
- *Water turbidity shall be monitored by a qualified biologist or water quality specialist during all instream work. Water turbidity shall be tested daily at both an upstream location for baseline measurement and downstream to determine if project activities are altering water turbidity. Turbidity measures shall be taken within 50 feet of construction activities to rule out other outside influences. Additional turbidity testing shall occur if visual monitoring indicates an increased in turbidity downstream of the work area. If turbidity levels immediately downstream of the project rise to more than 20 NTUs (Nephelometric Turbidity Units) above the upstream (baseline) turbidity levels, all construction shall be halted and all erosion and sediment control devices shall be thoroughly inspected for proper function, or shall be replaced with new devices to prevent additional sediment discharge into streams.*

Response 6.19

The commenter requests additional details regarding the possible installation of bridge supports, including the types and construction of these supports, and the potential acoustical impacts installing these supports might have on fish species.

Noise and vibration impacts from construction are addressed in Section 4.10, *Noise.* This analysis assumed that no pile driving would be used for installation of new bridges. However, mitigation measure N-1(c) requires that stationary construction equipment that generates noise that exceeds 60 dBA at the boundaries of adjacent sensitive receptors be baffled to reduce noise and vibration levels. Construction related noise and vibration effects would be temporary. In addition, with implementation of the above mitigation measures, noise generated by

construction equipment would be limited to daytime hours and would be muffled to the extent practicable. As a result, impacts would be reduced to a less than significant level.

To clarify that pile driving would not be anticipated, the following revision has been made under Impact N-1 in Section 4.10, *Noise:*

Table 4.10-2
Typical Construction Noise Levels (dBA)

Equipment	Typical Level 50 Feet from the Source	Typical Level 100 Feet from the Source	Typical Level 200 Feet from the Source	Typical Level 300 Feet from the Source
Air Compressor	81	75	69	66
Backhoe	80	74	68	65
Concrete Mixer	85	79	73	70
Grader	85	79	73	70
Paver	89	83	77	74
Saw	76	70	64	61
Scraper	89	83	77	74
Truck	88	82	76	73

Source: Typical noise level 50 feet from the source was taken from FTA, May 2006. Noise levels at 100 feet, 200 feet, and 300 feet were extrapolated using a 6 dBA attenuation rate for the doubling of distance.

> It should be noted that vibratory and/or impact pile-driving activities can result in noise levels in excess of those shown in Table 4.10-2. However, project construction activities would not require pile-driving.

Please also note that the project as described in the Master Plan is conceptual, and specific designs and construction methods would be developed as each individual segment is designed and proposed. As such, additional analyses may be required once the final segment design has been developed, if they vary substantially from what has been analyzed in this EIR.

Response 6.20

The commenter states that middens located along the coastal bluffs are distinct mounds that may be apparent to trail users. The commenter queries whether the proposed MBSST Network project would border these middens and, if so, what mitigation measures would be provided to prevent looting of these sites.

Please note that the proposed MBSST Network project design is conceptual and the specific localized alignments and design elements are not yet available; therefore, it is unknown in what proximity the proposed MBSST Network alignment would be to the referenced sites. As noted in Section 1.0, *Introduction,* the analysis provided in this Program EIR is intended to provide sufficient information to understand the environmental impacts of the proposed MBSST Network project at a planning level and to permit a reasonable choice of alternatives so far as the environmental aspects are concerned and is intended to allow informed decision making and public participation. As a program-level EIR, this document focuses on the broad changes

to the environment that would be expected to result from implementation of the proposed MBSST Network project, rather than impacts to specific resource sites. Subsequent environmental review of individual segments may be required, particularly if an individual trail segment differs from what was analyzed in this EIR. In such instances, this Program EIR may be used as a tiering document, as described in Section 15152 of the *State CEQA Guidelines*. Subsequent review, if required, may include a Negative Declaration, Mitigated Negative Declaration, EIR Addendum, or site-specific Project EIR. Review under the National Environmental Policy Act (NEPA) may also be required for individual segments.

Programmatic mitigation measures CR-1(a) and CR-1(b) would address impacts to archaeological resources and are included in Section 4.5, *Cultural Resources*. However, in response to this comment the following amendments to mitigation measures CR-1(a) and CR-1(b) has been made:

CR-1(a) **Cultural Resources Records Search**. Prior to ~~issuance of grading permits~~ completion of final design for each trail segment, the RTC and/or implementing entity shall contract with a qualified archaeologist to perform a cultural resources records search. The cultural resources records search shall include both the Area of Direct Impact as well as a suitable buffer area encompassing an Area of Indirect Impact as determined by a qualified archaeologist. If a cultural resources survey has previously been adequately performed for the subject trail segment/impact area, and existing prehistoric or archaeological cultural resources were not identified, no further pre-construction mitigation would be required. If no previous survey has been performed for the subject trail segment/impact area, or if a previous survey has identified prehistoric or archaeological cultural resources, mitigation measure CR-1(b) shall be implemented.

CR-1(b) **Pre-Construction Prehistoric and Archaeological Resources Survey**. Prior to ~~the issuance of grading permits~~ completion of final design for each segment that has not been previously graded and/or surveyed for prehistoric and archaeological cultural resources [as determined by mitigation measure CR-1(a)], the RTC and/or implementing entity shall contract with a qualified archaeologist to perform a Phase I cultural resources assessment. In the event that prehistoric or archaeological cultural resources are identified within the Area of Direct Impact during the Phase I assessment and impacts to the resource cannot be avoided by redesign, the implementing agency shall implement a Phase II subsurface testing program to determine the resource boundaries within the trail corridor/impact area, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts.

If the site is determined significant, the RTC and/or implementing entity may choose to cap the resource area using culturally sterile and

chemically neutral fill material and shall include open space accommodations and interpretive displays for the site to ensure its protection from development. A qualified archaeologist shall be retained to monitor the placement of fill upon the site and to make open space and interpretive recommendations. If a significant site will not be capped, the results and recommendations of the Phase II study shall determine the need for a Phase III data recovery program designed to record and remove significant prehistoric or archaeological cultural materials that could otherwise be tampered with. If the site is determined insignificant, no capping or further archaeological investigation shall be required, though archaeological monitoring may still be required. The results and recommendations of the Phase II and/or Phase III studies shall determine the need for construction monitoring.

In the event that prehistoric or archaeological cultural resources are identified within the Area of Indirect Impact during the Phase 1 assessment, the implementing entity shall contract with a qualified archaeologist to determine whether avoidance or minimization measures are required to prevent looting and aggravation of existing resources. If required, these measures could include, but shall not be limited to: installation of signage prohibiting the public from accessing the site(s), installation of fencing around the identified sites, installation of protection landscape screening, and/or placement of cultural sterile and chemically neutral fill upon the site(s). Selection of feasible avoidance or minimization measures shall be in consultation with the appropriate resource agency, implementing entity, and/or RTC. Following implementation of feasible avoidance or minimization measures the RTC and/or implementing entity shall prepare a four year monitoring plan that includes annual review of sites within the Area of Indirect Impact to assess whether impacts are occurring, supplemental measures to address identified impacts and an annual report of findings which would be available for review by the relevant resources agencies. The plan shall be implemented for a minimum of four years, or until it is clear that resources are not being impacted by the project.

Response 6.21

The commenter requests that mitigation measure GEO-4 (Hillside Stability Evaluation) address sea level rise in relation to bluff instability and the trail alignment. The commenter also requests that where retaining walls are required, the project envelope be surveyed for biological resources. The commenter notes the CSLC information requirements related to sea level rise when considering lease applications.

As discussed in Section 4.5, *Geology/Soils,* portions of the proposed MBSST Network project would be located in areas of high coastal erosion based on the Santa Cruz County Coastal Erosion Map (2009). The potential for sea level rise to occur in this area could increase coastal erosion rates over the long term. Impact GHG-3 in Section 4.7, *Greenhouse Gas Emissions/Climate Change,* describes the potential for flooding and/or shoreline retreat associated with sea level rise to affect the proposed project. Ongoing trail maintenance and inspection activities throughout the life of the project would ensure that sea level rise does not expose people or structures to the risk of loss, injury or death. It is noted that CSLC may, at its discretion and prior to approval of a lease application, require additional project modifications above and beyond what is already prescribed in the EIR. However, the design measures contained in the Master Plan are adequate to reduce impacts to a less than significant level for CEQA purposes.

Please note that the project as described in the Master Plan is conceptual, and specific designs and construction methods would be developed for each individual segment. The entirety of the future project envelope for each segment, including potential new retaining walls, would be subject to the mitigation measure requirements contained in the EIR, including the mitigation measures in Section 4.4, *Biological Resources*. The comment is noted and no changes to the EIR will be made.

Response 6.22

The commenter recommends the use of permeable pavement and other Low Impact Development features, where feasible, to increase infiltration and reduce runoff potential.

Impact H-1 in Section 4.9, *Hydrology and Water Quality*, evaluates the potential for the MBSST Network project to result in an increase in stormwater runoff due to the increase in impermeable surface along the project alignment. As noted, the linear nature of the trail, and its relatively narrow width, would minimize a change in runoff potential at any given location. In addition, the proposed Master Plan includes design standards to maintain historical runoff volumes. Furthermore, each jurisdiction that the trail passes through has drainage standards that would prevent an increase in on-site runoff volumes for new development or re-development projects, as mentioned in Section 4.9.1(d) (Regulatory Setting). Each portion of the trail would be required to comply with the existing policies and standards in place for the local jurisdiction pertaining to stormwater runoff. All of the above would reduce impacts resulting from stormwater runoff and sedimentation to a less than significant level. However, in consideration of this comment, the design standards included in the MBSST Network Master Plan have been amended to reference the potential use of permeable pavement and other Low Impact Development features.

Response 6.23

The commenter states the opinion that the EIR should identify where coastal bluff retreat or failure associated with sea level rise could occur and consider areas of potential trail relocation to ensure the trail is safe.

Impact GHG-3 in Section 4.7, *Greenhouse Gas Emissions/Climate Change*, describes the potential for flooding and/or shoreline retreat associated with sea level rise to affect the proposed project. Ongoing trail maintenance and inspection activities throughout the life of the project would ensure that sea level rise does not expose people or structures to the risk of loss, injury or death, reducing impacts to less than significant for CEQA purposes. In addition, Section 5.5.7 of the Master Plan notes that natural surface trails along coastal bluffs may be affected by sea level rise and development of new trails should consider these impacts. As stated previously, the project as described in the Master Plan is conceptual, and specific alignments, designs and construction methods would be developed for each individual segment as they are proposed.

Response 6.24

The commenter recommends implementation of a local trail-rail media campaign to educate potential trail user on common safety actions before public use of the trail commences.

This comment pertains to public education on use of the MBSST Network and does not challenge or question the analysis or conclusions in the Draft EIR. The comment is noted and has been received by the RTC.

Response 6.25

The commenter notes that the CSLC will need to rely on the EIR for the issuance of any amended or new leases and requests that comments are considered prior to certification of the EIR. The commenter also requests that additional information on the Master Plan be sent to the CSLC as plans are finalized.

The comments received will be considered by the decision makers prior to certification of the EIR along with the responses contained herein. The request for additional information on the Master Plan to be forwarded has been received by the RTC.

Response 6.26

The commenter requests electronic copies of all future documentation related to the CEQA process be sent to the CSLC and provides contact details at the department for further questions.

The comment is noted. No further response required.

-----Original Message-----
From: ndwoods@cruzio.com [mailto:ndwoods@cruzio.com]
Sent: Thursday, June 06, 2013 4:44 PM
To: Regional Transportation Commission
Subject: Re: RTC: Monterey Bay Sanctuary Scenic Trail Network - Draft Environmental Impact Report released
Importance: High

You do not mention in your cover letter about equestrians. Horses have been using the dirt track next to the tracks north of the city of Santa Cruz for over a 100 years...please make sure they get a place to continue being ridden...
Thanks!
Dee

7.1

Letter 7

COMMENTER: Dee Woods

DATE: June 6, 2013

Response 7.1

The commenter states that the railroad tracks north of the City of Santa Cruz are currently used by equestrians and requests that this is allowed to continue.

As described in Section 2.5.3 (Trail Amenities and Features) in Section 2.0, *Project Description*, equestrian use on the MBSST Network would be allowed in the north coast area extending from Wilder Ranch to Davenport, i.e. along segments 5.1, 5.2, 5.3 and 6. The proposed Master Plan suggests specific design considerations when planning for equestrian use on multi-use paths, including trail width of at least eight feet with a vertical clearance of at least ten feet, separated a minimum of three feet from the paved multi-use path.

To clarify, text on page 2-49 regarding equestrians on the trail has been revised as follows:

> Equestrians on Trails. Equestrian use on the MBSST Network would be limited to the north coast area extending from Wilder Ranch to Davenport, i.e. along segments 5.1, 5.2, 5.3 and 6. Equestrians would utilize the existing facilities located in Wilder Ranch. The proposed Master Plan suggests specific design considerations when planning for equestrian use on multi-use paths, including trail width of at least 8 feet with a vertical clearance of at least 10 feet, separated a minimum of three feet from the paved multi-use path.

From: gildw@pacbell.net [mailto:gildw@pacbell.net]
Sent: Thursday, June 06, 2013 8:52 PM
To: info@sccrtc.org
Subject: monterey bay sanctuary trail

I notice that equestrians are not mentioned as potential users of this trail As an equestrian I am wondering why we have been left out. As our trails have continued to drastically disappear due to high density development over the years, it would be important to include horses as users of this trail.

8.1

Sincerely, Leslie Dwyer
516 Soquel Ave. #3
Santa Cruz CA.95062
gildw@pacbell.net
Sent from Yahoo! Mail on Androidp

Letter 8

COMMENTER: Leslie Dwyer

DATE: June 6, 2013

Response 8.1

The commenter is querying why equestrians are not mentioned as potential users of the MBSST Network and states the opinion that horses should be included as users of the MBSST Network.

Please refer to Response 7.1.

From: Diane Vaillancourt [mailto:vaillancourt@cruzio.com]
Sent: Thursday, June 06, 2013 9:52 PM
To: info@sccrtc.org
Subject: RTC: Monterey Bay Sanctuary Scenic Trail Network - Draft Environmental Impact Report --No Mention of Equestrian Trails--Huh???

As a long time Santa Cruz resident and equestrian, I was alarmed to see that there is no mention of equestrian trails in the above-referenced report. It has been my understanding since the commencement of this project that equestrian trails would be part of it. Surely this is an oversight that will be corrected straightaway.

It goes without saying Santa Cruz has a wonderful horse community. One of its special attractions is its many trails welcoming everyone. We have a long history of horses, bicycles and pedestrians sharing trails in Wilder so that we all can enjoy this beautiful land.

It only makes sense that options for trails would be available to equestrians as well.

9.1

Thank you for your consideration.
Diane K. Vaillancourt

Letter 9

COMMENTER: Diane K. Vaillancourt

DATE: June 6, 2013

Response 9.1

The commenter is querying why equestrians are not mentioned as potential users of the MBSST Network and states the opinion that horses should be included as users of the MBSST Network.

Please refer to Response 7.1.

From: DeeDee Levine [mailto:sonnyduo@yahoo.com]
Sent: Thursday, June 06, 2013 11:14 PM
To: info@sccrtc.org
Subject: RTC: Monterey Bay Sanctuary Scenic Trail Network - Draft

Kind people,

In reviewing the latest draft of the Monterey Bay Sanctuary Scenic Trail Network,
It appears there are provisions made for pedestrian and bike trails but no mention of equestrian trails.
Surely this is an oversite and will be included in the followup document.

Equestrian trails in this network will be put to good use by horse adnd rider groups in the community and from outside the community. Please insure this trail use group is included in the final plan.

10.1

Thank you,
Diane Levine
650-208-1663

Letter 10

COMMENTER: Diane Levine

DATE: June 6, 2013

Response 10.1

The commenter is querying why equestrians are not mentioned as potential users of the MBSST Network and states the opinion that horses should be included as users of the MBSST Network.

Please refer to Response 7.1.

-----Original Message-----
From: Sandra L. Cohen [mailto:slcohen222@cruzio.com]
Sent: Wednesday, June 19, 2013 11:03 AM
To: info@sccrtc.org
Subject: RAIL/TRAIL COMMENT

I am all for the trail aspect of this project in hopes of it joining up with the Monterey Coastal Trail eventually. However, I am dead-set against the rail/train portion of this project. It is entirely too much money and will not be useful enough to make it feasible economically--even long term. Environmental hopes are one thing. Fiscal responsibility is quite another. Sure, it would be great to alleviate traffic on Hwy 1. But do the demographics and analysis really support this or us it a "build it and MAYBE they will come." And who is "they" exactly? Please be realistic. Do your homework or pay me to do it.

11.1

Sincerely,
Sandra L Cohen
Santa Cruz

Letter 11

COMMENTER: Sandra L. Cohen

DATE: June 19, 2013

Response 11.1

The commenter expresses support for the proposed project. Also, the commenter incorrectly assumes that there is a rail/train aspect to the proposed project, stating her opposition to that aspect.

The proposed project does not include provision of rail service along the Santa Cruz Branch Rail Line. As described in Section 2.3.2 (Existing Rail Line) in Section 2.0, *Project Description*, Iowa Pacific Holdings, operating as Santa Cruz and Monterey Bay Railway (SCMBR), is the current freight and tourist passenger service operator. SCMBR plans to implement additional freight, passenger, and recreational rail service in the future; however, this is not part of the proposed project and is not considered in the EIR. The proposed project is the MBSST Network Master Plan. The purpose of the Master Plan is to establish the continuous alignment, connecting spurs, and set of design standards for a bicycle/pedestrian (multi-use) trail for the length of Santa Cruz County. Nevertheless, the commenter's concerns are noted and have been received by the RTC.

TIMOTHY J. MORGAN
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SANTA CRUZ, CALIFORNIA 95060
(831) 429-9641
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EMAIL TMORGAN@MORGANLAW.US

July 22, 2013

Cory Caletti
Senior Transportation Planner,
Santa Cruz Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060

Re: Monterey Bay Sanctuary Scenic Trail Network
Draft EIR Comments

Dear Ms. Caletti:

Our office represents Teresa Knox in her capacity as manager of Struve Ranch, LLC and LMC Properties, LLC, located in Section 17 of the proposed Monterey Bay Sanctuary Scenic Trail Network (the rail trail) in unincorporated Santa Cruz County, directly adjacent to the railroad tracks.

12.1

I can state that farm operators Dave Divini of Watsonville Exchange Inc., Dobler and Sons, LLC, and the Fujii Brothers have seen this letter and agree with its content.

As was mentioned at the June 27th meeting in Watsonville on this project, which was attended by Brian Mathias, Esq., of this office, Struve Ranch and LMC Properties are family farms owned by the descendants of the Martin and Struve families for the past 150 year and operated by Dobler and Sons, LLC.

The construction and operation of the proposed rail trail is incompatible with traditional farming. The rail trail will take existing agricultural land out of production, reduce agricultural productivity, and expose farmers to frivolous lawsuits for perceived exposure to pesticides. Further, there is the very real concern that there is no basis to use the existing railroad easement for the purposes of recreation and alternative transportation, as is presumed by the EIR. Based off these concerns, my client requests that the On-Road Alignment or Reduced Project alternatives be utilized along Section 17 of the proposed rail trail in the Watsonville area of the rail trail.

12.2

The written comments below track with many of the comments made at the June 27th meeting in Watsonville and should be read in conjunction with the letter of December 21, 2012, which was

TIMOTHY J. MORGAN
ATTORNEY AT LAW

e-mailed to the Regional Transportation Commission.[1]

Scope of Railroad Easement Exceeded

My understanding from the Draft EIR is that the proposed rail trail will use the entire width of the rail corridor, which consists of lands owned outright by the County and easements owned by adjacent property owners.[2]

12.3

For background, the holder of an easement, called the dominant estate, is permitted to use the land subject to the easement, but only for limited and specific purposes, called the "scope" of an easement. An easement is not the same as the outright ownership of real property where one can do whatever one likes with his or her own property.

In my view, the scope of the easement granted to the Southern Pacific Railroad by LMC Properties, which is now owned by the Santa Cruz Branch Line, permits the maintenance and operation *of a railroad*. This would clearly have been the intent when the easement was created, when the railroad was in operation and the construction of a rail trail was not contemplated. However, that scope would not and could not be stretched to include recreational use, pedestrian use, bicycle use, or any other use by the general public. Such uses would have never been contemplated at the time the railroad easement was granted and thus the scope of the easement on the LMC property will be illegally exceeded if used for the purposes of recreation and alternative transportation.

12.4

By way of this letter, I request that Regional Transportation Commission thoroughly research and address the easement issue before proceeding with the final EIR, specifically the easement on the LMC property.[3] This issue strikes at the very core of the rail trail project as proposed in the Draft EIR; namely, the ability to use the full width of the purchased corridor for recreational and pedestrian purposes. This is no minor technical problem that can be pushed off for resolution at some later date through the planning process. If the railroad easements are insufficient to permit

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[1] You indicated that you had not received my letter of December 21, 2012, at the June 27th meeting. Another copy of that letter is attached for your reference.

[2] For example, LMC Properties is "subject to a right of way over a strip of land 14 feet in width along and adjoining said lands of the Southern Pacific Company." This is just *one* example of a railroad easement along the rail corridor. There could be a hundred more similar easements.

[3] The LMC property happens to be just *one* adjacent parcel to the proposed rail trail. There could be more than one hundred other similar easements along the proposed rail trail, all of which should be looked into before the Final EIR is circulated.

TIMOTHY J. MORGAN
ATTORNEY AT LAW

the scope of the proposed rail trail project, then this inadequacy could make all other questions mute. So central an issue must be thoroughly analyzed in the Draft EIR.

Impact AG-1

Impact AG-1 states that "Development of the proposed MBSST Network *may* impact land designated as Prime Farmland. Impacts would be Class II, significant but mitigable."

The rail trail project *will certainly* have a significant impact on agricultural land adjacent to the proposed rail trail.

12.5

Best farming practices in Santa Cruz County require the use of a hygienic "buffer zone" between crops and potential sources of contamination.[4] This is why you see barren swathes of open ground surrounding agricultural fields. As it stands today, there are no people or pets routinely walking along the rail corridor, and the buffer zones for the adjacent fields have been calculated appropriately. However, the proposed width of the trail is much wider than that of the existing tracks. As a result, the buffer zone will have to be relocated further inward onto land that is currently dedicated to the commercial production of food on the Struve Ranch property.[5] This has the impact of reducing the rental value that landowners may charge farmers to grow food on their property; the less acreage physically available to farm, the less the rent that can be charged.

I disagree that the placement of fencing would in anyway mitigate this impact, as stated in mitigation measure AG-1(a). The only true mitigation measure for this impact is to reroute this section of the rail trail project.

By way of this letter, I ask that you address these concerns prior to the release of the Final EIR.

AG-3 Impacts

12.6

Impact AG-3 states, "Operation of the proposed MBSST Network *may* result in direct and indirect impacts on agricultural productivity from land use conflicts between trail users and agriculture. This is a Class II significant but mitigable impact."

The proposed rail trail with absolute certainty *will* impact agricultural productivity and has the potential to put the farms adjacent to it out of business entirely.

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[4] This problem is described in detail in my letter of December 21, 2012.

[5] In my view, this is a "conversion of commercial agricultural lands" contrary to Policy 5.13.20 of the Santa Cruz County General Plan, which was identified in the Draft EIR.

TIMOTHY J. MORGAN
ATTORNEY AT LAW

First, the relocation of a hygienic buffer zone onto farmland currently in use will reduce the amount of food that ultimately can be grown. As discussed above, as the buffer zone is moved inward, land that is currently in production will be taken out of production. Therefore, there will be a direct impact on agricultural productivity. 12.6 (con't)

Second, the Struve Ranch and LMC farms use traditional farming methods, which includes the use of legal pesticides and herbicides.[6] Currently, pesticides are applied on Sundays, when field workers are generally not present in the fields. However, with the construction of a rail trail, you will be inviting many pedestrians and bicyclists to travel immediately next to the fields. The bulk of the use will be on weekends, which will cause a substantial interference with the operation of the farms. Farmers will lose the one day of the week that the least number of people involved in farming operations would be present during their chemical applications. 12.7

Furthermore, farmers are required to have a chemical buffer zone between their property and any adjacent properties where people are present. For example, the chemical applications used on strawberry crops require a 300 foot buffer.[7] Currently, strawberries are grown approximately 80 feet from the centerline of the rail road. However, if the rail trail is constructed, that buffer would be extended from the edge of the trail some 300 feet inward onto the Struve Ranch property. This would result in nearly seven acres (or more than 10% of the entire Struve Ranch) being taken out of strawberry production.[8] Keep in mind that Struve Ranch and LMC farms are just *two* farms that line the tracks. There are dozens of other farms that line the new corridor and many of those will be more severely impacted by the new buffer zones.[9] 12.8

Third, as described in detail in the letter of December 21st, it is extremely likely that some rail trail users will sue local farms for perceived exposure to pesticides. The proposed rail trail is upwind from the LMC and Struve Ranch, and it is certain that rail trail users will smell chemicals 12.9

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[6] Santa Cruz County's Right to Farm Ordinances specifically contemplate that farming necessitates the use of pesticides. This is particularly significant given Santa Cruz County's reputation for organic food and well-known environmental movement.

[7] The trend is to increase and not narrow the legal width of chemical buffers, even as pesticides become safer and more environmentally friendly.

[8] I have attached a photograph to show where the new buffer zone would be relocated in the event the rail trail was constructed.

[9] It is not feasible to suggest organic farming as a mitigation measure. Feasible organic farming requires specific types of naturally occurring soil and environmental factors that are not present at the Struve Ranch and LMC farms.

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ATTORNEY AT LAW

coming from the adjacent ranch. It is well known that lawsuits, even ones without merit, are very expensive to defend. While it is impossible to predict *who* will file a junk lawsuit and *which farmer* will be sued and the *exact* circumstances of the lawsuit, it is entirely predictable and likely that it will happen somewhere along the rail trail and that it will have a significant impact on the affected farmer. 12.9 (con't)

I ask that you carefully consider the impact of lawsuits and that you think of effective mitigation measures. As is, the Draft EIR does not identify this as an impact stemming from land use conflicts. If the rail trail is not rerouted in this section of the trail, the only effective mitigation measure would be for the County of Santa Cruz to indemnify all farmers adjacent to the trail from lawsuits stemming from exposure to legal pesticides being properly applied. 12.10

Fourth, the Draft EIR has identified the issue of waste, from both humans and pets along the rail trail. However, even with bathrooms located along the trail, it is certain that some human users will not use the bathrooms every time. Further, there is no practical way to prevent dog urine from contaminating farms adjacent to the trail. The cumulative impact presents a serious food-safety issue. 12.11

Lastly, there is a very real concern that legitimate trail users or trespassers will litter or dump items along the trail that will contaminate the adjacent farm land.[10] Normally, trash cans and policing of the trail could mitigate that impact; however, there has been no evidence that any maintenance funds have been allocated for the rail trail.[11] Mitigation measures as basic as the placement of trash cans are not feasible without funds dedicated to their collection. 12.12

A response to these concerns prior to the Final EIR would be appreciated.

Mitigation Measures

None of the AG-3 mitigation measures will mitigate the impacts on agricultural production caused by the relocation of the hygienic buffer zone or the chemical buffer zone. There is no way to mitigate those impacts other than by implementing the On-Road Alignment or Reduced Project alternatives. 12.13

Mitigation measures AG-3 (a) and AG-3 (b) do not address the problems listed relating to chemical applications on Sundays.

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[10]The letter of December 21, 2012, describes this issue in detail.

[11] Currently maintenance along the County-owned trail in Section 17 is virtually non-existent as compared to the previous owner.

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Mitigation measure AG-3(c) has two parts, neither of which reduces the residual impact to the point of being less than significant.

The first part of mitigation measure AG-3(c) mitigates the impacts that farming will have *on trail users*, rather than the impact of the proposed rail trail on *agricultural productivity*. Accordingly, the measure cannot be reasonably expected to mitigate any of the effects on agricultural productivity. 12.14

Part two of mitigation measure AG-3(c) proposes a master-calendar, notification, and trail-closure system to prevent pesticide exposure. As with part one, the premise of this measure is to mitigate the impact that farming will have on *trail users*, rather than the impact that the rail trail will have on *agricultural productivity*. Notwithstanding, the calendaring, notification, and trail-closure measure will simply not work from either perspective.

First, this measure incorrectly assumes that all farms along a particular segment will apply the same type of pesticides at the same time. The type of pesticide used depends on what type of crop is being grown (which rotate and vary from farm to farm), the weather, and how close the crop is to harvest. Will farmers be expected to coordinate pesticide applications with the Agricultural Commissioner? If so, what new limitations will be implemented by the Agricultural Commissioner? Will farmers be permitted to continue to use pesticides? What employees will be designated to timely post notices and trail closures? How will the Agricultural Commissioner and RTC coordinate with farmers on Sundays and other times of the week when government offices are closed? This mitigation measure has the potential, *in and of itself*, to create a brand new direct impact on agricultural productivity that must be addressed in the Draft EIR. 12.15

Second, segmental trail closure is not an appropriate mitigation measure because users will continue to go on the trail even though the trail has been posted as "closed." As was mentioned at the June 27th meeting, a bicyclist traveling from Santa Cruz to Watsonville would not likely want to cut his or her trip short after unexpectedly bumping into a closed section of the trail. He or she would likely continue right on through the closed section of the trail despite the warning.[12] 12.16

Impact HAZ-3

Impact HAZ-3 states that, "Adjacent agricultural activities may include the use of pesticides considered to be a human health threat. Trail users and maintenance personnel could be exposed

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[12] The mitigation measure of segmental trail closure also undermines the project's intent of providing an alternative means of transportation. If the trail is closed off segment by segment, how can it be relied upon as an alterative means of transportation? The better alternative is to simply reroute the trail.

TIMOTHY J. MORGAN
ATTORNEY AT LAW

to these chemicals during and after their application. This is a Class II, significant but mitigable impact."

12.17

As of right now, LMC and Struve Ranch farms *do include the use* of legal pesticides considered to be a human health threat.

As with Impact AG-3, the proposed mitigation measure consists of a calendaring, notification, and trail closure system. This measure needs to be much better thought-out before it can be considered practical, or even feasible. As stated above, the time, place, and manner that pesticides are used vary from farm to farm. A calendering system would lead to an awkward stretch-by-stretch closure of the rail trail (with little hope that such closures would be observed by dedicated trail users).

Conclusion

Ultimately, it is our position that the rail trail is putting an undue burden on the farmers adjacent to the railroad, and will expose them to substantial additional costs and trouble that should not be theirs to bear. The growers are not choosing to alter their own circumstances, but rather the County is seeking to change their circumstances for them, adding significant costs to their operations, all without compensation. This is neither fair nor proper, especially for a small community that prides itself on supporting local agriculture.

12.18

We urge the Regional Transportation Commission to carefully review the Draft EIR and materially respond to the concerns raised in this letter, as well as to the concerns voiced in my letter from December 21st, and to implement the On-Road Alignment or Reduced Project alternatives in Section 17 of the Watsonville Reach zone of the rail trail.

12.19

Thank you for your anticipated careful consideration of the serious issues and concerns raised in this letter. I look forward to your reply.

Very truly yours,

Timothy J. Morgan
Attorney at Law

Encl.
cc. Client

VOL. 5902 PAGE 466 49893

Recording Requested By and
When Recorded Mail To:

SANSON & LOCKE-PADDON LLP
PO Box 1076
Aptos CA 95001-1076

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SEP -4 1996 12PM
RICHARD W. BEDAL, recorder
SANTA CRUZ COUNTY, Official Records

Quitclaim Deed

APN: 052-211-26
Santa Cruz County

The undersigned declare(s):
The documentary transfer tax is $0.00.
This conveyance changes the manner in which title is held, grantor(s) and grantee(s) remain the same and continue to hold the same proportionate interest. R&T 11911.

JEANNE S. CHANDLER, TRUSTEE OF THE JEANNE S. CHANDLER TRUST DATED NOVEMBER 5, 1992, hereby QUITCLAIMS to LMC PROPERTIES LLC, all of my right, title and interest in that certain real property in the unincorporated area of the County of Santa Cruz, State of California, described on Exhibit A attached hereto and incorporated by reference herein.

Dated: August 19, 1996, 1996

Jeanne S. Chandler
Jeanne S. Chandler

STATE OF CALIFORNIA, COUNTY OF ~~SANTA CRUZ~~ TULARE) ss.

On August 19, 1996, 1996, before the undersigned, a Notary Public, personally appeared Jeanne S. Chandler, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person or the entity upon behalf of which the person acted executed the instrument.

Jodi Chaires
Notary Public

JODI CHAIRES
COMM. #1035571
NOTARY PUBLIC - CALIFORNIA
TULARE COUNTY
My Comm. Expires Aug. 10, 1998

Mail Tax Statements To:
Mary Ellen Martinelli
49 Cutter Dr., Watsonville CA 95076

O:\SLP\LLC\LITCHFIE\DEED-3.FRM

BEING a part of the Rancho Bolsa del Pajaro and a part of the Rancho San Andreas, and beginning in the middle of the Beach Road at a station from which the most eastern corner of lands formerly owned by the Martin Brothers (of which the lands herein described are a part) and shown on the partition map of a part of the Rancho Bolsa del Pajaro situated in Santa Cruz County belonging to Martin Brothers, subdivided by Order of the Superior Court of Monterey County, 1892, a certified copy of which map is on file in the office of the County Recorder of Santa Cruz County, bears North 47° 5' East 18.01 chains distant; thence leaving said Beach Road North 24° 5' West 52.55 chains to the middle of the Main Drainage Ditch; thence along the centerline of said ditch North 32° 4' East 1.66 chains to the middle of the main track of the Southern Pacific Company; thence along the centerline of said track, the angle bearings and distances of which are as follows: North 70° 27' West 1.56 chains and North 65° 0' West 1.35 chains; thence leaving said railroad track and to and along the boundary of lands of one Sonnicksen, South 64° 20' West 18.76 chains and South 36° 45' West 5.38 chains, more or less, to the eastern bank of a drainage ditch; thence leaving said lands of Sonnicksen and along the said ditch bank South 29° 45' East 11.09 chains and South 18° 35' East 4.34 chains to the northern bank of the main drainage ditch; thence along said last named bank North 35° 18' East 1.58 chains; thence crossing main ditch and along the centerline of a lateral ditch South 44° 43' East 4.39 chains to lands now or formerly owned by Fred R. Hudson; thence along the boundary of said last named lands and along the boundary of lands of one Barber North 51° 45' East 3.77 chains and North 52° 30' East 6.06 chains to the most northern corner of said lands of Barber; thence continuing along the boundary of said lands of Barber South 29° 10' East 38.87 chains to the middle of the aforesaid Beach Road and thence along the centerline of said Beach Road North 47° 5' East 8.26 chains to the place of beginning.

EXCEPTING therefrom the lands of the Southern Pacific Company leaving an area of 82.00 acres, a little more or less.

AND SUBJECT to a right of way over a strip of land 14 feet in width along and adjoining said lands of the Southern Pacific Company.

Letter 12

Letter 12

COMMENTER: Timothy J. Morgan, Attorney, Law Offices of Timothy J. Morgan

DATE: July 22, 2013

Response 12.1

The commenter states that the Law Offices of Timothy J. Morgan represent the manager of Struve Ranch, LLC and LMC Properties, LLC, which are located adjacent to Segment 17 of the proposed MBSST.

This comment is noted.

Response 12.2

The commenter states the opinion that the proposed MBSST Network is incompatible with traditional farming activities, citing several reasons for the incompatibility. The commenter goes on to express a preference for adoption of the On-Road Alignment or Reduced Project Alternatives, as described in Section 6.0, *Alternatives,* along Segment 17 of the MBSST Network.

Section 4.2, *Agricultural Resources*, discusses the potential incompatibilities between operation of the proposed MBSST and agricultural activities, including direct and indirect impacts on agricultural productivity, impacts related to conflicts with existing zoning and Williamson Act contracts, and impacts to land designated as Prime Farmland, Unique Farmland and Farmland or Statewide Importance. In all instances impacts were determined to be Class II, *significant but mitigable,* or Class III, *less than significant*. In cases where potentially significant impacts were identified, implementation of mitigation measures would be required, and would reduce impacts to a less than significant level.

The commenter's preference for adoption of either the On-Road Alignment or Reduced Project Alternatives along Segment 17 has been received by the RTC and will be considered by the decision makers prior to making a determination on whether or not to adopt the proposed project.

Response 12.3

The commenter states that it is his understanding that the proposed MBSST Network would use the entire width of the rail corridor, which consists of lands owned outright by the County and easements owned by adjacent property owners.

The Santa Cruz Branch Rail Line right-of-way is currently in the ownership of the RTC, and not the County of Santa Cruz. The proposed Coastal Rail Trail will use property on the rail corridor, which consists of lands and easements owned by the RTC. The right-of-way width varies along the individual segments and the extent to which the entire width will be used will be

determined segment by segment. In some instances the right-of-way width exceeds the average disturbance area of 25 feet for the trail itself.

Response 12.4

The commenter questions the legality of using the railroad right-of-way for development of the MBSST Network and requests that this issue be resolved prior to certification of the Final EIR.

The issue raised is one of property rights rather than impacts to the environment. The RTC has prepared a Program EIR for the Monterey Bay Sanctuary Scenic Trail Network Master Plan. The purpose of the EIR is to describe and address, where possible, the significant effects on the environment of the proposed project and permit a reasonable choice of alternatives so far as environmental aspects are concerned in order to allow informed decision-making and public participation. Pursuant to *State CEQA Guidelines* §15382, a "significant effect on the environment" is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. The use of segments of the RTC's rail right-of-way for the MBSST Network project presents factual and legal concerns that are not relevant to and are otherwise outside the scope of the EIR's consideration of the project's environmental impacts.

Though the legal question raised is beyond the scope of this EIR, it may be noted that numerous rail-with-trail projects have been developed within California, and that the notion of the shared use of the right-of-way rail and active transportation functions, when properly protected through public information and design features, is well established.

In addition, please note that the Santa Cruz County Regional Transportation Commission owns the Santa Cruz Branch Rail Line right-of-way rather than the County of Santa Cruz as inferred by this comment.

Response 12.5

The commenter states that agricultural best practices in Santa Cruz County required the use of a hygienic "buffer zone" between crops and potential sources of contamination and that implementation of the proposed MBSST Network will require relocation of buffer zones between existing farms and the Santa Cruz Branch Rail Line right-of-way. The commenter goes on to state the opinion that the use of fencing along the corridor would not be sufficient to reduce impacts to agricultural resources and suggests re-alignment of the project as potential mitigation.

The issue of "buffer zones" is addressed in Section 4.2, *Agricultural Resources.* As noted under Impact AG-3 therein, it is anticipated that some farmers may voluntarily avoid cultivating or spraying the portions of their property closest to the trail, in effect establishing formal or informal buffer zones on their own. However, because the proposed project is a transient/transportation use, the Santa Cruz County Agricultural Commissioner's office as well as the County Planning Department have indicated that specific agricultural or pesticide buffers from the proposed trail

would not be required (Mary Lou Nicoletti, e-mail communication, September 12, 2013; Samantha Haschert, e-mail communication, September 18, 2013). Rather, pesticide spray restrictions listed on the pesticide label would be enforced. Informal or self-imposed buffers were not accounted for in the Prime farmland conversion figures cited in Impact AG-1.

As described in Section 4.2, *Agricultural Resources*, the proposed project would result in significant but mitigable impacts to agricultural resources due to the potential for conversion of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland to non-agricultural uses (Impact AG-1) as well as the potential for conflicts between adjacent agricultural uses and trail users (Impact AG-3). The proposed project contains several design features which would partially address these impacts, including: installation of continuous fencing between the trail and most adjacent agricultural properties, notices posted at entrances to the trail describing on-going agricultural activities and stating that the trail may be subject to closure without notice, ability to physically close trail segments to facilitate permitted spraying, provision of rest areas to reduce potential for trespassing by trail users, provision of a Trail Ranger responsible for the day-to-day maintenance of the trail facility. In addition to the mitigating design features, several mitigation measure are required by the EIR to address these impacts, including use of non-buffer options to reduce conflicts between trail users and agricultural activities, particularly during pesticide application. Following implementation of required mitigation measures, the EIR determined that the proposed project would not convert a substantial area of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use nor would it result in significant impacts resulting from conflicts between agricultural activities and trail users.

Nevertheless the commenter's opinion that impacts would remain significant despite implementation of required mitigation and that rerouting the trail would mitigate the identified impacts is noted.

In addition, a typographical error in the impact statement for Impact AG-1 has been corrected in the Final EIR, as shown below:

> **Impact AG-1 Development of the proposed MBSST Network would ~~may~~ impact land designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Impacts would be Class II, *significant but mitigable*.**

Response 12.6

The commenter states the opinion that impacts to the proposed project would impact agricultural productivity, and that use of the word "may" in Impact AG-1 is inappropriate. The word "may" has been removed (please refer to Response 12.5 above)

Response 12.7

The commenter states that the Struve Ranch and LMC farms use traditional farming methods including application of legal pesticides and herbicides, and that the proposed project would interfere with these activities.

Impacts to agricultural productivity, including pesticide application, are discussed in Section 4.2, *Agricultural Resources.* Based on the discussion provided, impacts were determined to be significant but mitigable and mitigation measures, including potential closure of the trail during spraying activities, would be required. Nevertheless, the commenter's concern regarding this issue is noted.

It should also be noted that notices would be posted at entrances to the trail of on-going agricultural activities, stating that the trail user agrees to use of the trail at his/her own risk. Trail users would additionally be advised that agricultural operations will be occurring and may include pesticide spraying, agricultural dust and debris, and burning activities in accordance with State and local laws and ordinances. Finally, notices would state that the trail may be subject to closure without notice to accommodate such activities. In addition, mitigation measure AG-3(c) requires that these notices include a statement of the legal ramifications for trespassing or being on the trail after it is closed. Given the various design features and mitigation measures listed above, it is reasonable to assume that the majority of users would be deterred from entering a closed segment of the MBSST.

Response 12.8

The commenter states that provision of buffer zones between adjacent agricultural properties and the proposed MBSST Network would result in decreased agricultural productivity.

Please refer to response 12.5.

Response 12.9

The commenter speculates that users of the MBSST will sue local farms for perceived exposure to pesticides.

This comment pertains to potential legal actions resulting from operation of the MBSST Network and does not challenge or question the analysis or conclusions in the Draft EIR. No further response is necessary though it is worth noting that California Civil Code § 846 was designed to protect private property owners whose land lies adjacent to a public trail where a trail user (a) trespasses on the adjacent private property and is injured or killed and (b) where an activity started or taking place on the trail (by someone other than the adjacent landowner) results in injury to, or death the of, a person or damage to the property of another.

In the years since California Civil Code § 846 was adopted, there has been no appellate case regarding the statute. That means that, if there has been litigation in which the statute was raised as a defense, no judgment was appealed. This would indicate that the liability level of private property owners adjacent to trails is very low.

Please also refer to Response 12.7.

Response 12.10

The commenter requests that the impact of lawsuits due to pesticide application be considered in the EIR.

Please refer to Response 12.9. In addition, please note that the Santa Cruz County Regional Transportation Commission owns the Santa Cruz Branch Rail Line right-of-way rather than the County of Santa Cruz as inferred by this comment.

Response 12.11

The commenter correctly states that the EIR identified the issue of waste from both humans and pets along the trail as a potential compatibility issue with adjacent farms. The commenter goes on to speculate that even with the provision of bathrooms, not all people will use them and that there is not a practical way to prevent dog waste from contaminating adjacent farms.

As described in Section 2.5.3 (Trail Amenities and Features) in Section 2.0, *Project Description*, the proposed MBSST Network Master Plan encourages implementing entities to provide dog waste bag dispensers at trailheads. More remote sites or neighborhood access areas may include a simple regulation sign requiring pet owners to collect their pet waste both as a courtesy to other users and a management tool for habitat preservation.

In addition, provision of fencing between the proposed trail and adjacent agricultural land uses would discourage trespass by both humans and dogs. As described in Section 2.5.3 (Trail Features and Amenities), the placement and type of fencing would vary depending on the location and agreements between adjacent land owners and the RTC. This would include owners of adjacent agricultural properties. Finally, mitigation measure AG-3(a) provides for signage advising trail users to stay on the trail and would assist in reducing land use conflicts between trail users and agriculture to less than significant. Nevertheless, in consideration of this commenter's concerns, the following amendment to this mitigation measure has been made:

AG-3(a) **Notice of Agricultural Activities.** The following information shall be added to the proposed notices on on-going agricultural activities:

- Trail users are advised to stay on the trail and be alert to operating machinery and equipment near the trail.
- Trail users are required to use restroom facilities in consideration of food hygiene issues on adjacent agricultural lands.
- Where dogs are not prohibited, trail users are required to clean up after their dogs and prevent trespass by dogs on adjacent agricultural properties in consideration of food hygiene issues on adjacent agricultural lands.
- The legal ramifications for trespassing on adjacent properties.
- The legal ramifications for trespassing or being on the trail after it is closed.

In addition, the following text (shown in *italics*) has been added to Section 5.8 of the MBSST Network Master Plan:

> As the popularity of dog walking continues to grow, so does the need to prevent dog waste from impacting the trail. Implementing entities should encourage pet waste removal through provisions of dog waste bag dispensers at trailheads. More remote sites or neighborhood access areas may include a simple regulation sign requiring pet owners to collect their pet waste both as a courtesy to other users and a management tool for habitat preservation. *Dogs may be restricted adjacent to agricultural lands where sensitivity relating to contamination exists*.

In response to this change, the following text has been added to page 2-52:

> Dogs On Trails. The approximately 50-mile MBSST Network passes through several different city, county, and state properties, all with varying rules and regulations addressing dogs in the park lands and on trails. The proposed Master Plan encourages implementing entities to provide dog waste bag dispensers at trailheads. More remote sites or neighborhood access areas may include a simple regulation sign requiring pet owners to collect their pet waste both as a courtesy to other users and a management tool for habitat preservation. Dogs may be restricted adjacent to agricultural lands where sensitivity relating to contamination exists.

In addition, the following text has been added to the *Mitigating Design Features* discussion under Impact AG-3 in Section 4.2, *Agricultural Resources*

> Implementing entities would require pet waste removal and provide dog waste bag dispensers at trailheads. Rural areas may include a simple regulation sign requiring pet owners to collect their pet waste, and dogs may also be restricted in trail sections that are adjacent to agricultural lands where sensitivity relating to contamination exists.

Response 12.12

The commenter expresses concern that trail users would deposit trash along the trail.

The potential for litter along the trail to result in impacts on adjacent agricultural activities is described under Impact AG-3. This discussion acknowledges that direct impacts may include littering on farmland, particularly where there are insufficient numbers of trash receptacles along the trail, and that unintentional littering could also occur if litter deposited by trail users in trash receptacles is carried by winds onto nearby farmland.

As described in Section 2.0, *Project Description,* and under Impact AG-3 in Section 4.2, *Agricultural Resources*, trash receptacles would be placed in areas where there are benches and at all major trailhead locations. The trash receptacle unit would include one trash container and one recycle container. In addition, the proposed MBSST establishes a Trail Manager who would be responsible for the day-to-day maintenance of the trail facility components, including trash clean up and disposal. The Trail Manager would ensure that each element described in the operations

and maintenance plan is completed. The establishment of a formal trail operations and maintenance plan would help ensure adequate maintenance of the trail corridor and facilities, thereby reducing litter-related conflicts. Finally, as discussed in Section 2.0, *Project Description,* the main role of the RTC is to provide ongoing coordination services and funding for implementation of the MBSST Network. The RTC would take the lead in preparing a memorandum of understanding (MOU) with implementing entities to clarify roles, responsibilities for design, development, construction, monitoring, and maintenance. The RTC may itself act as a project manager. These activities include funding for maintenance and trash disposal.

Response 12.13

The commenter states the opinion that the mitigation measures proposed to address agricultural production would be insufficient to mitigate this impact. In particular they do not address the issue relating to chemical application on adjacent agricultural properties.

Please refer to Responses 12.5 and 12.7.

Response 12.14

The commenter states the opinion that mitigation measure AG-3(c), which is comprised of two parts, would not reduce impacts to agricultural productivity to less than significant, citing several reasons for this opinion.

Please refer to Responses 12.5 and 12.7.

Response 12.15

The commenter suggests reasons why mitigation measure AG-3(c) would not reduce impacts to agricultural productivity and could result in additional indirect impacts.

As described in Section 2.3.6 (Operation and Maintenance) in Section 2.0, *Project Description*, adjacency issues faced by the agricultural community are addressed through preventative design measures as well as operational measures. These include the ability to close segments of the trail without notice to accommodate chemical applications. As described in Section 2.0, *Project Description*, the implementing entity would work with the Agricultural Commissioner's office to minimize impacts to agricultural operators due to development of the adjacent trail.

For clarity, mitigation measure AG-3(c) does not require advanced notification to the Agricultural Commissioner's office of non-restricted chemical spraying. Only notification about restricted use chemicals is mandatory, per existing requirements. The proposed project does not place additional restrictions on agricultural operators, nor does it require the Agricultural Commissioner's office to respond to notices of non-restricted products. Rather, it provides an additional (optional) opportunity for farmers to request gate closure during spraying of non-restricted pesticides.

The Santa Cruz County Agricultural Commissioner's office is responsible for issuing pesticide spraying permits and regulating the use of restricted pesticides and other agricultural chemicals. As the regulating and enforcement entity for the County, the Agricultural Commissioner's office will place no additional restrictions upon the agricultural operators because of the development of the adjacent MBSST as long as pesticides and other agricultural chemicals are applied in compliance with the label, worker safety requirements, weather conditions, drift restrictions, and all other safety requirements as required by federal, state and local laws.

It should also be noted that a Memorandum of Understanding (MOU) will be prepared to address specific details regarding the trail implementation, management and maintenance responsibilities, including how the trail management entity will interact with the Agricultural Commissioner's office and farmers along the proposed trail.

Response 12.16

The commenter speculates that segmental trail closure would not adequately mitigate potential impacts because users would continue to use the trail even when it has been posted as closed.

As described in Section 7.6.4 of the Master Plan, the MBSST Network, or sections of the trail, may be closed from time to time. The policy for the procedures that would be followed prior to the trail closing, including a variety of means to inform the public, are listed below:

- *The Trail Manager would make every effort to provide at least 48 hours advance notice to the affected agencies to post signs at all trail entrances on the impacted segments to be closed indicating the duration of the closure.*
- *The local agency would physically close off the trail that is being closed with barriers, and post "Trail Closed" signs.*
- *The local agency would provide "Detour" signs where trail users can reasonably be re-routed to other routes. If no reasonable alternate routes are available, the trail should have an "End Trail" sign and provide access to the street and sidewalk system.*

In addition, notices would be posted at entrances to the trail of on-going agricultural activities, stating that the trail user agrees to use of the trail at his/her own risk. Trail users would additionally be advised that agricultural operations will be occurring and may include pesticide spraying, agricultural dust and debris, and burning activities in accordance with State and local laws and ordinances. Finally, notices would state that the trail may be subject to closure without notice to accommodate such activities. In addition, mitigation measure AG-3(c) requires that these notices include a statement of the legal ramifications for trespassing or being on the trail after it is closed. Given the various design features and mitigation measures listed above, it is reasonable to assume that the majority of users would be deterred from entering a closed segment of the MBSST. However, it is acknowledged that it is possible a small percentage of trail users may chose to ignore the closure notices and access the trail despite the physical barriers in place. The commenter's opinion that this constitutes a significant impact is noted. It is important to note that while trail users may not chose to abide by the "closed" signs, they would do so at their own risk.

Response 12.17

The commenter correctly notes that Impact HAZ-3 in Section 4.8, *Hazards and Hazardous Materials,* states that adjacent agricultural activities may include the use of pesticides considered to be a human health threat. The commenter also states that the LMC Properties and Struve Ranch farms currently use legal pesticides considered to be a human health threat. The commenter goes on to question the feasibility of implementing mitigation measure HAZ-3(a).

This comment is similar to that made under Response 12.15. Please see that response for more information.

Response 12.18

The commenter states the opinion that the MBSST as proposed would place an undue burden on the farmers adjacent to the railroad.

This comment is noted and will be considered by the decision makers prior to making a decision on whether or not to approve the proposed project. In addition, please note that the Santa Cruz County Regional Transportation Commission owns the Santa Cruz Branch Rail Line right-of-way rather than the County of Santa Cruz as inferred by this comment.

Response 12.19

The commenter urges the RTC to carefully review the EIR and materially respond to the concerns raised in this letter as well as the commenter's letter dated December 21, 2012. The commenter also states his preference for adoption of the On-road Alignment or Reduced Project Alternatives along Segment 17 of the MBSST.

Please see responses 12.1 through 12.18, which provide responses to the comments outlined in this letter. Please see responses to the Letter 13 for responses to the commenter's letter dated December 21, 2012. The commenter's preference for adoption of either the On-Road Alignment or Reduced Project Alternatives along Segment 17 has been received by the RTC and will be considered by the decision makers prior to making a determination on whether or not to approve the proposed project.

TIMOTHY J. MORGAN
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December 21, 2012

Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060
Via email: info@sccrtc.org

Re: Comment on Draft Master Plan – Monterey Bay Sanctuary Scenic Trail

Dear Sirs:

I am writing on behalf of certain agricultural property owners whose properties are adjacent to the rail line running through Segments 17 & 18 of the proposed Monterey Bay Sanctuary Scenic Trail Network. My clients own or lease, and actively farm, several parcels lying on either side of the rail line. I suspect that other owners and operators, on both sides of the tracks, have similar concerns.

I can state that the following owners and/or operators have seen this letter and agree with its content:

- Struve Ranch, LLC
- LMC Properties, LLC
- Dobler and Sons, LLC
- Watsonville Exchange, Inc.

As a preface, I request that my office be placed on any mailing list, distribution list, or similar list so that we will receive any publicly-distributed information, most especially the draft EIR when it is released, and other updates on the Monterey Bay Sanctuary Scenic Trail Network. Please enter the following contact information into your distribution system:

Timothy J. Morgan
Law Offices of Timothy J. Morgan
121 Jewell Street
Santa Cruz, California 95060
(831) 429-9841 Tel
(831) 429-2824 Fax
tmorgan@morganlaw.us

My clients make the following observations and suggestions regarding the proposed Draft Master Plan:

Little or no effort at outreach

It is the impression of my clients that little if any effort was made to reach out to the agricultural community when this plan was being developed. I am aware that a representative of the Farm Bureau met with agents of the RTC, but there seems to have been little effort to reach individual property owners. To the extent that there may well be a disproportionate impact on farming operations as a result of the creation of this path through the fields, it would seem that additional efforts to involve the owners and operators would be appropriate.

Having said that, it is my belief that there are many significant physical and functional problems with the path as currently designed and proposed. These include: 1) insufficient physical space for the pathway as designed; 2) food safety concerns; 3) chemical application concerns; 4) County Liability issues; and 5) EIR issues.

Right of way and encroachment

As best as we can tell, the railroad right of way – i.e. the land available for the path - is approximately 50' wide. This gives the project a maximum space of 25' from either side of the centerline of the tracks. Looking at the illustration labeled "4-49 Segment 18 Section" on page 4-102 of the Draft Master Plan, at least 20' is assumed to be used by the pathway, including a 2' section of buffer between the fence and the paved path, the 12' path, another 6' section, and then a buffer that "varies" in width before the opposite side fence. The drawing for the Section 18 segment would seem applicable to substantial portions of Segment 17 as well.

California Code of Regulations, Title 8, §3737. "Side Clearance for Standard Gage Industrial Railroad Tracks" provides a minimum clearance of 8' 6" from the centerline of a rail track to any potential obstruction, such as a light standard, building, etc. It recommends a 10' side clearance for signs, posts, and the like.

Given that requirement, and given your section drawing, the minimum width from the centerline of the tracks would be no less than 28'6", and preferably 30', and this does not count the unquantified "buffer/varies" included in the section drawing. Estimating a width of that buffer zone by scaling the drawing indicates an additional width of 8' or so, raising your required area to between 36'6" and 38'. You seem to have 25' in many, if not most parts, of the track as it passes through Segment 18. This leaves you more than 10' short of your required area.

I appreciate that the drawings included in this Draft Master Plan are high-level conceptual drawings, not detailed technical and engineering drawings. However, it is clearly the case that with the

existing Right of Way for the train tracks, if the use of the tracks themselves is to be continued (this is a clear expectation under your plans) *there is insufficient available space on the ground for the path to exist as contemplated.*

That leaves a few alternatives. First you could modify the pathway and make it substantially narrower, but I suspect this will run afoul of various standards relating to the size of recreational pathways. Second, you could attempt to acquire additional land by way of eminent domain, but this would inevitably drive up the cost of the project and would, I suspect, meet with resistance from the landowners in the area. Third, you could seek an alternate route for the path, which would be my clients' preferred solution.

In any case, there is clearly reason for your agency to perform much more careful analysis of the right of way and the technical and legal details of whether the proposed route is feasible.

I note that while the legal right of way for the train tracks is only 50' in width, there is *apparently* more open space available along the tracks. However, this is privately held land which has to be kept clear for various reasons associated with appropriate and sanitary farming practices.

Interference with agricultural best practices – food safety hygienic buffer zone

One of the most critical elements of modern good farming practices is the presence of a 'buffer zone' between the row crops and any environment where vermin might live. This is, of course, why you see barren swathes of open ground surrounding agricultural fields, denying habitat to pest animals whose waste can carry disease, which can spread to the crops. We need only look to the problems seen in the Salinas Valley a few years ago with their spinach crops to understand the literally deadly serious nature of this problem. Farmers take their food safety and pest control efforts very seriously.

As it stands today, there are no people or pets routinely (or legally) walking along the route of the train right-of-way. The buffer zones for the adjacent fields are calculated appropriately.

Under your plan, and again referring to the section drawing at page 4-102 of the Draft Master Plan, there could be dogs routinely walking as much as 38' from the centerline of the track (that is the apparent location of the fencing). This introduces a new source of potential contamination: dogs, which are specifically assumed to be using the trails under the Draft Master Plan. Even with the presence of 'pooper-scooper' bags at the trail heads, there is simply no way to control this source of contamination, not to mention the urine that dogs will certainly be depositing – most likely along the fences at the very edge of the path area – i.e. nearest to the crops.

I should also make sure to raise the issue of bathrooms for people along the route as well. As unpleasant as it is to contemplate, we must consider the probability of some users of the pathway

needing to relieve themselves along the route. Adequate opportunity to use proper restrooms must be part of the design and implementation of this path.

Ironically, the more successful the path is in attracting users, the bigger the problem becomes. As more dogs use the trails, the possibility for contagion increases. As I assume it your hope that these trails will be very popular with local users, then I must also assume that there will be substantial possibility for spreading disease-bearing bacteria to the fields along the path.

The only solution for the potential 'encroachment' into the existing hygienic buffer zone is for the farmers to move their crops further from the edge of the pathway, increasing their buffer zones, and decreasing the area of land under cultivation. You are, in effect, asking the farmers along this pathway to take a significant part of their land out of production in order to accommodate the new bike pathway. That is neither fair, nor, in all probability, legal.

At this point in the process, without a detailed survey of the location of the path, it may be premature to make a claim for inverse condemnation for this construction, but the basic elements of such an action would appear to be present as the plan is currently presented in the Draft Master Plan. I urge you to proceed with all due caution and avoid interfering with the rights of the farmers along the route of the path.

<u>Interference with agricultural best practices – pesticides and fumigation application</u>

As you are certainly aware, the fields on the central coast near the ocean are some of the most productive in the world, producing high-value crops through intensive farming practices. In particular, the production of strawberries is concentrated in this area. These berries require specific and uncommon farming techniques, including the use of soil fumigants and other chemical treatments to produce the high-quality and high-value crops expected of these properties.

As we understand it, it is the practice of farmers to do as much application of fumigants and other chemicals as possible on Sunday, when field workers are generally not present in the fields. The logic of that is clear.

However, with the construction of this bike path, you will be *inviting* many pedestrians and bicyclist passersby to be immediately next to the fields, with the bulk of the use, presumably, on the weekends, including Sundays. This will create a substantial interference with the operation of the fields and farms. The farmers will lose their one day of the week when they could have assumed that very few people would be present during their chemical applications.

One local farmer has provided the following hypothetical, but entirely plausible situation: A berry or vegetable is fumigated or sprayed overnight between a Saturday and Sunday. There is a residual smell that cannot be avoided. Trail users may well assume that they have been subject to

improper exposure to the fumigant. Add to that the possibility that they see spraying going on in some other field in the distance, and they will certainly assume that they are being sprayed.

It is apparently common now for people to call the County Agriculture Commissioner's hotline to report potential overspraying. Imagine what will happen when people, few of whom are very familiar with ordinary agriculture practice, are, in effect, walking through the middle of active fields. There will be significant opportunity for misunderstanding and complaints founded on such misunderstandings.

This scenario opens up the potential for possibly unfounded complaints (with their attendant official investigations) and lawsuits from the public against the owners and operators of these fields. The farmers could have additional costs, including increased cost for liability insurance based on the additional people walking by their fields, increased compliance costs, etc.

Additionally, there is the issue of spray application of agricultural chemicals. Previously, the farmers could have understandings with the railroad about spray applications and could cover most or all of their fields without concern of overspraying onto 'populated' areas. With the presence of the public pathway, we assume that certain important agricultural chemicals will no longer be able to be used over the entire fields – this assumption is based on the idea that the County will not permit the trail to be used as part of the buffer zone required for the use of certain chemicals. This lowers productivity of the fields, and may well take some portions of the fields out of production.

Attractive Nuisance?

As we consider the problem of chemical overspray – or at least the *perception* of chemical overspray, it occurs to me that the County may be inviting liability for itself insofar as it may be creating an attractive nuisance. The County is certainly aware of the use of the agricultural fields surrounding this proposed path, and is also aware of the common practices with regard to the application of fertilizers, fumigants, pesticides, etc. The County can be said to be knowingly exposing users of the path to these chemicals. While my clients, and all local farmers, use the best practices with regard to chemicals, there will *without doubt* be users of the trail who will consider themselves to have been improperly exposed, even if they were not. This simply invites nuisance lawsuits against the County and the growers – a potentially significant, but unaccounted-for cost associated with this project.

EIR currency

Finally, it is worth noting that the draft Environmental Impact Report on this project is due sometime in the upcoming spring. Segment 18 is listed among the segments to be built in Phase II, 5 to 10 years from now. Segment 17 is 10 to 15 years. I would hope that your agency plans on either redoing or at least refreshing any EIR covering that area before construction on Segments 17 and 18 is

undertaken in earnest. Many environmental factors may have changed in the meantime; the scope, scale, or details of the project are *likely* to have changed (significantly, perhaps); and the underlying environmental rules, regulations, and assumptions are in constant flux. Thus, I simply want to put this agency on notice that the upcoming draft EIR should be specifically subject to update or complete revision when the time comes to actually construct Segments 17 and 18.

Maintenance

The final concern my clients wish to raise goes to the issue of maintenance of the pathway in the event it is ever built. Leaving aside the question of the failure of this plan to properly identify sources of funds to build the path in the first place, we are dubious that ongoing funds will be available for maintenance and cleanup. Santa Cruz County, like every other government agency, is strapped for funds, and adding the burden of an expensive maintenance program may be too much to bear. This pathway is ultimately to be over thirty miles long, and is estimated to cost approximately $300,000 per year to maintain – where are those funds?

My clients report having to remove substantial amounts of trash and debris – from simple litter, to tires, to the carcasses of deceased pets – now. The believe that placing this pathway will only exacerbate the problem. This path as designed sits well away from view of surface streets, and we believe it would present itself as a fine place for late night dumping runs. Unless the County can fully fund, in advance, a regular and *substantial* maintenance effort, designed to deal with the scale and scope of debris expected, then all you are doing is adding yet another cost and burden on the farmers adjacent to the pathway. If for no other reason, my clients would oppose the current design on these grounds.

Ultimately, it is our position that this pathway is putting an undue burden on the growers whose fields line the pathway, and will expose them to substantial additional costs and trouble that should not be theirs to bear. The growers are not choosing to alter their own circumstances, but rather the County is seeking to change their circumstances for them, adding *significant* costs to their operations, all without compensation. This is neither fair nor proper, especially for a County that prides itself on supporting the exceptionally productive agriculture found in the South County.

We urge the County to carefully review the Master Plan in view of the concerns we raise herein and to consider an alternate path (perhaps through the lands now owned by the Santa Cruz Land Trust) so as to avoid interference with the existing, and important, agricultural production in the area of Segments 17 and 18.

I would be happy to discuss this matter further with members of your Commission, and would welcome the opportunity to have a conversation about these matters at future public hearings. Again, I ask that you keep my office informed of the dates and locations for such hearings.

Thank you for your consideration.

Very truly yours,

Timothy J. Morgan

cc: Clients

Letter 13

COMMENTER: Timothy J. Morgan, Attorney, Law Offices of Timothy J. Morgan

DATE: December 21, 2012

Response 13

The comment letter provides comments on the MBSST Network Master Plan itself, rather than the analysis included in the EIR.

As no specific comments pertaining to the Draft EIR are contained within the letter, no further response is required. Nevertheless, the comments on the design and operation of the MBSST Network have been received by the RTC and the specific concerns noted.

Linda Wilshusen
Planning and Project Management
1115 Live Oak Avenue, Santa Cruz, CA 95062
l-j-w@pacbell.net

July 22, 2013

Cory Caletti, Project Manager
Santa Cruz County Regional Transportation Commission
1523 Pacific Ave.
Santa Cruz, CA 95060

RE: Comments on the Draft EIR for the Draft Monterey Bay Sanctuary Scenic Trail Network Master Plan

Dear Cory:

Thank you very much for the opportunity to review and comment on the Draft EIR for the Draft Sanctuary Scenic Trail Master Plan. Together with the Draft Master Plan, the DEIR is a comprehensive and detailed document that should fulfill subsequent environmental review requirements as high priority trail segments move expeditiously toward funding and construction.

14.1

Since anticipated revisions to the Draft Master Plan - in response to community meetings last fall & solicited public comment - have not yet been made public, I hope my comments on the DEIR are not redundant in addressing concerns that may have already been responded to in the revised Master Plan.

Comments on the DEIR:

1. ***Fencing***. One huge benefit of the proposed Sanctuary Scenic Trail Network is that it provides an unprecedented opportunity to increase access & connectivity among the many neighborhoods, schools, town centers, businesses, parks, beaches, & other activities located along or near the scenic 32-mile rail line. While these goals appear to be an explicit purpose of the Trail ('Trail' in this letter denotes the rail trail aspect of the trail network), I believe that the DEIR is not adequate in its response to the significant concern that fencing along the Trail, as currently proposed, may work against these key goals.

14.2

Four types of fencing are briefly described in the draft Master Plan and DEIR (p. ES-41, 2-41-42, 4.11-26-27 in DEIR; p. 5-51 in Draft Master Plan). Two of the proposed fence types are 6 feet tall: the wire security fence & the solid privacy fence. The descriptions of these two fences should indicate who would be responsible for deciding which locations and under what circumstances such significant fencing would be appropriate.

14.3

Regarding the wire security fence in particular, locations and conditions where this 6' fencing might be appropriate, as either a 'rail track & trail separator' or for protection of adjacent property, should be specified and justified, and the description of this fencing type should specifically exclude 'chain link' materials (similar to the split rail fencing description). Since this kind of security fencing is not consistent with the scenic, access & connectivity goals of the proposed Trail, 6' fencing options should be considered only as exceptions to the rule, in specific situations where persistent and serious safety problems are unable to be mitigated in other ways. (It also seems inappropriate to describe this type of fencing as providing 'additional protection from train blown dust and debris', since specific train or transit service along the rail line is not being analyzed in these documents.**)**

14.4

Split rail fencing should be identified as the standard rail track & trail separator along all segments of the Trail where a safety barrier is necessary, as it is the type of fencing most able to meet the project's overall goals & objectives and would provide a consistent design theme along the Trail. However, the description of smooth wire fencing indicates that it is intended to be used as the 'rail track & trail separator' in all cases where the Trail is within 15 feet of the tracks – generally speaking, this would mean in most of the urbanized areas along the rail line. Again, I'd suggest that additional consideration of fencing options is warranted in light of the DEIR-identified significant environmental impact that these barriers may pose to public access and connectivity. Also, discussion of the visual impact of fencing options should be included in the Aesthetics Section of the DEIR. 14.5

2. ***Mitigation Measure T-7 Regarding Trail Access is Inadequate***. The DEIR states that trail development "would include fencing [and]…may inhibit pedestrian access and reduce local connectivity". This transportation impact (T-7) is identified in the DEIR as ***significant but mitigable*** (p. ES-41, 4.11-26-27). The mitigation measure proposed for this impact suggests that *where applicable*, implementing entities shall *consider* openings to fencing on the trailside of the railroad tracks, and, if such openings are on the opposite side of the tracks, *crossing equipment acceptable to the CPUC [or similar to other planned trail crossings] shall be included*. The location & specific nature of these possible new crossings are not specified. 14.6

It is necessary to elaborate on the proposed mitigation measure for this significant environmental impact by 1) specifying in more detail the type of fencing under consideration (see #2 above); 2) specifying the possible location of additional pedestrian and bicycle crossings along urban segments in particular; and 3) specifying the proposed design of these additional (non-automobile) crossings.

3. ***Access to the Eastside of the Santa Cruz Harbor Needs to be Included in the Plan.*** This comment pertains to Mitigation Measure T-7 as well as to the Draft Master Plan. The eastside of the upper and lower Harbor includes numerous visitor-serving businesses, restaurants, campground facilities, fisheries, ocean advocacy organizations, and direct coastal access to Twin Lakes State Beach. It is essential that the Trail Master Plan include pedestrian and bicycle access to the Trail, and rail line crossings, on both the west and east sides of the Harbor. 14.7

4. ***Correctly Identify Live Oak/County Locations***. Throughout the DEIR, streets and rail crossings in the County's unincorporated Live Oak area (Segments 9 &10) should be noted as 'County' or 'Live Oak', not 'Santa Cruz' &/or 'Capitola'. (See, for example, p. 2-23, 2-24, 4.11-2, 4.11-20). 14.8

5. ***Schwan Lake Park Should Be Specifically Named & Highlighted as a "Connection to Existing Trail"*** (Figure 2-8b). Schwan Lake is a large natural meadow and oak woodland park in the upper part of Twin Lakes State Beach. It has its own established trail system with lovely lagoon and coastal views. There is no access through the park to/from the beach; access to the park itself is via the rail line, Simpkins Family Swim Center, El Dorado Avenue, and Live Oak Avenue. 14.9

Thank you in advance for your response to these comments, and thank you very much for the RTC's dedicated efforts in advancing this wonderful project.

Sincerely,

Linda Wilshusen

Linda Wilshusen

cc: Supervisor John Leopold, Friends of the Rail & Trail, Friends of Santa Cruz State Parks, Land Trust of Santa Cruz County, O'Neill Sea Odyssey, Santa Cruz Harbor, Save Our Shores

Letter 14

COMMENTER: Linda Wilshusen, Planning and Project Management

DATE: July 22, 2013

Response 14.1

The commenter appreciates the opportunity to review and comment on the EIR and states the opinion that the EIR is a comprehensive and detailed document that should fulfill subsequent environmental review requirements.

This comment is noted.

Response 14.2

The commenter states the opinion that proposed fencing may reduce access and connectivity among the neighborhoods, schools, town centers, businesses, parks, beaches and other activities located near or along the MBSST Network.

As stated in Section 2.5.3 (Trail Amenities and Trail Features) in Section 2.0, *Project Description*, fencing would be used conservatively in order to maintain the open feel and coastal environment, and to meet the key goals of the MBSST Network. The purpose of the fencing is to provide safety for trail users and adjacent land uses, such as agriculture or rail operation, provide security, privacy, and trespass prevention of specific properties, and to reduce biological environmental impacts. As discussed in Section 4.11, *Transportation/Traffic*, the proposed MBSST Network project would include various types of trail fencing to be used in various environments along the trail network. Although the inclusion of trail fencing would be at the discretion of the RTC and/or implementing entity on a segment-by-segment basis, depending on the specific setting and other factors along the individual segments, trail fencing may potentially be included along the length of the MBSST Network due to trail and train operation protection needs. In urban areas, where most pedestrian and bicyclist activity would be anticipated, trail fencing would likely include 54-inch high smooth wire fencing or 72-inch high privacy fencing. In addition, where a high number of illegal rail crossings are expected, 72-inch high woven-wire security fencing may be included.

Impact T-7 in Section 4.11, *Transportation/Traffic,* examines the potential impact to accessibility related to inclusion of fencing along the MBSST Network alignment stating that installation of fencing in areas where pedestrians currently access the rail corridor may hinder this access and prohibit crossings at non-roadway crossings. Although such crossings are currently illegal, eliminating this accessibility may be perceived as a loss of local connectivity, and may impact the ability of locals to make short non-vehicular trips. This is considered a potentially significant impact to multi-modal connectivity. Required mitigation measure T-7 would reduce accessibility impacts to a less than significant level for the purposes of CEQA.

Response 14.3

The commenter notes that the EIR should indicate who would be responsible for deciding at which locations and under what circumstances the wire security fence and solid privacy fence would be appropriate.

Responsibility for selecting this type of fence would rest with the RTC and/or implementing entity, in consultation with adjacent landowners and others as appropriate, as the design for the individual segments are finalized. Section 2.5.3 (Trail Amenities and Features) in Section 2.0, *Project Description,* provides information regarding when wire security fencing and smooth wire fencing would most likely be utilized. As described therein, wire security fencing would be provided in urban and industrial areas, as a rail track and trail separator (where a high number of illegal crossings are expected), and for safety and security. Smooth wire fencing is recommended in both rural and urban areas, at agricultural land boundaries, as a rail track and trail separator (where the trail is within 15 feet of rail tracks), within scenic and open space areas, and at environmentally sensitive sites. This type of fence would be used when required by either the RTC or the adjacent landowner.

Response 14.4

The commenter requests that locations and conditions for the use of the wire security fence should be specified, and that the description should exclude chain link materials. The commenter also expresses the opinion that use of this fencing should be considered only in areas with persistent and serious safety problems. The commenter also notes that describing this type of fencing as providing protection from train blown dust and debris is inappropriate since specific train or transit service along the rail line is not being analyzed in the EIR.

The commenter's preference that the wire security fencing be used only in areas with persistent and serious safety problems and that it should exclude chain link materials is noted. The specific locations where this type of fencing would be used would be determined as the design of the individual segments progresses, though locations would generally include urban and industrial areas, as a rail track and trail separator (where a high number of illegal crossings are expected), and in other areas where greater safety and security is required. Please note that the proposed MBSST Network project analyzed in this EIR consists of conceptual design elements. The proposed MBSST Network project would be constructed in segments, with the RTC and/or implementing entity responsible for review and approval of segment-specific designs. Finally, the reference to provision of protection from train blown dust and debris originates from the Master Plan document itself, rather than being essential to the analysis included in the EIR. It is worth noting that though the proposed project does not include specific train or transit service along the rail line, there is existing rail activity along several portions of the rail line, including seasonal passenger service between the City of Santa Cruz to the northern reach south of Davenport and the City of Watsonville to east of Manresa State Beach; as well as freight trips within the Watsonville/Pajaro area.

Response 14.5

The commenter states the opinion that split rail fencing should be identified as the standard rail and track separator along all segments of the MBSST where a safety barrier is necessary. The commenter suggests that additional fencing options be considered to the smooth wire fence considering the potential for that type of fencing to result in barriers to public access. The commenter also requests a discussion of the visual impact of fencing options be included in the EIR.

The commenter's preference for split rail fencing is noted and has been received by the RTC. The visual impact of the MBSST Network as currently proposed, including fencing, is described in Section 4.1, *Aesthetics,* under impacts AES-2 (impacts on scenic vistas) and AES-3 (impacts on existing character and quality of the MBSST corridor). In both cases the inclusion of fencing along the corridor was considered prior to making a determination of impact significance.

Please see Response 14.2 for a discussion of impacts of fencing on public access.

Response 14.6

The commenter requests further elaboration on the proposed mitigation measures for Impact T-7, in particular the type of fencing under consideration, the possible location of additional pedestrian and bicycle crossings along urban segments, and the proposed design of these types of crossings.

As noted in Response 14.2, Impact T-7 in Section 4.11, *Transportation/Traffic,* examines the potential impact to accessibility related to inclusion of fencing along the MBSST Network alignment, stating that installation of fencing in areas where pedestrians currently access the rail corridor may hinder this access and prohibit crossings at non-roadway crossings. Although such crossings are currently illegal, eliminating this accessibility may be perceived as a loss of local connectivity, and may impact the ability of locals to make short non-vehicular trips. This is considered a potentially significant impact to multi-modal connectivity. Required mitigation measure T-7 would reduce accessibility impacts to a less than significant level for the purposes of CEQA.

Section 2.5.3 (Trail Amenities and Features) in Section 2.0, *Project Description,* includes a description of the types of fencing being considered and generally where fencing would be located along the proposed MBSST (see also Response 14.2). As stated previously, the proposed MBSST Network project analyzed in this EIR consists of conceptual design elements. The proposed MBSST Network project would be constructed in segments, with local jurisdictions responsible for review and approval of segment-specific designs, including selection of locations and design of additional pedestrian and bicycle crossings in consultation with the relevant oversight authorities.

Response 14.7

The commenter states the opinion that the Master Plan should include pedestrian and bicycle access to the MBSST Network and rail line crossings on both the west and east sides of Santa Cruz Harbor and Twin Lakes State Beach.

This comment pertains to the design of the MBSST Network project and does not challenge or question the analysis or conclusions in the Draft EIR. This suggestion is noted and has been received by the RTC. Specific locations for access points along the MBSST would be considered during future segment design and development.

Response 14.8

The comment notes that streets and rail crossings in the County's unincorporated Live Oak area (segments 9 and 10) should be noted as 'County' or 'Live Oak,' not 'Santa Cruz' and/or 'Capitola'.

Segments 9 and 10 connect the city of Santa Cruz, Live Oak and Capitola. In response to this comment, the following revisions have been made for clarity:

> *Segment 9: Twin Lakes*. The Twin Lakes segment extends for 1.73 miles from the eastside of ~~through~~ the City of Santa Cruz to the middle of Live Oak in the unincorporated County, from the San Lorenzo Bridge crossing, over the Harbor, to the 17th Avenue at-grade railroad crossing (refer to Figures 2-8a and 2-8b). The multi-use paved path would cross from the coastal side of the tracks to the inland side at 17th Avenue. The existing San Lorenzo River Rail Bridge (part of Segment 8) offers pedestrian access on the bridge superstructure. However, the attached pedestrian walkway on the inland side of the bridge is narrow and difficult to accommodate passing pedestrian and cyclists walking their bikes across the bridge. Existing facilities along this segment include both off-street and on-street trails and sidewalks as well as sandy beach routes within the City of Santa Cruz. Segment 9 proposed facilities include:
>
> - *1.53 miles (8,100 LF) multi -use paved path*
> - *0.20 miles (1,040 LF) on-street facilities (Class II, III, and sidewalks)*
> - *One (1) pre-engineered bike/pedestrian bridge crossing, 200-foot span (Woods Lagoon/Harbor)*
> - *Five (5) rail or road crossings*
>
> *Segment 10: Live Oak – Jade Street Park*. The Live Oak – Jade Street Park segment extends for 1.50 miles from the 17th Avenue at-grade railroad crossing in ~~Santa Cruz~~ Live Oak to Jade Street Park at 47th Avenue in Capitola (refer to Figure 2-8b). This segment would include a new multi-use trail on the inland side of the tracks. However, the railroad right-of-way is narrow (approximately 30 feet wide) through this segment, posing a constraint to multi-use trail development. Existing surface street bike lanes and pedestrian sidewalks through this segment would serve as alternate access until design solutions are identified. Segment 10 proposed facilities include:

- *1.50 miles (7,940 LF) multi -use paved path*
- *Relocation of 1.50 miles (7,940 LF) of rail track and signal arm assemblies*
- *One (1) pre-engineered bike/pedestrian bridge crossing, 200-foot span (Rodeo Gulch Creek)*
- *Five (5) rail or road crossings*

Response 14.9

The commenter states the opinion that Schwan Lake Park should be specifically named and highlighted as a "Connection to Existing Trail" (Figure 2-8b).

Figure 2-8b is a reproduction of Figure 4-25 in the proposed Master Plan. This comment therefore pertains to the Master Plan and does not challenge or question the analysis or conclusions in the Draft EIR. In response to this comment, Figure 4-25 in the Master Plan as well as Figure 2-8b in the EIR have been updated to show an existing trail connection from Schwan Lake Park.

Oral Comments 15

COMMENTER: Public Comments Received at Draft EIR Comment Meeting in Santa Cruz

DATE: June 25, 2013

A public meeting was held at the Louden Nelson Community Center in Santa Cruz on June 25, 2013 to provide a summary of the document and receive community input. Two members of the public attended and provided oral comments. Their comments and responses thereto are provided below.

RESPONSE:

Response 15.1

A commenter expressed concern over conflicts between different types of trail users. Conflicts between different types of trail users are discussed in Section 4.12, *Public Safety and Services.* As noted therein, design measures incorporated into the proposed Master Plan would ensure that impacts remain less than significant, and mitigation is not required.

Response 15.2

A commenter noted that agricultural vehicles use portions of the rail right-of-way for equipment turnaround. Impacts related to agriculture are discussed in Section 4.2, *Agricultural Resources.* Mitigation measure AG-1(a) requires that fencing be placed in a manner which minimizes impacts related to accessibility to farmland and use of farming equipment (e.g., allowing turning radius area for farm equipment).

Response 15.3

A commenter suggested that construction and maintenance of the proposed MBSST Network should utilize the local youth conservation corps. This comment refers to implementation of the proposed Master Plan, and not the environmental impacts discussed in the DEIR. The comment is noted.

Oral Comments 16

COMMENTER: Public Comments Received at Draft EIR Comment Meeting in Watsonville

DATE: June 27, 2013

A public meeting was held at the City of Watsonville Civic Plaza Community Room on June 27, 2013 to provide a summary of the document and receive community input. Four members of the public attended and two provided oral comments. Their comments and responses thereto are provided below.

RESPONSE:

Response 16.1

A commenter expressed concerns over adequate maintenance of the trail once some, but not all, of the segments have been constructed. Proposed maintenance activities are described in Section 2.0, *Project Description,* and would be implemented by the Trail Manager and/or Trail Ranger. The Trail Manager and Trail Ranger would be identified and be made available to the general public within their jurisdictions for general inquiries and management. The RTC board would work to identify the agency most appropriate to house a Trail Management Program and how to fund a Trail Manager, Trail Ranger, and/or an Adopt-A-Trail Coordinator position. The Trail Manager and Trail Ranger would ensure that each element described in the operations and maintenance is completed.

Response 16.2

Comments 16.2 through 16.13 were provided by Brian C. Mathias, Associate with the Law Offices of Timothy J. Morgan. The commenter indicated that they would be providing a formal comment letter on the project. This letter is included herein as Letter 12.

Response 16.3

The commenter states the opinion that implementation of Segment 17 in the Watsonville Reach would interfere with farm operations and harm agricultural business. Impacts to agricultural resources are discussed in Section 4.2, *Agricultural Resources.* As noted therein, all impacts were determined to be Class II, *significant but mitigable* or Class III, *less than significant*. In cases where potentially significant impacts were identified, mitigation measures would be required to reduce impacts to less than significant. It should also be noted that, under CEQA, an economic change by itself cannot be considered a significant effect on the environment.

Response 16.4

The commenter notes that a "buffer zone" adjacent to the trail right-of-way would be required for pesticides spraying, such that conversion of Prime farmlands would be greater than what is

disclosed in the EIR. This issue is addressed in Section 4.2, *Agricultural Resources.* As noted under Impact AG-3 therein, it is anticipated that some farmers may voluntarily avoid cultivating or spraying the portions of their property closest to the trail, in effect establishing formal or informal buffer zones on their own. However, because the proposed project is a transient/transportation use, the Santa Cruz County Agricultural Commissioner's office as well as the County Planning Department have indicated that specific agricultural or pesticide buffers from the proposed trail would not be required (Mary Lou Nicoletti, e-mail communication, September 12, 2013; Samantha Haschert, e-mail communication, September 18, 2013). Rather, pesticide spray restrictions listed on the pesticide label would be enforced. Informal or self-imposed buffers were not accounted for in the Prime farmland conversion figures cited in Impact AG-1. Refer also to Response 12.5.

Response 16.5

The commenter expresses the concern that, although legal, the use of pesticides adjacent to a recreation trail would result in frivolous lawsuits. Please refer to Response 12.9.

Response 16.6

The commenter expresses the opinion that trail closure would not be adequate mitigation. As noted under Impact AG-3 in Section 4.2, *Agricultural Resources,* additional mitigation is required to reduce impacts related to agricultural land use conflicts.

Response 16.7

The commenter states a preference for a different alignment through Segment 17. Alternative alignments are considered in Section 6.0, *Alternatives.* The commenter's preference is noted.

Response 16.8

The commenter suggests that "may" should be removed from Impact AG-3.

Please refer to Response 12.5.

Response 16.9

The commenter expresses the opinion that mitigation measure HAZ-3(a) (Trail Closure) does not conform to the intent of the project. The comment is noted.

Response 16.10

The commenter states the opinion that agricultural impacts would be significant and unavoidable because farms along the trail could go out of business as a result. The comment is noted. It should also be noted that, under CEQA, an economic change by itself cannot be considered a significant effect on the environment.

Response 16.11

The commenter expresses concern that trail users will illegally dump garbage along rural segments of the trail, and suggests that adequate money should be allocated toward maintenance. Proposed maintenance activities are described in Section 2.0, *Project Description*. As noted therein, the Trail Manager would be responsible for the day-to-day maintenance of the trail facility components, including trash clean up and disposal.

Please also refer to Response 12.12.

Response 16.12

The commenter expresses concern related to dogs on the trail, and the potential for crop contamination. Refer to Response 12.11.

Response 16.13

The commenter references a previously-submitted letter dated December 21, 2012. Refer to Letter 13 and Response 13.1.

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Appendix A

Initial Study, Notice of Preparation, and Responses

MONTEREY BAY SANCTUARY SCENIC TRAIL NETWORK MASTER PLAN

INITIAL STUDY

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INITIAL STUDY

PROJECT TITLE

Monterey Bay Sanctuary Scenic Trail Network Master Plan

LEAD AGENCY AND CONTACT PERSON

Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, California 95060

Contact Person: Cory Caletti, Sr. Transportation Planner, 831-460-3200, ccaletti@sccrtc.org

PROJECT SITE CHARACTERISTICS

Project Location:

The Monterey Bay Sanctuary Scenic Trail Network (MBSST) corridor stretches the entire length of Santa Cruz County from the Pajaro River in Watsonville to the San Mateo County line north of Davenport. The trail network would extent through unincorporated Santa Cruz County and portions of the Cities of Santa Cruz, Capitola, and Watsonville. The MBSST corridor would primarily align with the Santa Cruz Branch Line right-of-way, a 31.7-mile, continuous travel corridor to be owned by the Santa Cruz County Regional Transportation Commission (RTC). North of the railroad right-of-way, the trail would align along the west side of Highway 1 for 7.5 miles, for a combined trail length of 39.2 miles. Other proposed new trails outside of the primary MBSST corridor would comprise approximately 10 additional miles of paved and un-paved coastal spur trails. The trail network would span a combined total of approximately 50 miles of bicycle and pedestrian facilities. The railroad generally runs along the coast, parallel to the Pacific Ocean, except where it turns inland near Manresa State Beach. From there, the tracks run inland toward Watsonville and ultimately end at the Watsonville Junction.

The corridor is separated into three reaches: the northern reach extends from the San Mateo County line to the western Santa Cruz city limit; the central reach extends from the western Santa Cruz city limit to Seascape Boulevard; and the Watsonville reach extends from Seascape Boulevard to the Monterey County line. These reaches are further divided into smaller "segments." Segments 1 through 6 fall within the northern reach; segments 7 through 14 fall within the central reach; and segments 15 through 20 fall within the Watsonville reach.

Figure 1 illustrates the regional location of the MBSST corridor. Figure 2 illustrates the three reaches within MBSST Master Plan Area.

General Plan Designation:

Multiple Designations

Zoning:

Multiple Districts

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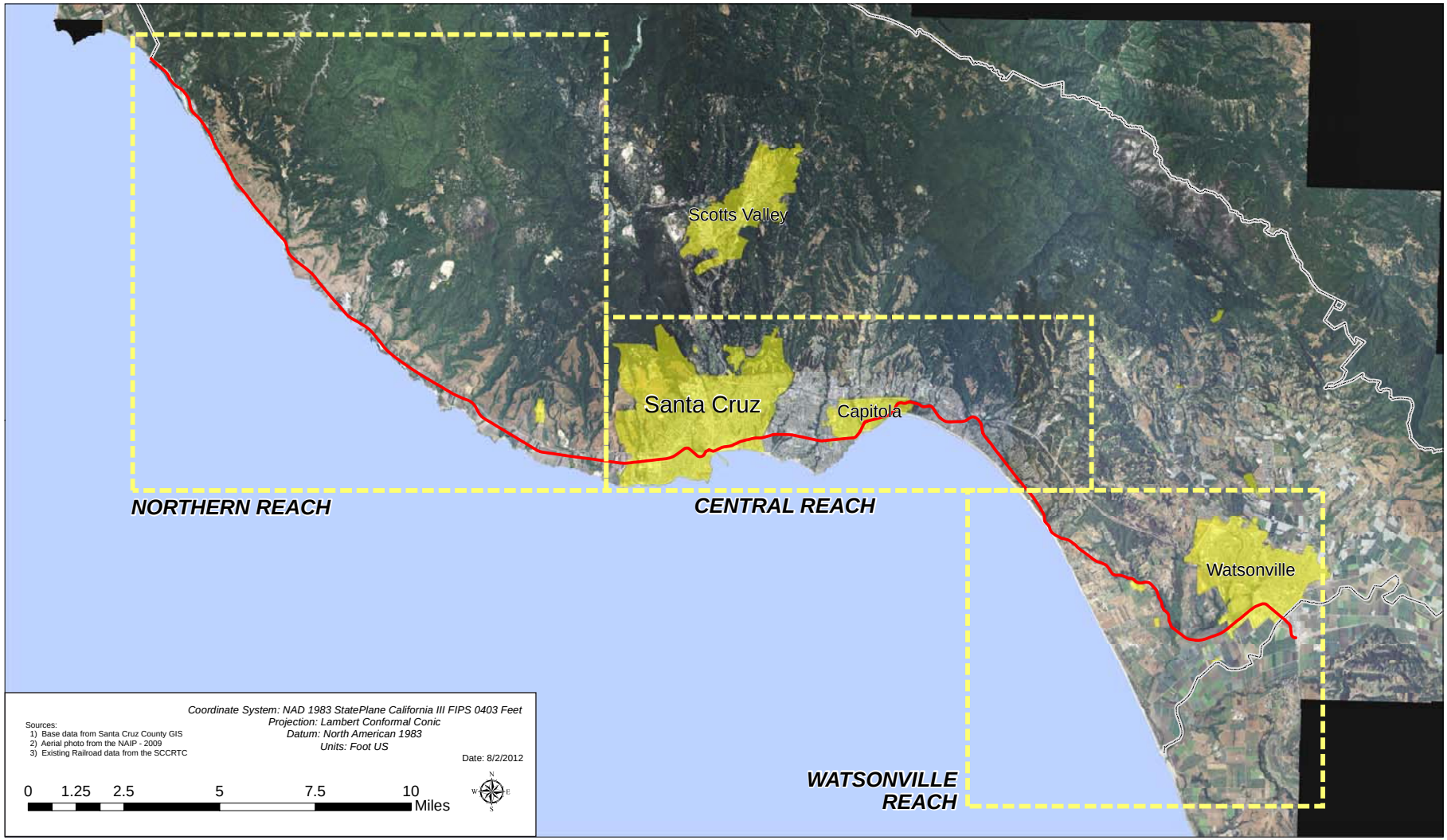
Regional Location

Figure 1



Master Plan Area

Source: RRM Design Group, 2012.

Figure 2

PROJECT DESCRIPTION

The proposed trail alignment typically follows the Santa Cruz Branch Line right-of-way through the length of Santa Cruz County. The northern reach generally corresponds to a scenic coastal environment adjacent to Highway 1. The central reach primarily traverses through the existing urban environment of the Cities of Santa Cruz, Capitola, and the unincorporated Aptos community. The Watsonville reach is defined by rural agricultural and open space lands. Each reach and the segments within it are described in the sections that follow.

Northern Reach. The northern reach of the MBSST begins at the County's northernmost border on Highway 1, just north of the Waddell Bluffs, and extends south to the northern Santa Cruz city limits near Schaffer Road. Currently, the northern reach consists primarily of narrow steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coast Dairies, transitioning to rural agricultural land and natural coastal mesas south to Schaffer Road. There are numerous small coves and beach strands with informal footpaths down to the beach shore. Large sections of the coastal edge are owned by California State Parks with several scenic rest stops along Highway 1 with passive recreation access to beaches, coastal bluffs, and inland parkland trails. Much of the land between Highway 1 and the coastal bluffs is managed under agricultural leases with intermittent public coastal access adjacent to the agricultural land. These intermittent access points vary from paved parking lots with (existing) restrooms, potable water, and scenic overlooks to unpaved informal roadway pullouts, difficult access to steep coastal bluff tops and beaches.

Central Reach. Beginning at the City of Santa Cruz northern city boundary near Shaffer Road and extending southeast to Seascape Park just south of Aptos, this reach of the MBSST corridor traverses through densely populated coastal urban areas. Within the Santa Cruz city limits, the corridor parallels with many existing segments of the previously defined "core route" of the Monterey Bay Sanctuary Scenic Trail alignment. The existing Sanctuary Scenic Trail in the central reach is made up of various pedestrian and bicycle facility types with limited consistency to the overall network. Some sections are strictly in the street as Class III bicycle routes with no sidewalks; other areas are coastal-edge pedestrian boardwalks with beach access and interpretive sites. The rail corridor parallels the entire length of the existing Sanctuary Scenic Trail alignment and could serve as an alternate off -street multi-use route connecting communities north and south to the regional network.

The central reach would include several existing large rail bridge and trestle structure crossings. These structures are old, narrow in width, and span steep drainages, roadways, and in one scenario, spans across a historic residential area in Capitola. The southern portion of the central reach parallels the coast, meandering atop the steep coastal bluffs and multiple residential and resort areas.

Watsonville Reach. The Watsonville reach of the MBSST begins at the railroad mile marker 10 near Seascape Village Park and ends at the Santa Cruz and Monterey County border at the Pajaro River. This reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The landscape is primarily open space with some residential areas near Manresa and tapering off to rural farm and agricultural lands further to the south. The rail alignment eventually drifts away

from San Andreas Road just south of railroad mile maker 7 and follows the inland side of a steep sloping mesa.

This Watsonville reach travels through native woodlands flanked on the west by agricultural land on the top of the mesa and to the east rural land sloping away to the Galighan Slough below. The Watsonville Slough is a formidable wetland crossing with wide open fields intermittently flooded throughout the year. The rail crossing at the Watsonville Slough is a raised earthen dike with a stretch of wood trestle at the center of the slough crossing. The rail line eventually crosses the Watsonville Slough and passes through the center of the agricultural fields just west of the town of Watsonville, eventually connecting to City parkland and the downtown street network at Walker Street. The rail line crosses the Pajaro River to the south and ends at Main Street south of town.

SURROUNDING LAND USES AND SETTING

The trail corridor extends the length of the Santa Cruz County and weaves through the unincorporated areas of the County and three cities, for a combined trail length of 39.2 miles. Including other proposed new spur trails outside of the primary MBSST corridor, the trail network would include a total of approximately 50 miles of bicycle and pedestrian facilities. The trail spans a broad range of land uses along the trail corridor. In the northern and Watsonville reaches, land uses adjacent to the trail corridor largely consist of agricultural operations, but also include some residential, commercial, industrial, and open space/park uses in and near urban areas. Land uses adjacent to the trail corridor in the central reach are characterized primarily by urban uses, including residential, commercial, industrial, and open/space park uses with some agricultural uses. Because the trail is located primarily in railroad and roadway public rights-of-way, portions of the trail corridor are also located adjacent to public lands, such as coastal bluffs and beaches.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The proposed project requires the certification of this EIR and adoption of the Master Plan by the SCCRTC prior to the initiation of the project. In addition, the following discretionary approvals from other agencies would be required prior to project construction:

- *Local jurisdiction adoption (including the County of Santa Cruz and cities of Santa Cruz, Capitola, and Watsonville), including potential plan amendments to local circulation elements and supporting policy documents;*
- *Coastal Development Permit*
- *Approval by Caltrans of roadway crossings; and*
- *Approval by Federal Railroad Administration of railway crossings.*

The project may also require a Section 1600 permit from the California Department of Fish and Game and a Section 404 permit from the Army Corps of Engineers pursuant to the Clean Water Act. In addition, the U.S. Fish and Wildlife Service and the California Regional Water Quality Control Board may require consultation and approval, depending on the resources impacted.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant Impact" "unless mitigated" as indicated by the checklist on the following pages.

☒ Aesthetics	☒ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☒ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use and Planning	☐ Mineral and Other Natural Resources	☒ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☒ Utilities/Service Systems	☒ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

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

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

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

☐ I find that a previous EIR or negative Declaration may be utilized for this project – refer to Section E.

Signature

8/21/2012

Date

Luis Mendez

Printed Name

Deputy Director

Title

ENVIRONMENTAL CHECKLIST

I. AESTHETICS

		Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
	Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☒	☐	☐	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

a, b) The proposed project is a multi-use recreation trail that would generally follow the Santa Cruz Branch Rail line right-of-way through Santa Cruz County. Views would vary along the 39.2-mile length of the trail, including agricultural and coastal vistas in the northern reach, urban and coastal views in the central reach, and agricultural vistas in the Watsonville reach. Structural improvements along the trail corridor may include: various types of trail fencing; trail furnishings such as benches and seating areas, trash receptacles, bike racks, and picnic and shade shelters; staging areas, including parking, picnic tables, public telephones, bike racks, and shade and shelter; night lighting (in some areas); and signage. The proposed trail, landscaping, and structural improvements may be visible from adjacent rural and urban areas of Santa Cruz County, as well as from portions of State Route (Highway) 1, which is a designated scenic highway. Therefore, impacts to scenic vistas, resources, and highways could be significant and will be discussed further in the EIR.

c) The proposed Master Plan includes design standards to ensure that visual character and quality are maintained throughout the length of the proposed trail alignment. For example, all trail furnishings would reflect an ocean theme through the use of wood, stone, self-weathering (rusted) steel and other rustic materials. The proposed Master Plan also includes standards for trail management to ensure that the trail is properly maintained. However, it is possible that use of the trail could result in litter and/or deterioration of the trail. In addition, construction of trail improvements, as discussed in *Item a-b* above, could degrade the existing visual character or quality of the trail corridor. Therefore, visual character impacts could be significant and will be discussed further in the EIR.

d) The project may include lighting fixtures in certain locations, especially where there is considerable evening pedestrian and bicycle commuter traffic. Fixtures would face downward without releasing light upwards into the atmosphere or outward past the intended projected path. However, the additional lights may be visible to nearby residents and may alter existing dark sky conditions. Impacts regarding new sources of light could be significant and will be further discussed in the EIR.

II. AGRICULTURAL AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest Range Assessment Project and the Forest Legacy Assessment project; and the forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board.

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☒	☐	☐	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☒	☐	☐	☐
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☒	☐
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐

II. AGRICULTURAL AND FOREST RESOURCES (*Continued*)

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☒	☐	☐	☐

a, b, e) Several segments of the proposed Master Plan trail alignment would be located adjacent to agricultural uses, primarily in the northern and Watsonville reaches. Implementation of the proposed Master Plan could result in the conversion of these lands to a non-agricultural use and could lead to potential conflicts between recreational trail users and agricultural operations. Impacts to agricultural resources could be significant, and will therefore be analyzed in the EIR.

c, d) A portion of the northern reach would be sited adjacent to timber resources, as designated by the County of Santa Cruz. In addition, a portion of the central reach would be located within the New Brighton State Beach area, which is a designated riparian woodland (County of Santa Cruz, 2005). Pursuant to Public Resources Code Section 12220(g), forest land is defined as land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. This riparian woodland could potentially meet this definition.

However, construction and operation of trail features facilitated by the proposed Master Plan would occur within the railroad and roadway rights-of-way and would not conflict with designated farmland, forestry or timberland resources. It is possible that some trees may need to be removed during trail construction and the removal of these trees is addressed in Section IV, *Biological Resources*. Impacts to forestry and timberland resources would be less than significant.

III. AIR QUALITY

Where available, the significance criteria established by the Monterey Bay Unified Air Pollution Control District may be relied upon to make the following determinations.

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

a-d) The proposed MBSST would be located within the North Central Coast Air Basin (NCCAB) and falls under the jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD). Due to climatic and topographical factors, circulation of air in the Santa Cruz Mountains and coastal areas, airborne pollutants tend to be carried away from the area. As of January 2009, the MBUAPCD is in non-attainment for the state 8-hour ozone standards and particulate matter less than 10 microns in diameter (PM_{10}). The MBUAPCD is in attainment for the state and federal $PM_{2.5}$, Carbon Monoxide, Nitrogen Dioxide, Sulfur Dioxide, and lead standards. Local sources of emissions include industrial operations, automobiles, and agricultural operations.

The proposed multi-purpose recreation trail would facilitate increased use of bicycle and pedestrian modes of transportation. By providing an opportunity for zero- to low-emission transportation, the proposed trail alignment would be expected to have a nominally beneficial effect on overall emissions in the air basin. As such, implementation of the proposed trail alignment would be consistent with the goals of the MBUAPCD to improve air quality.

On the other hand, the majority of the trail would be developed along an active railway, which could expose sensitive receptors to diesel particulate matter, which is a toxic air contaminant (TAC). Furthermore, construction of the proposed trail would generate temporary, short-term impacts to air quality. Sensitive receptors include residences, places of worship, hospitals, and schools. Due to the nonattainment status of ozone and PM_{10} in the MBUAPCD, as well as the alignment of the trail past a large number of sensitive receptors, impacts could be potentially significant. Air quality impacts resulting from the proposed Master Plan will therefore be further analyzed in the EIR.

e) The proposed Master Plan would facilitate the construction of a multi-use recreation trail across the length of Santa Cruz County. Construction activities may generate some odors associated with paving or painting activities. In addition, equestrian uses on some segments of the proposed trail may result in minor objectionable odors that would affect other trail users. However, these impacts would be temporary and would not affect a substantial number of people. Therefore, impacts would be less than significant.

IV. BIOLOGICAL RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐

IV. BIOLOGICAL RESOURCES (*Continued*)

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

a) There are various threatened, endangered, and special status species known to occur within the MBSST corridor. Sensitive species are listed in Table 1 below.

Table 1 Sensitive Species

Species	Status
Burrowing owl	SSC
California red-legged frog	FT, SSC
Western pond turtle	SSC
San Francisco garter snake	FE, SE
Coho salmon - central California coast ESU	FE, SE
Steelhead - central California coast DPS	FT
tidewater goby	FE
black swift	SSC
saltmarsh common yellowthroat	
tricolored blackbird	SSC
western snowy plover	FT
California black rail	CT
monarch butterfly	
Zayante band-winged grasshopper	FE
sandy beach tiger beetle	SSC
California brackish snail	SSC
pallid bat	SSC
hoary bat	SSC
moestan blister beetle	SSC
black legless lizard	SSC
globose dung beetle	SSC
Dudley's lousewort	
Blasdale's bent grass	1B.2
Northern Coastal Salt Marsh	
elongate copper moss	2.2

Table 1 Sensitive Species

Species	Status
Kellogg's horkelia	1B.1
Point Reyes horkelia	1B.2
white-rayed pentachaeta	FE, SE, 1B.1
Coastal Brackish Marsh	
San Francisco collinsia	1B.2
marsh microseris	1B.2
Monterey pine	1B.1
Monterey Pine Forest	
Choris' popcorn-flower	1B.2
pine rose	1B.2
San Francisco campion	1B.2
Santa Cruz microseris	1B.2
Santa Cruz clover	1B.2
Santa Cruz tarplant	FT, SE
maple-leaved checkerbloom	4.2
woodland woollythreads	1B.2
Loma Prieta hoita	1B.1
Monterey spineflower	FT
sand-loving wallflower	1B.2
sand gilia	FE, ST
Coastal and Valley Freshwater Marsh	
Central Dune Scrub	

FE – Federally Endangered
FT – Federally Threatened
SE – State Endangered
ST – State Threatened
SSC – Species of Special Concern
1B – Rare Plant
Source: Rincon Consultants, Inc., ConstraintsAnalysis. 2011.

Trail construction activities, such as grading and paving, could result in habitat disturbances or direct loss of habitat, including wetlands and riparian vegetation. Impacts to sensitive species could be significant and will be analyzed further in the EIR.

b, c, d) The proposed Master Plan trail alignment would cross numerous streams and traverse wetlands and vegetation communities/wildlife habitats. The wildlife habitats also include critical habitat for various sensitive species, including steelhead, red-legged frog, marbeled murrelet, western snowy plover, tidewater goby, Zayante band-winged grasshopper, Santa Cruz tarplant, robust spineflower, Yadon's piperia, and Monterey spineflower. Impacts to habitats, wetlands, natural communities, and wildlife corridors could be significant and will be analyzed further in the EIR.

e, f) Due to the large number of sensitive species and habitats in the project area, impacts regarding consistency with habitat and natural community policies would be potentially significant. Relevant plans that guide biological policy in the trail corridor area include: County of Santa Cruz plans, such as the Interim Habitat Conservation Plan, the Local Coastal Program/ General Plan; City of Santa Cruz plans, such as the Local Coastal Program, the General Plan, and the Draft Habitat Conservation Plan; the City of Capitola General Plan/Local Coastal Plan; and the City of Watsonville General Plan and Local Coastal Program. The proposed Master Plan's consistency with local policies regarding sensitive species and habitats will be analyzed in the EIR.

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

a-e) The proposed project would be located in Santa Cruz County, which is a region rich in historical, cultural, and archaeological resources related to California's patrimony. The Master Plan would facilitate the construction and operation of a multi-use recreation trail that traverses the length of the county. Several historic landmarks have been identified along the proposed trail alignment, including several parks, historic areas, and historic buildings. The plan calls for interpretation of these features through signage and information displays, which would enhance public understanding of these resources. Nevertheless, there is a potential that existing cultural, archaeological, and paleontological resources are present in undeveloped areas of the proposed alignment, and that project construction activities, including ground clearing, grading, and excavation, could have adverse impacts on existing identified and previously unidentified historical and archaeological resources, or other archaeological features. Impacts to cultural resources could be potentially significant, and will be further discussed in the EIR.

VI. GEOLOGY/SOILS

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

a.i) The proposed project is located within Santa Cruz County, which is included in the list of Counties defined as Alquist-Priolo Earthquake Fault zones (California Department of Conservation, 1999). Specifically, a small portion of the northern reach of the proposed trail

alignment would be located within State and County designated fault zones. Therefore, there is a potential for surface rupture in this area of the proposed trail alignment. These impacts are potentially significant, and will be further discussed in the EIR.

a.ii) According to the Santa Cruz County General Plan Public Safety and Noise Element (1994), the San Andreas Fault runs through the County, approximately ten miles northeast of the City of Santa Cruz. In addition, there are County-designated fault zones located as close as one half-mile to the proposed trail in the Watsonville reach, as well as an Alquist-Priolo fault zone located in the northern reach. The proposed Master Plan would facilitate the construction of a multi-use recreation trail, which would be exposed to seismic ground-shaking from earthquakes within these fault zones. Therefore, the impacts could be significant and will be discussed further in the EIR.

a.iii) Liquefaction is a temporary, but substantial, loss of shear strength in water-saturated sediment (such as granular solids, including sand, silt, or gravel), usually occurring during or after a major earthquake. Liquefaction is most likely to occur in unconsolidated, sandy sediments which are water-saturated within less than 30 feet of the ground surface. As indicated in the County of Santa Cruz Local Hazard Mitigation Plan 2010-2015, soils in the vicinity of the proposed trail alignment are subject to liquefaction. In the event of an earthquake, soils could become loose, resulting in slope and foundation failure, posing a potential risk of injury or harm to trail users. Therefore, impacts could be significant and will be further discussed in the EIR.

a.iv) Landslides typically occur in areas where steep slopes exist, such as hillsides or mountain regions. The proposed Master Plan would facilitate the construction of a multi-use recreation trail that would be located on or near slopes that are subject to landslides due to unstable soils. According to Santa Cruz County Flood and Landslide Maps (2009), potential landslide areas are present in the northern reach and the Watsonville reach of the proposed trail. Therefore, impacts related to landslides would be potentially significant and will be further discussed in the EIR.

b, c, d) The proposed Master Plan would facilitate the construction of a multi-use recreation trail. Construction of the trail would occur along coastal bluffs in the northern reach and along beaches in the central and Watsonville reaches. The presence of steep slopes and sandy soils could result in impacts related to erosion, loss of topsoil, or liquefaction. In addition, Santa Cruz County Expansive Soils Map (2009) indicates that there is a potential for expansive soils to exist in all reaches of the proposed trail. Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when they dry) or swelling (when they become wet). Impacts would be potentially significant and will be addressed in the EIR.

e) The proposed project may require the construction of new restrooms along the trail. The use of septic disposal systems may be necessary if restrooms are constructed in rural areas where there is no connection to wastewater collection infrastructure. However, compliance with the existing Santa Cruz County Environmental Health regulations, including required permitting, and the Regional Water Quality Control Board policies and regulations would ensure that impacts resulting from the construction of new wastewater treatment systems would be less than significant.

VII. GREENHOUSE GAS EMISSIONS

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

a) The proposed multi-purpose recreation trail would provide additional facilities for active modes of transportation, including bicycles and pedestrians. Active transportation has been credited with not producing greenhouse gases (GHGs) that contribute to climate change, and are therefore modes that are generally consistent with statewide emissions reduction goals pursuant to AB 32.

However, construction of the proposed trail would generate temporary emissions, primarily from construction equipment emissions and paving, but also through the use of motorized transportation to deliver materials and laborers to the trail construction sites. The project would also produce operational greenhouse gas emissions from project-generated vehicle trips to trailhead locations and trips related to on-going maintenance of the trail. A quantitative analysis would determine the extent of impacts related to GHG emissions. As these impacts could be potentially significant, they will be discussed further in the EIR.

b) Santa Cruz County is currently in the process of developing a Climate Action Strategy (CAS), and the City of Santa Cruz has completed the final draft of their Climate Action Plan (CAP). The City of Watsonville is also expected to begin drafting a CAP by late 2012. The proposed project's consistency with the Santa Cruz County Preliminary Draft CAS and subsequent drafts of the CAS, as well as the City of Santa Cruz CAP, and other climate planning efforts in the SCCRTC service area will be discussed further in the EIR.

VIII. HAZARDS AND HAZARDOUS MATERIALS

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

a) Hazardous materials include solids, liquids, or gaseous materials which, because of their quantity, concentration or physical, chemical or infectious characteristics may: (1) cause or contribute to an increase in mortality or serious illness; or (2) pose a substantial present or potential harm to human health or the environment when improperly handled, used, transported, stored or disposed. The construction and operation of trail segments would not involve the routine transport, use, or disposal of hazardous materials. However, portions of the proposed trail alignment would be located adjacent to agricultural operations and industrial facilities, which could expose trail users to pesticide spraying and other hazardous materials. Impacts would be potentially significant and will be discussed further in the EIR.

b) Future use of the proposed trail would be restricted to bicyclists and pedestrians, who would not be expected to transport hazardous materials. As such, accidents internal to the trail would not result in the release of hazardous materials into the environment. However, the trail would be located adjacent to rail and roadway corridors used to transport hazardous materials, and would cross these corridors a total of 108 times (85 road crossings and 23 railroad bridge/trestle crossings). Therefore, the transport of hazardous materials along railroad and roadway travel corridors could pose a risk to trail users in the event of an accident. Impacts could be significant and will be analyzed further in the EIR.

c) The MBSST Master Plan proposes a continuous alignment and set of design standards for a multi-use recreational trail through Santa Cruz County. The proposed corridor would be located within one-quarter mile of 13 schools, including seven elementary schools, four junior/senior high schools, and two colleges. However, construction and operation of the proposed trail alignment would not require the use, disposal, or transportation of hazardous materials. Therefore, no impacts related to hazardous materials within one-quarter mile of a school would occur.

d) The construction of trail segments would involve grading and other ground disturbance activity. There is a potential that soil contamination could exist along the proposed trail alignment, due to proximity to agricultural operations, the railroad tracks, Highway 1, and other roadways. Impacts related to the presence of hazardous material sites could be significant and will be analyzed in the EIR.

e, f) The closest public airport to the MBSST corridor is the Watsonville Municipal Airport, which is located approximately 1.5 miles northeast of Segment 17 in the Watsonville reach. A portion of the trail would be located within the outer limits of the airport safety zone. A private air strip, Monterey Bay Academy, is also located approximately 100 feet from the existing sandy beach access route portion of the trail near the Watsonville reach. While trail users would access portions of the trail located near airports, the proposed trail corridor would not facilitate any activities that could pose a safety hazard to people residing or working in the area. In addition, hazards to trail users would be minimal as trail users would be moving along the trail and only exposed to airport safety areas for brief periods of time. Impacts to airport safety hazards would be less than significant.

g) The proposed Master Plan includes design elements to facilitate emergency access. For example, emergency access response agencies would be provided maps of all access points and gates for the proposed trail. Additionally, the trail may include emergency call boxes with a

direct link to the emergency services, and mile markers would be provided to assist in effectively transmitting the location of incidents. Furthermore, the proposed Master Plan would not interfere with any existing emergency or evacuation plan, as no project element would alter the existing routes. Impacts to emergency response or emergency evacuation would be less than significant.

h) The proposed Master Plan would facilitate the construction of trail segments located within and adjacent to Moderate, High, and Very High Fire Hazard Severity Zones according to the CalFire Fire Safety Hazard Zone map for Santa Cruz County. In the event of a wildland fire near the MBSST corridor, trail users could be exposed to a risk of loss, injury, or death. In addition, there is potential for trail users in rural areas to increase the risk wildland fires. Impacts related to wildland fires would be potentially significant, and will be discussed further in the EIR.

IX. HYDROLOGY AND WATER QUALITY

	Would the project:	**Potentially Significant Impact**	**Less than Significant Impact with Mitigation Incorporated**	**Less than Significant**	**No Impact**
a)	Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☒	☐	☐	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☒	☐	☐	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☒	☐	☐	☐

IX. HYDROLOGY AND WATER QUALITY (*Continued*)

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐
f)	Otherwise substantially degrade surface or groundwater quality?	☒	☐	☐	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☒	☐	☐	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j)	Inundation by seiche, tsunami, or mudflow?	☒	☐	☐	☐

a, f) The MBSST trail corridor would traverse through the following watersheds: North Coastal, Gazos/Scott Creeks, San Lorenzo, and Pajaro River. All of these watersheds are within the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB). The RWQCB establishes requirements prescribing the quality of point and nonpoint sources of discharge and establishes water quality objectives through the Water Quality Control Plan for the local basin. A point source is defined as waste emanating from a single, identifiable point such as a wastewater treatment plant. A nonpoint source of discharge results from drainage and percolation of activities such as agriculture and stormwater runoff. Construction activities such as grading and paving of the trail segments envisioned under the proposed Master Plan could result in temporary water quality impacts due to the proximity to streams and wetlands. Therefore, water quality impacts would be potentially significant and will be discussed further in the EIR.

b) The proposed MBSST corridor would extend for 39.2 miles, plus approximately 10 additional miles of paved and un-paved coastal spur trails, for a combined total of approximately 50 miles of bicycle and pedestrian facilities through Santa Cruz County. The finished width of the paved trail would vary between 8 and 12 feet. The project would also include a number of staging

areas, some of which would include paved parking areas. As such, future construction of the multi-use recreation trail would introduce new impervious surfaces, resulting in a reduction of groundwater recharge in the project area. As such, impacts to groundwater supplies would be potentially significant and will be further discussed in the EIR.

c, d) The proposed trail alignment would require a total of 52 stream crossings, most of them occurring in the northern reach. Improvements at stream crossings have the potential to alter the course of the streams. In addition, construction activities throughout the corridor would potentially alter existing drainage patterns, and could result in erosion, siltation, or flooding. Impacts would be potentially significant and will be addressed in the EIR.

e) The increase in impervious surfaces could contribute additional stormwater runoff to existing drainage systems. Construction and operation of the multi-purpose trail could contribute to polluted runoff due to temporary storage of construction materials and waste, litter, and pet waste. Impacts could be significant and will be addressed in the EIR.

g) Trail segments near Capitola State Beach and Pajaro River and its tributaries, would be located in a 100-year flood hazard area as designated by the FEMA Flood Insurance Rate Map (2009). However, the project does not propose to build any housing. Therefore, there would be no impacts to placing housing within a 100-year flood hazard area.

h) The proposed Master Plan includes trail amenities such as staging and picnic areas that would place new structures within flood hazard zones, which could impede or redirect flood flows. Impacts would be potentially significant and will be discussed further in the EIR.

i) Santa Cruz County has two dams that, in the event of failure, would potentially affect proposed trail segments facilitated by the proposed Master Plan: the Bay Street reservoir, located approximately one mile north of the trail alignment in Segment 7, and the Newell Creek Dam, located approximately 9 miles northeast of Segment 5. However, according to the County of Santa Cruz Local Hazard Mitigation Plan 2010-2015, there is currently no indication of failure or damage to either dam. In addition, the multi-use recreation trail would not expose people or structures to a significant risk of loss, injury, or death as a result of dam failure. Therefore, impacts would be less than significant.

j) Some segments of the proposed MBSST alignment would be located within tsunami run-up zones. Seiches could also pose a threat in the Santa Cruz Harbor, and areas subject to landslides could also experience mudflows. Tsunami and seiche inundation, as well as mudflows, could be significant, and will be analyzed further in the EIR.

Trail safety hazards may also occur between different types of trail users (i.e. between bicyclists and pedestrians, bicyclists and equestrians, and/or pedestrians and equestrians); among trail users within the same group (i.e. between two bicyclists); and as a result of factors not related to users' trail activities at all. Conflicts may be related to activity style (mode of travel, level of technology, or trail dominance), focus of trip, and attitudes toward other trail users. Specific hazards include collisions or near misses among users, reckless behavior, or accident caused by unsafe trail conditions (e.g. uneven pavement or presence of debris). In addition, a lack of trail security could result in safety concerns related to crime, emergency response, and vandalism.

To address potential safety hazards to trail users, each local agency would be responsible for the day-to-day maintenance of the trail facility components within their respective jurisdictions. This includes trash clean up and disposal and repairs to trail features. This would help ensure proper maintenance of the trail, thereby avoiding potential collisions or accidents caused by unsafe trail conditions (e.g. uneven pavement or presence of debris). In addition, the proposed trail would include speed controls and may include a speed limit to reduce hazards related to bicyclists traveling at excessive speeds. The trail may also include features to facilitate emergency services, such as access points and gates that would be accessible to emergency responders, emergency call boxes with a direct link to the emergency services, and mile markers to assist in effectively transmitting the location of incidents. The trail may also include signage to educate trail users on trail etiquette, which would enhance user safety. The trail safety elements would reduce impacts to safety hazards and user conflicts to a less than significant level.

X. LAND USE AND PLANNING

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

a) The proposed MBSST trail alignment would not physically divide established communities as the facility's width and composition is not physically large enough and it is mainly a feature that is constructed at grade with the ground surface. The trail would be primarily located within existing railroad and roadway rights-of-way. Any fencing would provide private property protection and buffering, but would not impede cross traffic at rights-of-way. Instead, the proposed project would be expected to better link cities and neighborhoods within Santa Cruz County. Therefore, no impacts relating to the physical division of communities would occur.

b, c) Implementation of the proposed MBSST Master Plan would require multi-jurisdictional coordination between the SCCRTC, County of Santa Cruz, the cities of Santa Cruz, Capitola, and Watsonville and other implementing entities. Each segment of the trail would be implemented individually and must comply with the land use plans policies that correspond to

the respective jurisdiction. Prior to construction, each trail segment would require jurisdictional approval, which would ensure compliance with existing plans and policies. In addition, conflicts between trails and roads/railways are discussed in Section XVI, *Transportation/Traffic*, and conflicts between trails and agriculture are discussed in Section II, *Agricultural and Forest Resources*. Conflicts between trails and urban uses, such as industrial, commercial, and residential would be minimal, as the trail primarily follows the railroad corridor through urban areas. Furthermore, conflicts between trails and urban uses would be addressed during design and implementation of the specific trail segments. Impacts would therefore be considered less than significant.

XI. MINERAL AND OTHER NATURAL RESOURCES

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Result in a loss of availability of a known mineral or other natural resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a-b) The proposed Master Plan would set forth the planning framework to create a multi-use trail across the length of Santa Cruz County. The construction or operation of the trail would not interfere with existing mining operations or result in the loss of any natural resources. Impacts to timberland are discussed under *Item 2, Agriculture and Forest Resources*. There would be no impact to mineral or natural resources.

XII. NOISE

	Would the project result in:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐

XII. NOISE (*Continued*)

	Would the project result in:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

a-d) Some land uses are considered more sensitive to noise levels than others, due to the amount of noise exposure (in terms of both exposure time and insulation from noise) and the types of activities typically involved. Residences, lodging facilities, schools, libraries, churches, hospitals, nursing homes, auditoriums, parks, and outdoor recreation areas are generally considered more sensitive to the noise than are commercial and industrial land uses. Sensitive receptors in the project area include residences, places of worship, schools, and hospitals located adjacent to the proposed trail corridor. Because of the proximity of the proposed trail alignment to sensitive uses in some locations, construction equipment and activities would be expected to cause temporary noise impacts to sensitive receptors. Operational use of the proposed trail may also cause intermittent increases in ambient noise levels due to trail users talking, barking dogs, and project-generated traffic. Noise impacts could be significant and will be analyzed in the EIR.

e) The proposed trail alignment would be located approximately 1.5 miles from the Watsonville Municipal Airport. However, the trail alignment is located outside of the airport noise impact contours (City of Watsonville, General Plan, 2012). In addition, the project would not place residences or office buildings within an area exposed to airport noise, and would therefore not expose residents or workers to excessive noise levels. There would be no impact.

f) A portion of the existing sandy beach access route near the Watsonville reach of the proposed trail corridor is located approximately 100 feet from the Monterey Bay Academy Airport, which is a private airstrip located south of Manresa State Beach. Airstrip operations may generate intermittent noise levels above local standards. However, the project does not include the construction of residences or office buildings, and would therefore not expose residents or workers to excessive noise levels. There would be no impact.

XIII. POPULATION AND HOUSING

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) The proposed Master Plan would facilitate the design and construction of a multi-use trail that would accommodate identified recreation and transportation needs of Santa Cruz County communities and would facilitate active forms of transportation for commuters within the area. The multi-use trail facilitated by the proposed Master Plan would generate short-term employment opportunities during construction of the proposed trail and long-term employment opportunities associated with the maintenance and security of the trail. In addition, the availability of a regional multi-use trail could attract new tourists to the project area. An increase in the tourist population could create demand for new hospitality industry jobs and services with the project area. However, the project-generated employment opportunities would be nominal, and would be expected to be filled from within the existing community. Therefore, impacts related to indirect population growth would be less than significant.

b, c) The proposed Master Plan would not include the demolition of existing housing, construction of new housing, or displacement of people, and therefore would not displace housing or people. As a result, no impacts related to population and housing would be anticipated.

XIV. PUBLIC SERVICES

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered government and public services facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	Fire protection?	☐	☐	☒	☐
	Police protection?	☐	☐	☒	☐
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☒	☐
	Other public facilities?	☐	☐	☒	☐

a) *Fire Protection*. The proposed Master Plan would not require the construction of new fire stations or the expansion of fire facilities. Local fire departments, including the City of Santa Cruz Fire Department, the Capitola Fire Department, and the Watsonville Fire Department, as well as the Santa Cruz County Fire Department would provide fire and emergency services for the proposed trail alignment within their respective jurisdictions. The proposed Master Plan would not result in the construction of buildings that could present unique or special challenges for fire protection services on-site or result in an increase in population that would warrant the construction of new facilities to provide adequate fire protection services. Additionally, the project would be subject to review by the respective local fire department prior to the issuance of a grading permit. Therefore, impacts would be less than significant.

Police Protection. The proposed Master Plan would not require the construction of new police stations or the expansion of police facilities. Local police departments, including the City of Santa Cruz Police Department, the Capitola Police Department, and the Watsonville Police Department, as well as the Santa Cruz County Sheriff's Department would provide police services for the proposed trail alignment within their respective jurisdictions. The proposed project would create new access to portions of properties that are not currently readily accessible to the public. This circumstance could be either positive or negative to crime protection, as more regular use of trail corridors would provide more active vigilance by trail users. National studies have shown that the installation of local and regional trail facilities generally has the effect of reducing property crime (Rails to Trails Conservancy, 1998). Therefore, impacts would be less than significant.

Schools. The proposed MBSST would not generate an increase in population that would warrant the construction of new school facilities. The project may, however, increase safe access to some school campuses through provision of dedicated pedestrian and bicycle routes. Therefore, no adverse impacts related to schools are anticipated.

Parks. The proposed Master Plan would enhance public recreation within the area by facilitating the construction of a multi-use trail that would provide connectivity across the length of Santa Cruz County, and through the inherent provision of a new recreational corridor or linear park through the trail itself. The proposed trail alignment would link various cities within the County and provide connectivity to other recreational facilities, such as local beaches and parks. By increasing accessibility to beaches, parks, and open space systems, the proposed Master Plan could result in potential impacts to these facilities. However, this use would be passive, and would not be expected to create physical deterioration of the facilities. Impacts to park services and recreation facilities would be less than significant.

Other Public Facilities. The proposed MBSST would include the construction of new trail facilities, such as paved parking lots, information kiosks, bike racks, picnic tables, safety lighting, shade and shelters, and benches. The project would additionally increase accessibility to destinations such as downtown centers and historic landmarks, and would increase connectivity between cities within the County, which could increase the demand on commuter services, such as Park and Ride lots or public transportation. However, the proposed Master Plan includes standards for trail management to ensure that the trail is properly maintained. Therefore, the project would not result in substantial adverse physical impacts associated with other public facilities, and impacts would be less than significant.

XV. RECREATION

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a) Trail proposed MBSST corridor would create a new multi-purpose recreation trail through Santa Cruz County and would additionally link to existing on- and off-street facilities throughout the area. This trail network would provide connectivity to a variety of existing recreational facilities, such as local beaches and parks. This is in accordance with the overall goals of the trail to serve both recreational and commuter needs throughout the county. In

addition, the proposed Master Plan includes goals and policies to establish a protocol to determine who would be responsible for trash clean up and disposal, repairs to trail features, and management of accessory features. Therefore, impacts would be less than significant.

b) The proposed MBSST is a recreational facility; the potential adverse physical effects of which will be the topic of the EIR.

XVI. TRANSPORTATION/TRAFFIC

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

a, b) The proposed project would establish a continuous alignment and set of design standards for a multi-use recreation trail for the length of Santa Cruz County. The trail would provide a new opportunity for active forms of transportation within and between these areas, and would therefore be expected to reduce some vehicle trips. However, the proposed project may also generate some new vehicle trips, including trips to trail access and staging areas and trips for maintenance. In addition, the proposed trail alignment would intersect public roadways at 96 locations. The increase in bicycle and pedestrian traffic at these intersection locations could impact intersection levels of service. Overall, transportation impacts could be significant, and therefore further analysis will be provided in the EIR.

c) The closest public airport is the Watsonville Municipal Airport, which is located approximately 1.5 miles northeast of Segment 17 in the Watsonville reach. A small portion of the trail would be located within the outer limits of the airport safety zone. A private air strip is also located approximately 100 feet from the existing sandy beach route portion of the trail near the Watsonville reach. However, the proposed Master Plan would not affect public or private airport facilities and would not cause a change in the directional patterns of aircraft. The proposed Master Plan does not include the construction of any buildings that would interfere with flight patterns. Therefore, there would be no impact to air traffic patterns.

d) The MBSST Master Plan contains design measures intended to promote the safety of its users, including lighted street crossings and guard rails over bridges. However, the trail would cross local roadways at 96 locations. In addition, the project is located adjacent to an active railway and the trail alignment would cross over 23 existing rail bridges and trestles. Therefore, impacts related to traffic safety will be discussed further in the EIR.

e) Construction of the proposed trail alignment would include access points and gates that would be designed specifically for emergency vehicle access. In addition, the trail may feature emergency call boxes providing a direct link to emergency services and mile markers to assist in the location of incidents. Therefore, impacts to emergency access would be less than significant.

f) The proposed project would be consistent with policies, plans, and programs to support alternative transportation and recreational trails. Specifically, the RTC's *2010 Regional Transportation Plan* includes goals and policies for increasing multi-modal transportation and reducing greenhouse gas emissions. The trail corridor would provide the infrastructure for alternative modes of transportation, such as bicycling and walking, which do not generate greenhouse gas emissions. The proposed Master Plan would also be consistent with the *Santa Cruz County Bicycle Plan* and Santa Cruz County Circulation Element, which set forth goals to increase bicycle commuting, improve bicycle safety, and establish regional continuity. Similarly, the proposed Master Plan would also be consistent with other local transportation plans, such as the City of Santa Cruz *General Plan Mobility Chapter*, the City of Santa Cruz *Bicycle Transportation Plan*, the City of Capitola *Bicycle Transportation Plan*, the City of Capitola *General Plan Circulation Element*, the City of Watsonville *General Plan Circulation Element*, the University of California Santa Cruz *Bicycle Plan,* and the *Draft City of Watsonville Trails and Bicycle Master Plan*. There would be no impacts resulting from a conflict with local, state, or federal policies, plans, or programs.

The proposed Master Plan is not anticipated to generate an increase in traffic that would accelerate the deterioration of roads. The proposed multi-purpose trail would encourage the use of non-motorized modes of transportation and result in an overall decrease in the use of roadways. Therefore, impacts related to physical roadway conditions would be less than significant.

XVII. UTILITIES AND SERVICE SYSTEMS

	Would the project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

a, e) Implementation of the proposed MBSST Master Plan may include the installation of new public restroom facilities and could increase the use of existing public restrooms. If located in urbanized areas, new public restrooms would likely connect to existing wastewater service

lines. Table 2 shows the capacity and flow projections for the wastewater treatment facilities within Santa Cruz County.

Table 2 Treatment Capacity and Flow Projections for Wastewater Treatment Facilities in Santa Cruz County (million gallons per day)

Treatment Facility/Areas Served	Permitted Capacity	2010	2015	2020	Average Annual Increase
City of Santa Cruz Wastewater Treatment Facility City of Santa Cruz City of Capitola Live Oak Soquel Aptos CSA 57 – Graham Hill UC Santa Cruz	17.00	10.25	10.50	10.78	0.5%
Scotts Valley Wastewater Treatment Facility City of Scotts Valley	1.5	0.92	0.93	0.95	0.2%
Watsonville Wastewater Treatment Facility City of Watsonville Salsipuedes Sanitary District Freedom County Sanitation District Pajaro County Sanitation District	12.10	9.39	9.58	10.12	2%
Davenport County Sanitation District	0.05	0.04	0.04	0.04	0%
CSA 5 – Sand Dollar Beach / Canon del Sol	0.05	0.021	0.021	0.021	0%
CSA 7 – Boulder Creek Country Club	0.125	0.04	0.04	0.04	0%
CSA 10 – Rolling Woods	0.013	0.007	0.007	0.007	0%
CSA 20 – Trestle Beach	0.01	0.002	0.002	0.002	0%
San Lorenzo Valley Water District	0.0165	0.013	0.013	0.013	0%

Source: Santa Cruz LAFCO Countywide Service Review, Wastewater Services, June 2005.

As shown in Table 2, wastewater treatment providers and existing infrastructure would have additional capacity to treat and convey the minimal volume of wastewater generated by the proposed project.

The use of septic disposal systems may be required in rural areas that are not connected to a wastewater infrastructure system. Design and construction of septic disposal systems would be subject to review and approval by the appropriate local agency. Because the proposed trail would require minimal wastewater services for public restrooms located throughout the trail corridor and area wastewater treatment facilities have sufficient capacity, the proposed Master Plan would not be expected to exceed wastewater treatment requirements or require the construction of new wastewater treatment facilities. Impacts would be less than significant.

b, d) Water required for the construction and operation of the proposed trail alignment would include water for inhibiting the generation of fugitive dust during construction activities, landscaping maintenance, and water for bathrooms and drinking fountains. According to the City of Santa Cruz *Water Supply Assessment for General Plan 2030* (2011), it was estimated that 3.5 acres of new park development would require an additional 2 million gallons per year of water, which yields a duty factor of approximately 571,429 gallons per acre. The proposed trail would

be approximately 39.2 miles long, plus 10 miles of spur trails, for a total length of 49.2 miles. The trail would be up to 12 feet wide. Conservatively assuming the entire trail is 12 feet wide, the proposed trail corridor would total approximately 3,117,312 square feet, or approximately 71.56 acres. Using the duty factor of 571,429 gallons per acre for park uses, the proposed trail corridor would conservatively require approximately 40,891,459 gallons per year or 125.5 acre feet per year. It should be noted that this estimate is very conservative because it assumes that the entire length of the trail would require irrigation. However, the trail may not include landscaping in some sections, and the trail would also utilize existing public facilities that require water, such as bathrooms and drinking fountains. Table 3 shows the projected surplus water supplies for water districts within the project area.

Table 3 Projected Water Supply Surplus for Water Purveyors Serving the Master Plan Area (acre-feet)

	2015	2020	2025	2030
City of Santa Cruz Water District	1,000	654	503	350
City of Watsonville Water District	16,263	16,122	15,914	15,733
Soquel Creek Water District (includes the City of Capitola)	0	0	0	0

City of Santa Cruz, 2010 Urban Water Management Plan
City of Watsonville, 2010 Urban Water Management Plan
Soquel Creek Water District, Urban Water Management Plan 2010, September 2011.

As shown in Table 3, Soquel Creek Water District does not currently have a surplus of water. Segments 11 through 13 fall within the Soquel Creek Water District purview, and trail corridor bathrooms, drinking fountains, and landscaping irrigation may be included in these areas. The limited availability of water and need for water supply infrastructure in the Soquel Creek Water District would be a potentially significant impact. While the City of Santa Cruz Water District and the City of Watsonville Water District would have sufficient capacity to serve the segments of trail within their respective jurisdictions, further analysis would be required to determine the quantity of water that would be required within each specific jurisdiction. In addition, further analysis would be required to determine the availability of water within the rural areas of the trail that do not fall within the jurisdiction of a water district. Impacts related to water availability and water infrastructure would be potentially significant and will be discussed in the EIR.

c) The proposed trail corridor would introduce new impervious surfaces to the project area, which could result in an increase in stormwater runoff flows and the need for new stormwater drainage systems. However, the proposed Master Plan stipulates that trail design would be engineered so as not to increase any historic runoff onto a property. In addition, a combination of culverts, channelization, and improved bridge crossings would occur in conjunction with trail construction. Drainage improvements included in the proposed project would ensure that runoff flows would not exceed historic flows. Therefore, the proposed project would not be expected to result in the need for new storm drain facilities. Impacts would be less than significant.

f, g) Trash receptacles would be provided throughout the proposed trail and maintained by the designated trail maintenance entities. The proposed Master Plan includes standards for waste removal to occur twice a week to ensure each segment of the trail is properly maintained. The proposed trail is not anticipated to generate significant amounts of solid waste and, therefore,

would not cause a landfill to exceed its permitted capacity or violate any regulations related to solid waste. Landfills serving Santa Cruz County include the City of Santa Cruz Sanitary Landfill, the City of Watsonville Landfill, and Buena Vista Drive Sanitary Landfill. Table 4 shows the remaining capacity and closure date for the landfills in Santa Cruz County.

Table 4 Remaining Capacity of Santa Cruz County Landfills

Landfill	Remaining Capacity (cubic yards)	Estimated Closure Date
City of Santa Cruz Sanitary Landfill	6,150,000	January 1, 2052
City of Watsonville Landfill	2,009,550	December 31, 2029
Buena Vista Drive Sanitary Landfill	3,303,649	July 1, 2031

Source: CalRecycle Solid Waste Information System Database, Facility Site Listings. Accessed July 25, 2012.

As shown in Table 4, landfills serving the jurisdictions within Santa Cruz County have sufficient remaining capacity to serve the limited waste generated by the proposed trail corridor. Impacts would be less than significant.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

a-c) As described in the sections above, the proposed project may generate impacts in the following areas: Aesthetics, Agriculture Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation/Traffic, and Utilities and Service Systems. These issue areas, as well as potential cumulative impacts, will be evaluated in the EIR, and any feasible mitigation measures will be identified to avoid and/or reduce any significant impacts.

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August 23, 2012

NOTICE OF PREPARATION AND SCOPING MEETING

SUBJECT: Notice of preparation of a Draft Environmental Impact Report (DEIR) for the Monterey Bay Sanctuary Scenic Trail Network (MBSST) Master Plan Project. The Santa Cruz County Regional Transportation Commission (RTC) will be the Lead Agency and will prepare an EIR for the project identified below. The RTC would like input on the scope and content of the environmental analysis. Your agency or party may need to use the EIR prepared by RTC when considering your permit or other approval for the project.

PROJECT NAME: Monterey Bay Sanctuary Scenic Trail Network Master Plan

PROJECT LOCATION/ADDRESS: The MBSST corridor stretches the entire length of Santa Cruz County from the Pajaro River in Watsonville to the San Mateo County line north of Davenport. The trail would extend through unincorporated Santa Cruz County and portions of the Cities of Santa Cruz, Capitola, and Watsonville. The MBSST corridor would primarily align with the Santa Cruz Branch Rail Line right-of-way, a 31.7-mile, continuous travel corridor to be owned by the RTC. North of the railroad right-of-way, the trail would align along the west side of Highway 1 for 7.5 miles, for a combined trail length of 39.2 miles. Other proposed new trails outside of the primary MBSST corridor would comprise approximately 10 additional miles of paved and un-paved coastal spur trails. The trail network would span a combined total of approximately 50 miles of bicycle and pedestrian facilities. The railroad generally runs along the coast, parallel to the Pacific Ocean, except where it turns inland near Manresa State Beach. From there, the tracks run inland toward Watsonville and ultimately end at the Watsonville Junction.

DUE DATE FOR COMMENTS: Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than: **September 22, 2012**

PROJECT DESCRIPTION: The proposed project is the Monterey Bay Sanctuary Scenic Trail (MBSST) Master Plan. The purpose of the Master Plan is to establish the continuous alignment and set of design standards for a multi-use trail for the length of Santa Cruz County. The proposed trail alignment typically follows the Santa Cruz Branch line right-of-way, and is separated into three reaches: the northern reach; the central reach; and the Watsonville reach.

The northern reach begins at the County's northernmost border on Highway 1, just north of the Waddell Bluffs, and extends south to the northern Santa Cruz city limits near Schaffer Road. This reach generally corresponds to a scenic coastal environment adjacent to Highway 1. The central reach primarily traverses through the existing urban environment of Santa Cruz, Capitola, and the unincorporated Aptos community. Beginning at the City of Santa Cruz northern city boundary near Shaffer Road and extending southeast to Seascape Park just south of Aptos, this reach of the MBSST corridor traverses through densely populated coastal urban areas. The Watsonville reach begins at the railroad mile marker 10 near Seascape Village Park and ends at the Santa Cruz and Monterey County border at the Pajaro River. This reach parallels the coastal edge for approximately one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The Watsonville reach is defined by rural agricultural and open space lands.

The majority of the proposed corridor would include construction of a new multi-use recreation trail that provides bicycle, pedestrian, wheelchair, and non-motorized scooter travel on a paved right-of-way completely separated from any vehicular traffic on streets or highways. The multi-use paved path may include a paved

surface of 8 to12 feet wide, center lane striping in some segments, separation from adjacent roadways by at least 12 feet where feasible, fencing, landscaping, and signage. Through its length, the corridor would cross over 23 existing railroad bridges and trestles, and pass through public roadways in 85 locations.

Implementation of the proposed trail includes land clearing, grading, and construction. Construction of the proposed trail would include laying asphalt for the trail and staging areas, constructing fencing, establishing signage, and landscaping. Administration of the proposed MBSST would involve the RTC, the local jurisdictions including the City of Santa Cruz, City of Capitola, City of Watsonville, and the County of Santa Cruz, and any other implementing entity. The primary role of the RTC is to provide on-going coordination services and funding for implementation of the MBSST. Some of the land underlying the trail network alignment would be owned by the RTC; therefore, the RTC would be responsible for regional policy oversight. The local jurisdictions or implementing entities would be responsible for designing the trail construction documents. Each jurisdiction, implementing entity and/or the RTC would be responsible for overseeing the operations and maintenance of the MBSST within their jurisdiction.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: Aesthetics, Agricultural Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation/Traffic, and Utilities and Service Systems.

PUBLIC SCOPING MEETINGS: Pursuant to the public participation goals of CEQA, the RTC will host two EIR Scoping Meetings to gather additional input on the content and focus of the environmental analysis to be conducted and presented in the EIR. The dates, times, and locations of the scoping meetings are listed below.

Wednesday September 5, 2012 6:00 PM	Santa Cruz	Louden Nelson Community Center Room 3 (Senior Lunchroom) 301 Center Street Santa Cruz, CA 95060
Thursday September 6, 2012 6:00 PM	Aptos	Community Foundation Solari Room East and West 7807 Soquel Drive Aptos, CA 95003

COMMENTING ON THE SCOPE OF THE EIR: The RTC welcomes all comments regarding the potential environmental impacts of the proposed project. All comments will be considered in the preparation of the EIR. **Written comments** must be submitted by **September 22, 2012**.

Please direct your comments to:

Cory Caletti, Sr. Transportation Planner
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060
ccaletti@sccrtc.org

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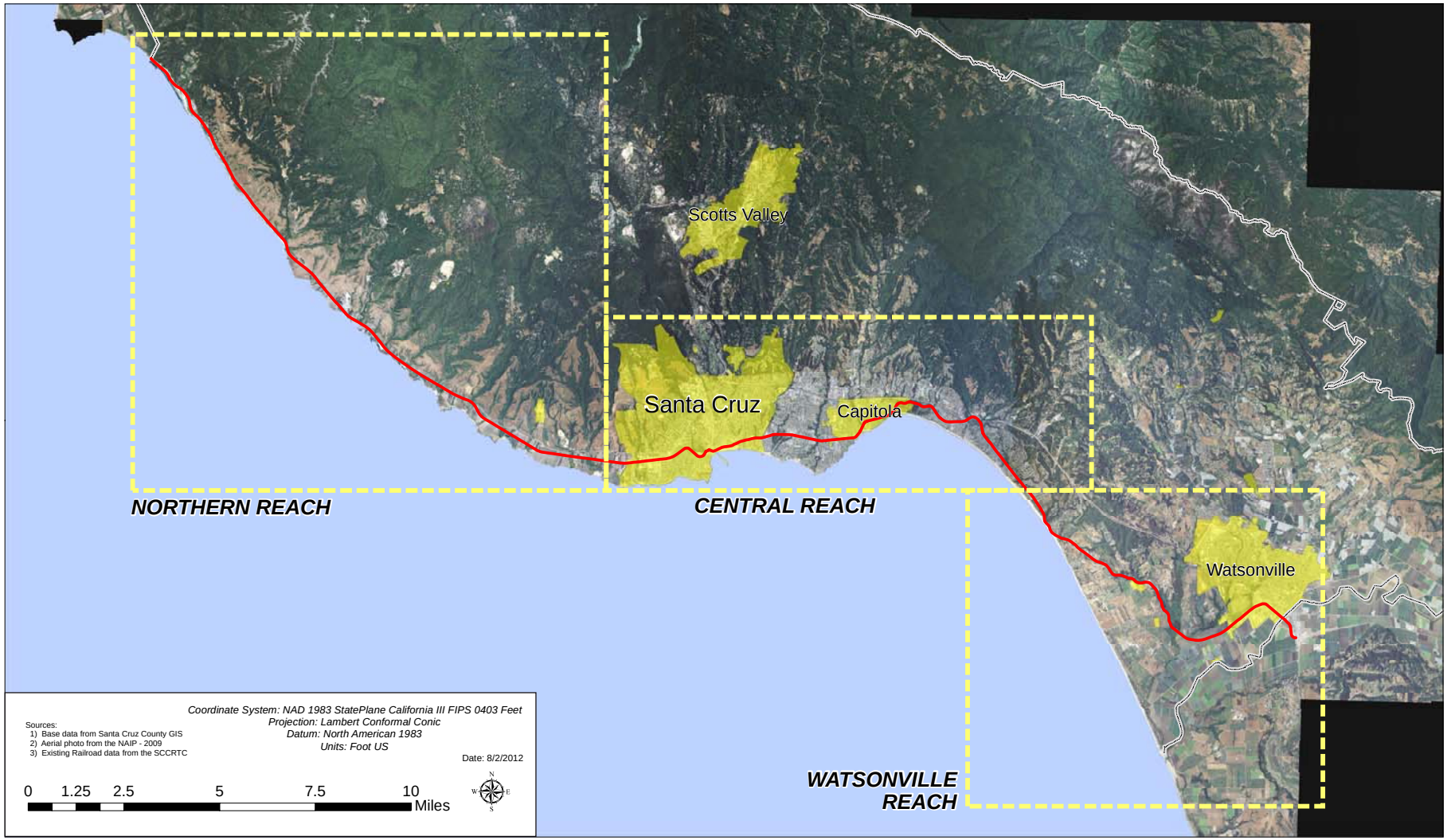
Regional Location

Figure 1

RTC



Master Plan Area

Source: RRM Design Group, 2012.

Figure 2

RTC

Comment Sheet

Please let us know your concerns so we can address them in the Environmental Impact Report.

Name: Ryan Hoffman

Affiliation: resident
(resident, businessperson, agency representative, community group member)

Address: 918 Corcoran Ave
SC CA 95062

Phone: 8312345441

Email: rhoffman@scu.edu

Comments:

I'm concerned that the email I received regarding this meeting listed different time/location from the website - I want this project to go forward, and all the supporters voices to be heard.

Thank You

Ryan

PS- please let me know ~~to~~ how to get more involved

Please submit by September 22, 2012 to:
Cory Caletti, Santa Cruz County RTC
1523 Pacific Avenue
Santa Cruz, CA 95060
ccaletti@sccrtc.org or info@sccrtc.org

From: Cory Caletti
To: Megan Jones
Subject: FW: Sanctuary Scenic Trail meetings location
Date: Monday, August 27, 2012 3:18:34 PM

-----Original Message-----
From: Patricia Matejcek [mailto:pmatejcek831@gmail.com]
Sent: Friday, August 24, 2012 11:02 AM
To: Cory Caletti
Subject: Sanctuary Scenic Trail meetings location

Hello, Cory ~

I am wondering why no public meeting has been scheduled for the SST south of Aptos?

The city of Watsonville has a draft of a City Bike/Ped Trails Plan on its way to the City Council that acknowledges the prospect of the SST but didn't have very robust linkages to it and that completely missed connecting to the planned Pajaro Rail Station.

I know there was an earlier presentation of the plan in Watsonville several months ago, as there was at some north county locations, so I'm just wondering why south county isn't on the "show and tell" list again? There's been a concerted effort by staff of "Safe Routes to School" to recruit youngsters into bike outings to learn handling skills in addition to the Brown Beret program, so I think there's a build-in interest group for such a meeting.

Regards,
Patricia Matejcek

From:	Cory Caletti
To:	Megan Jones
Subject:	FW: Kirby Nicol / Monterey Bay Sanctuary Scenie Trail Network Master Plan.
Date:	Monday, August 27, 2012 3:19:22 PM

Cory.
I received today a copy of the…….MBSSTNMP…….egad, even the acronym is a mouthful!
Looking through it, I did not see any mention of the fact that the rail/trail right-of-way varies in width from 15 to 350 feet and that 20 feet of its width …….10 feet either side of the rail centerline……..is reserved by law for train traffic…….which becomes problematic/dangerous for bike/pedestrian trails along those stretches that are less than, say …… 40 feet wide. Is this issue addressed in the document? If not…..it should be. It's a critical piece of the design discussion, especially because the narrowest stretches are in the most densely populated urban areas of Santa Cruz City, Live Oak and Capitola.
Feedback.
Kirby Nicol.

From:	Cory Caletti
To:	Megan Jones
Subject:	FW: going forward with a rail trail
Date:	Monday, August 27, 2012 3:21:05 PM

From: r hart [mailto:vespaschmitt_2000@yahoo.com]
Sent: Saturday, August 25, 2012 12:30 PM
To: Cory Caletti
Cc: Regional Transportation Commission
Subject: going forward with a rail trail

I, like many walking and biking enthusiasts look forward to an actual trail system along our County rail corridor. I hope that in the future there will be some way interested parties such as myself will be able to help this project along. I would again like to sincerely thank all who have put in the many many hours of time and much labor so far. Their efforts are very much appreciated.

I have been following the proposed rail/trail progress by talking with my Supervisor, reading the
People Power Newsletter, and by reading the e-mails sent out regarding upcoming public participation meetings.

Unfortunately I have not been to any meetings yet but hope to attend the one in Aptos in September. Thank you for sending the e-mail letting us know about it.

Regards,

Rob Hartzell

From:	Cory Caletti
To:	Megan Jones
Subject:	FW: (no subject)
Date:	Monday, August 27, 2012 3:20:25 PM

From: Cooldon26@aol.com [mailto:Cooldon26@aol.com]
Sent: Friday, August 24, 2012 7:45 AM
To: Cory Caletti
Subject: (no subject)

Will the proposed Coastal Trail provide Equestrian Access? Diane P. Cooley

Jeanie Vogelzang
jeanie_vogelzang@yahoo.com

September 4, 2012

Dear MBST Committee Members,

I live in Aptos near Cabrillo College and am interested in giving input concerning the Monterey Bay Sanctuary Trail (MBST) for the section that will be constructed in the area where I live (specifically, the neighborhoods along Soquel Drive between Bay-Porter to State Park Drive on both sides of Highway 1).

My hope is that the project will help to reduce traffic congestion in this area by, 1.) creating a network of safe routes where students can get to school by bike or by walking, 2.) establishing designated routes (or "Greenways") where there are sidewalks, bike lanes, and speed bumps to slow down automobiles that connect to Willowbrook Park, the Aptos library, both sides of Cabrillo College, and to the numerous businesses along Soquel Drive, 3.) providing an alternative way for walkers and cyclists to cross Highway 1 near Cabrillo College.

There is a lot of traffic congestion in the neighborhoods in this area. The freeway bisects the densely populated neighborhoods off of Soquel Drive from numerous recreational attractions on the coastal side of Highway 1, such as beaches, state parks, and shopping areas like Capitola Village. These are exactly the destinations that families would enjoy arriving at by bicycle or by foot. Similarly, thousands of students get to Cabrillo College by car when they might be more likely to bike or walk if there was a safer way to cross the freeway.

Three roads cross the freeway in this area: State Park Drive (goes over Highway 1), Bay-Porter and Park Avenue (both go under the freeway). These are heavily trafficked roads: cycling on them is dangerous as cars are rushing on and off the freeway. Walking along them is unpleasant due to noise and fast cars rushing by. For the many children that attend school on the opposite side of the freeway from where they live, these roads are hazardous obstacles to bicycling or walking to school. Children should not be forced to take the same path as cars who are merging onto a freeway. Safe paths to school should be included as spur trails in the MBST project. Many parents don't feel comfortable letting their kids walk or bicycle to

Jeanie Vogelzang
jeanie_vogelzang@yahoo.com

school, thus traffic around the schools during drop-off and pick-up times is thick and engines pollute the air as they idle their engines while waiting in long lines.

Ideally, a bridge over Highway 1 near Cabrillo College would be part of the MBST project. However, I went to a meeting last year where they discussed putting a tunnel under the freeway at Mar Vista. I do not support this idea. A tunnel would be better than nothing, but a bridge would be a far better solution. As a woman, I would not feel comfortable going through a tunnel, nor would I want my child walking to school on a route where he would have to go into a tunnel. I often see mothers walking small children or pushing strollers with babies. I doubt they would feel comfortable entering a tunnel, either. Tunnels are scary. They're dark and often reek of urine and have no visibility. Some commuters travel to and from work at night and some Cabrillo College students attend classes at night. A tunnel would prevent many people from using that route. Dangerous people can easily lurk in tunnels, especially at night. A well-lit bridge brings visibility to users, or at least a sense that they can be seen.

A bridge over Highway 1, connecting the Cabrillo College area and the New Brighton State Park area would link neighborhoods to parks, schools, libraries and businesses that are used on a daily basis by residents. I am in favor of a bridge being constructed near Cabrillo College rather than Mar Vista because I think it would serve more users. There are approximately 14,000 students who attend Cabrillo College. Twin Lakes Church alone has 800-1200 attendees for their 3 services (two services on Sunday mornings, one service Saturday evening). It makes sense to construct the pedestrian and cycling route as close as possible to the source of the traffic congestion, making it more tempting for this large number of people to use alternative ways to get to Cabrillo College. In addition, there are numerous schools and parks near Cabrillo College.

If a bridge or a way to cross Highway 1 safely by bike or walking is not to be included in the MBST plan, I'd like to suggest that at least some spur trails be connected to existing streets (like Willowbrook and Cabrillo College Drive), which could then be turned into "Greenways" for cyclists and pedestrians. The city of Seattle has established several "Greenways" which are residential streets near main arterials designated as routes where cyclists and pedestrians are given priority. The automobile traffic is light and often there are speed bumps or other measures in place to keep automobile speeds low.

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jeanie_vogelzang@yahoo.com

Willowbrook and Cabrillo College Drive would be perfect roads to establish as "Greenway" routes for cyclists and pedestrians. Currently, the Willowbrook neighborhood, where families frequently take their kids to Willowbrook Park, is cut off from the beach. Also, the neighborhood on Rosemarie Court, near Bangkok West, just off of Cabrillo College Drive is also completely cut off. They don't even have a sidewalk along Cabrillo College Drive past Willowbrook or past the other side heading to Cabrillo College. There wouldn't need to be too much structural change to make these streets safe for walking and bicycling, and to better connect these neighborhoods to the coast (even without constructing a bridge or tunnel). Cabrillo College Drive needs to be opened up closer to Highway 1 at Park (right now there is a chain-link fence immediately after crossing Highway 1, going toward Soquel Drive on Park Avenue. This fence blocks walkers and cyclists from reaching Cabrillo College Drive sooner. One must continue up Park Avenue to the stop-light). Sidewalks would need to be created (there seems to be space). Willowbrook would need better markings and signage, and perhaps speed-bumps to slow traffic. This road leads to Willowbrook Park, Cabrillo Fitness, Santa Cruz Montessori, and is extremely close to Cabrillo College, and not too far from Mar Vista Elementary School. Going the opposite direction (toward the coast from Soquel Drive), this route would provide a safe route for kids going to New Brighton Middle School (which has approximately 1,400 students), from neighborhoods on the non-coastal side of Highway 1. Simple modifications to infrastructure could create a huge benefit for these neighborhoods, allowing people to more easily walk and cycle along these two roads.

Another neighborhood that could be better connected by the MBST and spur trails is the Seacliff neighborhood (just above Seacliff State Park). Connecting the Seacliff neighborhood to their public schools (Mar Vista Elementary School and New Brighton Middle School), or to the Santa Cruz Montessori School, and Cabrillo College would is important. Many families would reduce their driving to get their kids to schools if a safe bike/walking route were available to cross the freeway, or to parallel the freeway. Frontage Road is the only way to get to New Brighton Middle School from the Seacliff neighborhood, which is not safe for kids. Cars drive fast on Frontage Road, the shoulder is narrow and the pavement is bad. Again, if a bridge across Highway 1 cannot be constructed, maybe Frontage Road could be turned into a "Greenway" route. It would need better pavement, wider shoulders, signage and preferably a way for cyclists and walkers to have some separation from automobiles.

Jeanie Vogelzang
jeanie_vogelzang@yahoo.com

To conclude, I am very excited about the benefits of the Monterey Bay Sanctuary Trail. I hope my input will be considered. I plan to attend the meeting in Aptos on September 6th and hope that I can help with anything needed. Thank you.

Sincerely,
Jeanie Vogelzang
(831) 465-1354

September 13, 2012

Cory Caletti, Senior Transportation Planner/Project Manager
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060

RE: Initial Study for Monterey Bay Sanctuary Scenic Trail Network Master Plan

Dear Ms. Caletti:

Thank you for the opportunity to comment on the Initial Study for this exciting project.

Regarding Section X, Land Use and Planning, a) Would the project physically divide an established community?

Comment:

If the reference to "cross traffic at rights-of-way" in the middle of the paragraph discussing this question (page 23 of the Initial Study) includes **pedestrian and bicycle traffic**, then I concur with this discussion. If, however, pedestrian and bicycle cross traffic over the railroad right-of-way is not assumed to be referenced, I'd suggest that this response needs elaboration.

Currently, in particular along the Central Reach, many pedestrians and cyclists cross the railroad right-of-way at numerous locations which may or may not be adjacent to a public roadway; we do this because the rail line runs right through our urban and suburban neighborhoods. This is one reason it will be wonderful to have the rail corridor in public ownership! In the same vein, the Initial Study states (also on p.23), "…the proposed project would be expected to better link cities and neighborhoods within Santa Cruz County." To achieve this objective, the current, relatively unimpeded pedestrian and bicycle access between existing neighborhoods on either side of the rail right-of-way will be need to be addressed in the design features of the trail network.

Thank you very much for your consideration of this comment.

Sincerely,

Linda Wilshusen
1115 Live Oak Ave.
Santa Cruz, CA 95062

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

CURTIS L. FOSSUM, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-1900**
Contact FAX: **(916) 574-1885**

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SEP 21 2012
SCCRTC

September 21, 2012

File Ref: SCH # 2012082075

Santa Cruz County Regional Transportation Commission
Attn: Cory Caletti
1523 Pacific Avenue
Santa Cruz, CA 95060

Subject: Notice of Preparation (NOP) for an Environmental Impact Report (EIR) for the Monterey Bay Sanctuary Scenic Trail Network Master Plan, Santa Cruz County

Dear Ms. Caletti,

The California State Lands Commission (CSLC) staff has reviewed the subject NOP for an EIR for the Monterey Bay Sanctuary Scenic Trail Network Master Plan (Master Plan or Project), which is being prepared by the Santa Cruz County Regional Transportation Commission (SCCRTC). The SCCRTC, as a public agency proposing to carry out a project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The CSLC will is a trustee agency because of its trust responsibility for projects that could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters. Additionally, if the Master Plan proposes work on sovereign lands, the CSLC will act as a responsible agency.

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion

or where the boundary has been fixed by agreement or court decision. On navigable non-tidal waterways, including lakes, the State holds fee ownership of the bed of the waterway landward to the ordinary low water mark and a Public Trust easement landward to the ordinary high water mark, except where the boundary has been fixed by agreement or court decision. Such boundaries may not be readily apparent from present day site inspections.

The SCCRTC has proposed an approximately 50-mile-long Monterey Bay Sanctuary Scenic Trail Network (Trail) that runs adjacent to the Pacific Ocean and across various rivers, creeks and sloughs in Santa Cruz County. The NOP does not provide large-scale maps of the Trail or detailed locations of Project components. Based on CSLC staff's review of in-house records and maps, as well as information provided in the NOP, some, or all, of the proposed Trail may be located on lands owned in fee by the State and managed by CSLC.

Staff requests continued communication as project details become available to determine if a lease will be required. Please send updates on the trail alignment's location to Sharron Guerrieri (contact information listed at the end of this letter).

Project Description

The SCCRTC proposes to adopt the proposed Master Plan to meet the agency's objective to ensure that the planned bicycle/pedestrian network will provide connectivity throughout the county and into the Monterey Bay region, as well as tie in the larger California Coastal Trail and Pacific Coast Bicycle Trails. Based on the information provided in the NOP, it appears the Master Plan would include recommendations for:

- Design standards;
- Prioritization of projects;
- Implementation mechanisms; and
- Ongoing maintenance.

Environmental Review

The CSLC requests that the following potential impacts be analyzed in the EIR:

General Comments

1. Project Description: A thorough and complete Project Description should be included in the EIR in order to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives. Although descriptions of work in a Master Plan may not include all project-specific details, the EIR should still be as precise as possible in describing the details of all allowable activities. For example, the EIR should provide details that include:
    - types of equipment or methods that may be used;
    - maximum area of impact or volume of sediment removed or disturbed;

- seasonal work windows;
- locations for material disposal; and
- timing and length of activities.

The document should also clarify what action or actions approval or adoption of the Master Plan would technically authorize, as well as specifying what further CEQA analysis, if any, would be conducted for the actual trail/facility construction activities. Thorough descriptions will facilitate CSLC staff's determination of the extent and locations of its leasing jurisdiction, make for a more robust analysis of the work that may be performed, and minimize the potential for unanticipated subsequent environmental analysis to be required.

Biological Resources

2. Sensitive Species: The area encompassed by the Master Plan includes habitat for several sensitive or special status species that could be affected by construction depending on the time of year, including but not necessarily limited to State and federally protected shorebirds and raptors, mammals, and fish. In order to ensure the EIR is as complete and thorough as possible in disclosing and analyzing potential impacts to biological resources, the SCCRTC should conduct queries of the California Department of Fish and Game's (DFG) California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service's (USFWS) Special Status Species Database to identify any special-status plant or wildlife species that may occur in the Master Plan area. In addition, the SCCRTC should initiate consultation with the above agencies to ensure the information is current and accurate. The EIR should analyze the potential for such species to occur in the Master Plan area and, if impacts to special-status species are found to be significant, identify measures that would avoid or lessen the impact to the extent feasible.

Climate Change

3. Greenhouse Gases: A greenhouse gas (GHG) emissions analysis consistent with the California Global Warming Solutions Act (AB 32) and required by the State CEQA Guidelines[1] should be included in the EIR. This analysis should identify a threshold for significance for GHG emissions, calculate the level of GHGs that will be emitted as a result of construction and ultimate build-out of the Trail, determine the significance of the impacts of those emissions, and, if impacts are significant, identify mitigation measures that would reduce them to less than significant.

4. Sea Level Rise: The EIR should also consider the effects of sea level rise on all resource categories potentially affected by the proposed Master Plan. At its meeting on December 17, 2009, the CSLC approved the recommendations made in a previously requested staff report, "A Report on Sea Level Rise Preparedness" (Report), which assessed the degree to which the CSLC's grantees and lessees

[1] The State "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

have considered the eventual effects of sea level rise on facilities located within the CSLC's jurisdiction. (The Report can be found on the CSLC's website, http://www.slc.ca.gov). One of the Report's recommendations directs CSLC staff to consider the effects of sea level rise on hydrology, soils, geology, transportation, recreation, and other resource categories in all environmental determinations associated with CSLC leases.

Please note that, when considering lease applications, CSLC staff is directed to (1) request information from applicants concerning the potential effects of sea level rise on their proposed projects, (2) if applicable, require applicants to indicate how they plan to address sea level rise and what adaptation strategies are planned during the projected life of their projects, and (3) where appropriate, recommend project modifications that would eliminate or reduce potentially adverse impacts from sea level rise, including adverse impacts on public access.

Cultural Resources

5. Title to Resources: The EIR should include a discussion about the potential for implementation of the Master Plan to impact cultural and historic resources, and should state that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. Depending on the ultimate location of the trail and extent of related Project activities, it may be appropriate to conduct a search of the CSLC Shipwrecks Database that is maintained by CSLC staff. The County should consult with Senior Staff Counsel Pam Griggs at the contact information noted at the end of this letter for a database search request and should include in the EIR a provision for notifying the CSLC if any cultural resources on state lands are discovered during surveys for or construction of the proposed Trail.

Additional Review

6. Programmatic Document: It is unclear from the NOP whether the SCCRTC intends for the Master Plan EIR to be "programmatic," determining the regional or areawide cumulative impacts of the work recommended in the Master Plan, or "project-level," analyzing both the cumulative and project-specific impacts of ultimate build out of the Trail.

   If the EIR is programmatic, the CSLC expects the Trail project will be presented as a series of distinct but related sequential activities (i.e., the Northern, Central and Watsonville Reaches). The State CEQA Guidelines, section 15168, subdivision (c)(5) states that a program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. In order to avoid the improper deferral of mitigation, a common flaw in program-level environmental documents, mitigation measures should either be presented as specific, feasible, enforceable obligations, or should

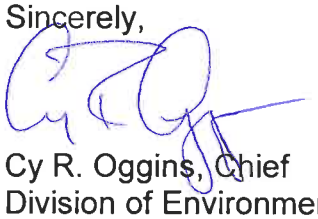
be presented as formulas containing "performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way" (State CEQA Guidelines, § 15126.4, subd. (b)). As such, the EIR should make an effort to distinguish what activities and their mitigation measures are being analyzed in sufficient detail to be covered under the EIR without additional project-specific environmental review, and what activities will trigger the need for additional environmental analysis (See State CEQA Guidelines, § 15168, subd. (c)).

Alternatively, if the EIR is meant to also consider and, if necessary, mitigate impacts at the project level, the description of work and impact analysis will need to be correspondingly more detailed.

Thank you for the opportunity to comment on the NOP for the Project. As a responsible agency, the CSLC will need to rely on the Final EIR for the issuance of any amended or new lease and, therefore, we request that you consider our comments prior to adoption of the EIR and send additional information on the Master Plan to the CSLC as plans become finalized.

Please send copies of future Master Plan-related documents, including an electronic copy of the Draft and Final EIR, Mitigation Monitoring and Reporting Program (MMRP), Notice of Determination (NOD), CEQA Findings and, if applicable, Statement of Overriding Considerations when they become available, and refer questions concerning environmental review to Sarah Sugar, Environmental Scientist, at (916) 574-2274 or via e-mail at Sarah.Sugar@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Senior Staff Counsel Pam Griggs at (916) 574-1854 or via email at Pamela.Griggs@slc.ca.gov. For questions concerning CSLC leasing jurisdiction, please contact Sharron Guerrieri, Public Land Management Specialist at (916) 574-1868, or via email at Sharron.Guerrieri@slc.ca.gov.

Sincerely,



Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Sharron Guerrieri, CSLC, LMD
Sarah Sugar, CSLC, DEPM
Pam Griggs, CSLC, Legal

Appendix B

Air Quality Data

MBSST Network Master Plan Project EIR

Santa Cruz County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Other Asphalt Surfaces	32.3	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	61		

1.3 User Entered Comments

Project Characteristics - construction schedule~16-30 years, therefore project operational ~2030-2044. Model max year is 2040.

Land Use - segment 5=longest segment (10.66 miles). total area of disturbance (56,260ft(l) x 25 ft(w)=1,406,500 sf) or ~32.3 acres.

Construction Phase - Default values=135 days or approximately 7 months. Phase 1-5 years=consistent with model

Grading - total area of disturbance for largest segment=32.3 acres

Energy Use -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.40	90.83	52.69	0.10	18.30	4.19	21.92	9.94	4.19	13.55	0.00	11,052.30	0.00	1.02	0.00	11,073.71
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.40	90.83	52.69	0.10	8.36	4.19	11.98	4.48	4.19	8.09	0.00	11,052.30	0.00	1.02	0.00	11,073.71
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.37	74.88	43.05	0.07		3.61	3.61		3.61	3.61		7,997.69		0.84		8,015.31
Total	**9.37**	**74.88**	**43.05**	**0.07**	**18.07**	**3.61**	**21.68**	**9.93**	**3.61**	**13.54**		**7,997.69**		**0.84**		**8,015.31**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.17	0.16	1.67	0.00	0.23	0.01	0.24	0.01	0.01	0.02		176.08		0.01		176.39
Total	**0.17**	**0.16**	**1.67**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**176.08**		**0.01**		**176.39**

3.2 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	9.37	74.88	43.05	0.07		3.61	3.61		3.61	3.61	0.00	7,997.69		0.84		8,015.31
Total	**9.37**	**74.88**	**43.05**	**0.07**	**8.13**	**3.61**	**11.74**	**4.47**	**3.61**	**8.08**	**0.00**	**7,997.69**		**0.84**		**8,015.31**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.17	0.16	1.67	0.00	0.23	0.01	0.24	0.01	0.01	0.02		176.08		0.01		176.39
Total	**0.17**	**0.16**	**1.67**	**0.00**	**0.23**	**0.01**	**0.24**	**0.01**	**0.01**	**0.02**		**176.08**		**0.01**		**176.39**

3.3 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.78	0.00	6.78	3.31	0.00	3.31						0.00
Off-Road	11.22	90.65	50.83	0.10		4.18	4.18		4.18	4.18		10,856.65		1.00		10,877.72
Total	**11.22**	**90.65**	**50.83**	**0.10**	**6.78**	**4.18**	**10.96**	**3.31**	**4.18**	**7.49**		**10,856.65**		**1.00**		**10,877.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.19	0.18	1.85	0.00	0.26	0.01	0.27	0.01	0.01	0.02		195.65		0.02		195.99
Total	**0.19**	**0.18**	**1.85**	**0.00**	**0.26**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**195.65**		**0.02**		**195.99**

3.3 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.05	0.00	3.05	1.49	0.00	1.49						0.00
Off-Road	11.22	90.65	50.83	0.10		4.18	4.18		4.18	4.18	0.00	10,856.65		1.00		10,877.72
Total	**11.22**	**90.65**	**50.83**	**0.10**	**3.05**	**4.18**	**7.23**	**1.49**	**4.18**	**5.67**	**0.00**	**10,856.65**		**1.00**		**10,877.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.19	0.18	1.85	0.00	0.26	0.01	0.27	0.01	0.01	0.02		195.65		0.02		195.99
Total	**0.19**	**0.18**	**1.85**	**0.00**	**0.26**	**0.01**	**0.27**	**0.01**	**0.01**	**0.02**		**195.65**		**0.02**		**195.99**

3.4 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	2.42					0.00	0.00		0.00	0.00						0.00
Total	**7.62**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.14	0.14	1.39	0.00	0.20	0.01	0.20	0.01	0.01	0.01		146.74		0.01		146.99
Total	**0.14**	**0.14**	**1.39**	**0.00**	**0.20**	**0.01**	**0.20**	**0.01**	**0.01**	**0.01**		**146.74**		**0.01**		**146.99**

3.4 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	2.42					0.00	0.00		0.00	0.00						0.00
Total	**7.62**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.14	0.14	1.39	0.00	0.20	0.01	0.20	0.01	0.01	0.01		146.74		0.01		146.99
Total	**0.14**	**0.14**	**1.39**	**0.00**	**0.20**	**0.01**	**0.20**	**0.01**	**0.01**	**0.01**		**146.74**		**0.01**		**146.99**

3.5 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24		281.19		0.04		282.03
Total	**0.45**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**		**281.19**		**0.04**		**282.03**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Architectural Coating - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.45	2.77	1.92	0.00		0.24	0.24		0.24	0.24	0.00	281.19		0.04		282.03
Total	**0.45**	**2.77**	**1.92**	**0.00**		**0.24**	**0.24**		**0.24**	**0.24**	**0.00**	**281.19**		**0.04**		**282.03**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Appendix C

Greenhouse Gas Data

MBSST Network Master Plan Project EIR

Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Other Asphalt Surfaces	32.3	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	4	**Precipitation Freq (Days)**	61		

1.3 User Entered Comments

Project Characteristics - construction schedule~16-30 years, therefore project operational ~2030-2044. Model max year is 2040.

Land Use - segment 5=longest segment (10.66 miles). total area of disturbance (56,260ft(l) x 25 ft(w)=1,406,500 sf) or ~32.3 acres.

Construction Phase - Default values=135 days or approximately 7 months. Phase 1-5 years=consistent with model

Grading - total area of disturbance for largest segment=32.3 acres

Energy Use -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.50	3.41	2.05	0.00	0.34	0.18	0.53	0.18	0.18	0.36	0.00	352.14	352.14	0.04	0.00	352.92
Total	**0.50**	**3.41**	**2.05**	**0.00**	**0.34**	**0.18**	**0.53**	**0.18**	**0.18**	**0.36**	**0.00**	**352.14**	**352.14**	**0.04**	**0.00**	**352.92**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.50	3.41	2.05	0.00	0.16	0.18	0.34	0.08	0.18	0.26	0.00	352.14	352.14	0.04	0.00	352.92
Total	**0.50**	**3.41**	**2.05**	**0.00**	**0.16**	**0.18**	**0.34**	**0.08**	**0.18**	**0.26**	**0.00**	**352.14**	**352.14**	**0.04**	**0.00**	**352.92**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.18	0.00	0.18	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.75	0.43	0.00		0.04	0.04		0.04	0.04	0.00	72.53	72.53	0.01	0.00	72.69
Total	**0.09**	**0.75**	**0.43**	**0.00**	**0.18**	**0.04**	**0.22**	**0.10**	**0.04**	**0.14**	**0.00**	**72.53**	**72.53**	**0.01**	**0.00**	**72.69**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.47	0.00	0.00	1.47
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.47**	**1.47**	**0.00**	**0.00**	**1.47**

3.2 Site Preparation - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.75	0.43	0.00		0.04	0.04		0.04	0.04	0.00	72.53	72.53	0.01	0.00	72.69
Total	**0.09**	**0.75**	**0.43**	**0.00**	**0.08**	**0.04**	**0.12**	**0.04**	**0.04**	**0.08**	**0.00**	**72.53**	**72.53**	**0.01**	**0.00**	**72.69**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.47	0.00	0.00	1.47
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.47**	**1.47**	**0.00**	**0.00**	**1.47**

3.3 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.15	0.00	0.15	0.08	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	2.04	1.14	0.00		0.09	0.09		0.09	0.09	0.00	221.54	221.54	0.02	0.00	221.97
Total	**0.25**	**2.04**	**1.14**	**0.00**	**0.15**	**0.09**	**0.24**	**0.08**	**0.09**	**0.17**	**0.00**	**221.54**	**221.54**	**0.02**	**0.00**	**221.97**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	3.68	0.00	0.00	3.69
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.68**	**3.68**	**0.00**	**0.00**	**3.69**

3.3 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.07	0.00	0.07	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	2.04	1.14	0.00		0.09	0.09		0.09	0.09	0.00	221.54	221.54	0.02	0.00	221.97
Total	**0.25**	**2.04**	**1.14**	**0.00**	**0.07**	**0.09**	**0.16**	**0.03**	**0.09**	**0.12**	**0.00**	**221.54**	**221.54**	**0.02**	**0.00**	**221.97**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	3.68	0.00	0.00	3.69
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.68**	**3.68**	**0.00**	**0.00**	**3.69**

3.4 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.56	0.36	0.00		0.05	0.05		0.05	0.05	0.00	46.31	46.31	0.01	0.00	46.46
Paving	0.04					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.13**	**0.56**	**0.36**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.46**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15	2.15	0.00	0.00	2.15
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.15**	**2.15**	**0.00**	**0.00**	**2.15**

3.4 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.56	0.36	0.00		0.05	0.05		0.05	0.05	0.00	46.31	46.31	0.01	0.00	46.46
Paving	0.04					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.13**	**0.56**	**0.36**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.46**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15	2.15	0.00	0.00	2.15
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.15**	**2.15**	**0.00**	**0.00**	**2.15**

3.5 Architectural Coating - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.05	0.03	0.00		0.00	0.00		0.00	0.00	0.00	4.46	4.46	0.00	0.00	4.48
Total	**0.01**	**0.05**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.46**	**4.46**	**0.00**	**0.00**	**4.48**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Architectural Coating - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.05	0.03	0.00		0.00	0.00		0.00	0.00	0.00	4.46	4.46	0.00	0.00	4.48
Total	**0.01**	**0.05**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.46**	**4.46**	**0.00**	**0.00**	**4.48**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Other Asphalt Surfaces	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Other Asphalt Surfaces	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Other Asphalt Surfaces	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

Appendix D

List of Acronyms

APPENDIX D: LIST OF ACRONYMS

TABLE D-1 LIST OF ACRONYMS

Acronym/Abbreviation	Definition
AADT	Annual Average Daily Trips
AAQS	Ambient Air Quality Standards
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ACMs	Asbestos-containing materials
ADA	Americans with Disabilities Act
ADL	Aerially deposited lead
ADT	Average Daily Trips/Traffic
AFY	Acre-feet per year
ALS	Advanced Life Support
ALSFPD	Aptos/La Selva Fire Protection District
AMR	American Medical Response
AP	Alquist-Priolo
APCDs	Air Pollution Control Districts
AQMP	Air Quality Management Plan
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Health and Safety Administration
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CAS	Climate Action Strategy
CAT	Climate Action Team
CBC	California Building Code
CCC	California Coastal Commission
CCCC	California Climate Change Center
CCR	California Code of Regulations
CCTP	Climate Change Technology Program
CDFG[1]	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CFCs	Chlorofluorocarbons
CFGC	California Fish and Game Code
CFP	Corralitos Filter Plant
CFPD	Central Fire Protection District
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CH_4	Methane
CHP	California Highway Patrol
CLG	Certified Local Government
CLTS	Santa Cruz Long-toed Salamander
CNDDB	California Natural Diversity Data Base

CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon dioxide
CO_2E	Carbon dioxide equivalent
CNEL	Community Noise Equivalent Level
CPUC	California Public Utilities Commission
CRLF	California Red-legged Frog
CRPR	California Rare Plant Rank
CTS	California Tiger Salamander
CUE	Critical Use Exemption
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
dB	Decibel
dBA	A-weighted Decibel
DCSD	Davenport County Sanitation District
DOC	California Department of Conservation
DOT	Department of Transportation
DPR	Department of Pesticide Regulations
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EAP	Energy Action Plan
EHS	Environmental Health Services
EIR	Environmental Impact Report
EMS	Emergency Medical Services
EO	Executive Order
ESA	Environmental Site Assessment
ESU	Evolutionarily Significant Unit
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRMS	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GCF	Green Climate Fund
GHGs	Greenhouse Gases
GWPs	Global warming potentials
HAER	Historic American Engineering Record
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
HHRA	Human Health Risk Assessment
HMMPs	Hazardous Materials Management Plans
HMTA	Hazardous Materials Transportation Act of 1975
HPO	Historic Preservation Ordinance
HSWA	Hazardous and Solid Waste Amendments Act
IPCC	Intergovernmental Panel on Climate Change
IPH	Iowa Pacific Holdings
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
Leq	Equivalent Noise Level
LCFS	Low Carbon Fuel Standard
LCP	Local Coastal Program
LOS	Level of Service
LRAs	Local Responsibility Areas
LRFD	Load and Resistance Factor Design
MACT	Maximum Achievable Control Technology
MBSST	Monterey Bay Sanctuary Scenic Trail
MBTA	Migratory Birds Treaty Act

MBUAPCD	Monterey Bay Unified Air Pollution Control District
mgd	Million gallon per day
MLD	Most Likely Descendant
MMI	Modified Mercalli Intensity
MMT	Million metric tons
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer Systems
MT CO_2E	Metric tons of carbon dioxide equivalent
MUTCD	Manual on Uniform Traffic Control Devices
NAHC	Native American Heritage Commission
NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NCCAB	North Central Coast Air Basin
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO	Nitric oxide
NO_x	Oxides of nitrogen
NO_2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	Non-point Source
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O&M Plan	Operations and Maintenance Plan
OPR	Office of Planning and Research
PAHs	Poly-nuclear aromatic hydrocarbons
PFCs	Perfluorocarbons
Pga	peak ground acceleration
PGR	Primary Groundwater Recharge
$PM_{2.5}$	Particulate matter 2.5 microns or less in size
PM_{10}	Particulate matter 10 microns or less in size
Ppm	Parts per million
PSMCSD	Pajaro/Sunny Mesa Community Services District
PVWMA	Pajaro Valley Water Management Agency
QPS	Quarantine and Preshipment
RCRA	Resource Conservation and Recovery Act
ROG	Reactive Organic Gases
RPS	Renewable Portfolio Standard
RTC	Santa Cruz County Regional Transportation Commission
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
Sa	Spectral acceleration
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCHSA	Santa Cruz County Health Services Agency
SCMBR	Santa Cruz and Monterey Bay Railway
SCS	Sustainable Communities Strategy
SF_6	Sulfur hexafluoride
SFHAs	Special Flood Hazard Areas
SHPO	State Office of Historic Preservation
SJVAPCD	San Joaquin Air Pollution Control District
SLM	Shared Lane Markings

SLOAPCD	San Luis Obispo Air Pollution Control District
SO_2	Sulfur dioxide
SPRCo	Southern Pacific Railroad Company
SqCWD	Soquel Creek Water District
SRAs	State Responsibility Areas
SSC	Species of Special Concern
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAMC	Transportation Agency for Monterey County
TCMs	Transportation Control Measures
TCRP	Transit Cooperative Research Program
TSCA	Toxic Substances Control Act
TSP	Total Suspended Particulate
UNFCCC	United Nations Framework Convention on Climate Change
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled
WDRs	Waste Discharge Requirements
WEAP	Worker Environmental Awareness Program

[1]*As of January 1, 2013 the California Department of Fish and Game has changed their name to the California Department of Fish and Wildlife*