CALIFORNIA COASTAL COMMISSION

455 MARKET STREET, SUITE 300
SAN FRANCISCO, CA 94105-2219
VOICE (415) 904- 5200
FAX (415) 904-5400
WWW.COASTAL.CA.GOV

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Consistency Determination CD-0001-21 (FHWA)

December 2, 2021

EXHIBITS 1

Exhibit 1

County Boundary

Monterey Bay Sanctuary Scenic Trail (MBSST)

North Coast Rail Trail (Segment 5)

Coastal Rail Trail Spine

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MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
Aesthetics and Visual Resources		
MM AES-3. Minimize Artificial Appearance of Coastal Armoring. At the eroding coastal bluff near Davenport, armoring to stabilize the base of the slope shall be designed to minimize its artificial appearance. The color and texture of armoring materials shall be visually compatible with the appearance of the surrounding coastal bluff. These design features shall be included in the final plan set prior to the initiation of construction.	Prior to and during construction	CFL and RTC
Agricultural Resources		
MM AG-1. Implement Agricultural Land Conservation Measures *(Optional Measure)* Prior to issuance of any grading permits, the RTC shall provide that for every 1.0 acre of FMMP Important Farmland (Prime Farmland, Unique Farmland, and Farmland of Statewide Importance) in the Project corridor that is permanently converted from active agriculture to non-agricultural use as a result of trail development, 1.0 acre of land of comparable agricultural productivity shall be preserved in perpetuity. Said 1:1 mitigation shall be satisfied through one or more of the following: a. Granting a perpetual conservation easement(s), deed restriction(s), or other farmland conservation mechanism(s) to the County or qualifying land management entity,[1] such as the Land Trust of Santa Cruz County, for the purpose of permanently preserving agricultural land. The required easement(s) area or deed restriction(s) shall, therefore, total a minimum of 1.4 acres of FMMP Important Farmland. The land covered by said off-site easement(s) or deed restriction(s) shall be located in Santa Cruz County. b. Making an in-lieu payment to a qualifying entity, such as the Land Trust of Santa Cruz County, to be applied toward the future purchase of a minimum of 1.4 acres of FMMP Important Farmland in Santa Cruz County, together with an endowment amount as may be required. The payment amount shall be determined by the qualifying entity or a licensed appraiser. c. Making an in-lieu payment to a qualifying entity, such as the Land Trust of Santa Cruz County, to be applied toward a future perpetual conservation easement, deed restriction, or other farmland conservation mechanism to preserve a minimum of 1.4 acres of FMMP Important Farmland in Santa Cruz County. The amount of the payment shall be equal to 110 percent of the amount determined by the qualifying entity or a licensed appraiser. d. Any combination of the above.	Prior to construction	RTC
MM AG-3(a). Implement Measures to Reduce Construction-Related Conflicts with Agricultural Operations The following measures shall be implemented during construction to reduce potential conflicts between construction-related activities and agricultural operations: ▪ Staging areas shall not be placed in or directly adjacent to active agricultural areas and access to staging areas shall not block or inhibit access to existing farmland or farm access roads	Prior to and during construction	CFL and RTC

[1] A qualifying entity would be an incorporated land conservancy that has demonstrable ability to purchase, hold, and manage agricultural conservation easements and that possesses accreditation from the Land Trust Alliance.

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▪ Where feasible, construction adjacent to agricultural areas shall not occur during peak harvest periods, typically in the fall months ▪ When construction activities must occur during agricultural harvest (for example, to avoid nesting bird season), reasonable access to farmland, as determined by the CFL or RTC in consultation with the North Coast Farmers, shall be maintained; while precise timing cannot be specified, CFL and RTC would endeavor to consult with the Farmers as early as feasible in the development of the construction schedule ▪ The construction contractor shall designate a contact for construction-related complaints. Contact information shall be provided to agricultural operators adjacent to the rail line, and shall be posted at construction staging areas. The contractor shall respond to complaints in a timely manner These measures shall be included in final design plans and implemented by the construction contractor. The RTC or its designee shall review plans to confirm inclusion of these measures and conduct spot-check monitoring during construction to ensure compliance.		
MM AG-3(b). Install No Trespassing Signs Prior to Operation Signs clearly indicating "No Trespassing" shall be installed at key locations, to be identified by the RTC or CFL in consultation with the North Coast Farmers. The signs shall specify the legal ramifications for trespassing on adjacent properties. The Trail Manager shall be responsible for ensuring the signs are properly maintained and shall replace signs when they are removed or damaged such that they are no longer legible.	Prior to public use	RTC and CFL
MM AG-3(c). Regularly Remove Solid Waste and Litter during Operation Once the trail is open for public use, the Trail Manager shall ensure that solid waste is collected from each of the 23 proposed trash receptacles twice-weekly, or more often as needed to ensure that the trash and recycling receptacles located along the trail and in the three parking lots do not overflow. The frequency shall be determined by the Trail Manager and may vary seasonally, with more frequent collection in the summer months when the trail is busy. Trash/recycling receptacles located in the parking lots may require more frequent collection than the receptacles along the trail alignment. The Trail Manager shall be responsible as well for collecting litter along the trail. If litter leaves the trail ROW, the Trail Operator shall ensure that the litter in the vicinity of the trail that is reasonably attributed to trail use is removed within a reasonable time frame. Access to agricultural fields for the purpose of litter removal shall be coordinated with on-site agricultural operators, taking into account pesticide/fumigant restrictions and the goal of minimizing soil compaction or direct contact with crops. The Trail Manager shall not enter adjacent agricultural fields without express permission by the agricultural operator. All solid waste and recyclable materials shall be properly disposed. Additionally, the Trail Manager shall identify garbage, feces, and trampling associated with human activity, including homeless/transient encampments, and report such activity to the County Sheriff and State Parks.	Post construction	RTC and/or designated trail manager
MM AG-3(d). Post Notices to Promote Food Safety Prior to Operation Prior to the trail opening for public use, the RTC shall post notices of ongoing agricultural activities along the trail alignment, at least every mile, in addition to posting notices at the trail entrances. The location of the notices posted along the trail shall be identified by the RTC in consultation with the North Coast Farmers. The following information shall be added to the notices, at minimum: ▪ A reminder that dogs and horses are prohibited on the trail, consistent with State Parks regulations.	Prior to public use	RTC and/or designated trail manager

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▪ Notice that trail users are required to use restroom facilities in consideration of food hygiene issues on adjacent agricultural lands, and provide the location of the restroom facilities at the Davenport Beach, Panther/Yellowbank Beach, and Wilder Ranch parking lots.		
MM AG-3(e). Install Agricultural Interpretive Exhibits prior to Operation. Prior to the trail opening for public use, agricultural interpretive exhibits shall be installed at key locations along the trail to highlight specifically the importance of agriculture in the North Coast area, consistent with MBSST Master Plan Design Guidelines. The signs shall be intended to educate trail users about the history of North Coast agriculture, typical agricultural practices, and other information determined appropriate in consultation with the North Coast Farmers. The displays shall explain that not all materials applied in nearby agricultural fields are pesticides, but rather may be fertilizers or soil amendments. At least five exhibits shall be placed along the trail in proximity to agricultural operations, and shall be installed in coordination and compatible with other interpretative information (e.g., Sanctuary/coastal education signage).	Prior to public use	CFL and RTC
MM AG-4(a). Relocate Farm Utilities Affected by Trail Construction The RTC and CFL shall be responsible for the actual and reasonable costs to disconnect, dismantle, remove, reassemble, and reinstall agricultural utilities and infrastructure (including, but not limited to, irrigation system components, farm access roads, and power supplies) which was installed originally pursuant to legal entitlements to occupy or use the affected land (e.g., leases, contracts, agreements) in or immediately adjacent to the trail ROW. RTC maintains the right to decommission and/or cap unidentified utilities on rail ROW. Utilities shall be relocated in a timely manner to avoid service disruptions.	Prior to construction	RTC and CFL
MM AG-4(b). Design and Maintain Trail Crossings to Accommodate Farm Equipment and Restrict Access Trail crossings shall be designed to accommodate farm equipment. This shall include the following: ▪ Crossings shall accommodate farm equipment measuring 19-foot in width, and shall be paved with a surface that can withstand tractor grousers ▪ Pending consultation with the California Coastal Commission, gates may be installed at entrances some crossings to prevent access to farmlands by trail users. The gates could include lock system to ensure access by agricultural operators, the Trail Manager, State Parks personnel, and emergency first responders The Trail Manager shall be responsible for clearing excessive soil, mud, and other debris carried onto the trail by farm vehicles, as needed to ensure safe crossing by pedestrians and bicyclists	After construction of trail crossings	CFL, RTC, and/or Designated Trail Manager
MM AG-5. Establish Pesticide Spray Notification Procedures and Install Temporary Warning Signage along Trail. The RTC shall establish notification procedures whereby agricultural operators adjacent to the Project alignment notify the Trail Manager at least 24 hours prior to application of pesticides of primary concern within 100 feet of the trail. The Trail Manager shall develop the list of pesticides of primary concern in consultation with the Agricultural Commissioner and shall include on the list those pesticides most likely to impact public health. The Trail Manager shall update the list annually based on PURs, latest state and federal pesticide regulations, and Agricultural Commissioner recommendations. Upon notification, the Trail Manager or their designee shall place temporary signage on the trail in the vicinity of pesticide application. The signs shall be placed in a location highly visible to trail users, and shall indicate the type of pesticide being applied, the duration of application activities, the potential health hazards associated with exposure to the pesticide, and that trail users enter at their own risk. The notice shall additionally include the web address to the National Pesticide Information Center (http://npic.orst.edu/).	Prior to public use Temporary notices posted within 24-hours of notification of application of pesticide of primary concern.	RTC and/or Designated Trail Manager

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
Biological Resources		
MM BIO-2. Conduct Biological Monitoring for California Red-Legged Frog (CRLF) and Other Sensitive Wildlife Species CFL and their construction contractor shall conduct construction monitoring for California red-legged frog (CRLF) and other sensitive wildlife species, as agreed to with USFWS and CDFW, and may include the following: ▪ Prior to initiation of construction activities, a USFWS- and CDFW-approved biologist shall prepare a construction monitoring plan that identifies all areas to be protected with exclusion fencing on a 1:1500 scale map (or similar scale determined to be practicable), and all areas requiring monitoring by a USFWS- and CDFW-approved biologist or trained construction monitor. ▪ Prior to initiation of construction activities, a USFWS- and CDFW-approved biologist shall conduct an environmental training for all construction personnel. The training shall include a description of CRLF and its habitat, and measures to protect CRLF, and other sensitive wildlife species known or with potential to occur in the Project alignments and surroundings (sensitive fish species, potential Santa Cruz black salamander and western pond turtle, sensitive and native nesting bird species, potential roosting bats species, and San Francisco dusky-footed woodrat). ▪ Prior to initiation of construction activities, the construction contractor shall install exclusion fencing (solid silt fencing) in specified areas along the project boundaries, 2.0 feet below grade and 3.0 feet above grade, with wooden stakes at intervals of not more than 5.0 feet. The fence shall be maintained in working order for the duration of construction activities. The USFWS-approved biologist shall inspect the fence daily and notify the construction foreman when fence maintenance is required. The fence shall allow for wildlife passage across the alignment at intervals to be determined in conjunction with USFWS and CDFW. ▪ If feasible, construction activities shall take place during the dry season between June 15 and October 15, or until the first rain of the season, especially vegetation removal and work in or near aquatic features, including ditch wetlands. Only minor activities of no more than five days in duration shall be initiated after October 15, and such activities shall only proceed in upland areas and when the 10-day forecast predicts a less than 30% chance of precipitation. ▪ The USFWS- and CDFW-approved biologist shall be present on-site, to monitor all ground disturbing activities, (including vegetation removal, grading, and exclusion fence installation and removal and for all construction activities located in or near aquatic breeding and non-breeding habitats including stock ponds, creeks and drainages, riparian habitat, and palustrine and ditch wetland features) for CRLF and amphibians that may be found within vegetation or sediment. Any vegetation removed shall be placed directly into a disposal vehicle. Vegetation shall not be piled on the ground unless later transferred, piece by piece, under the direct supervision of a USFWS- and CDFW-approved biologist. ▪ Once these activities have been completed, the approved biologist or construction monitor shall conduct daily morning inspections of the work area prior to daily construction initiation. The biologist shall check underneath any vehicle or heavy equipment that is planned to be moved within the construction site for CRLF and amphibians. ▪ The USFWS- and CDFW-approved biologist shall train a designated construction monitor who shall oversee implementation of all protective mitigation measures when the USFWS-approved biologist is not present. This representative shall be trained in the identification of special-status amphibians. This representative shall not have the authority to handle special status species.	Prior to and during construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▪ FHWA construction operations engineer shall have the authority to stop work that may result in the take of a special status species at the request of UFWS- and CDFW-approved biologist and construction monitor. ▪ At the end of each work day, excavations shall be secured with a cover (preferably) or a ramp to prevent wildlife entrapment. ▪ All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling. ▪ USFWS- and CDFW-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic, if present.		
MM BIO-4. Conduct Breeding Bird Survey and Identify Protective Buffers prior to Construction The avian breeding season occurs between February 1 and September 15. If feasible, vegetation and tree removal activities shall occur between September 15 and November 1 to avoid impacts to breeding birds and other sensitive biological resources, consistent with the preferred construction windows identified in Mitigation Measure BIO-8(d). If Project activities are initiated during breeding bird season (between February 1 and September 15) or if construction activities lapse for a period of two weeks or more, a qualified wildlife biologist shall conduct avian breeding surveys and identify protective measures prior to initiating and/or resuming construction. If the biologist identifies breeding birds utilizing the trail alignment and surrounding area, the biologist, in consultation with USFWS and/or CDFW, shall establish buffers appropriate to the observed nesting species to protect nesting activities from disturbance, based on standard protocols such as those outlined in the Nesting Bird Management Plan (PG&E 2015). Sensitive bird species that are known to nest adjacent to the trail alignments (northern harrier, American peregrine falcon, western snowy plover) shall be given special consideration.	Prior to and during construction	CFL and RTC
MM BIO-5. Implement Measures to Protect Roosting Bats during Construction Bat maternity roosting occurs typically between May 1 and September 1, and winter hibernacula (shelter occupied during the winter by a dormant animal) for many bat species are found between November 1 and February 15. If feasible, the construction contractor shall conduct limbing/tree removal operations between September 15 and November 1 to avoid bat maternity roosts and winter hibernacula, as well as other sensitive biological resources. These dates are consistent with the preferred construction windows identified in Mitigation Measure BIO-1(a). To avoid impacts to resident roosting bats, a qualified biologist shall conduct a pre-construction survey for bats prior to trimming, limbing, or tree removal during all months as follows: ▪ A qualified biologist shall determine if bats are utilizing the site for roosting. For any trees/snags that could provide roosting space for cavity or foliage-roosting bats, the trees/snags and foliage shall be thoroughly evaluated to determine if bats are present. Visual inspection, trapping, and/or acoustic surveys shall be utilized as initial techniques. If roosting bats are found, the biologist shall develop and implement acceptable passive exclusion methods in coordination with or based on CDFW recommendations. If feasible, exclusion shall take place during the appropriate windows (February 15-May 1 or September 1-October 15) to avoid harming bat maternity roosts and/or winter hibernacula (authorization from CDFW is required to evict winter hibernacula for bats). ▪ If established maternity colonies are found, a minimum 500-foot buffer shall be established around the colony to protect pre-volant young from construction noise until the young can fly; or implement other measures acceptable to CDFW. ▪ If a tree is determined not to be an active roost site for cavity-roosting bats, it may be immediately limbed or removed as follows:	Prior to construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▫ To avoid harming potential foliage roosting bats, limbs shall be lowered, inspected for bats by a bat biologist, and chipped immediately or moved to a dump site. Alternately, limbs may be lowered and left on the ground until the following day, when they can be chipped or moved to a dump site. No logs or tree sections shall be dropped on downed limbs or limb piles that have not been in place since the previous day. ▫ If the tree is not limbed or removed within four days of the survey, the survey efforts shall be repeated.		
MM BIO-6. Implement Dusky-Footed Woodrat Protection Measures During Construction Prior to construction, a qualified biologist shall conduct a preconstruction survey for woodrat houses, and clearly flag all houses within the construction impact area and immediate surroundings. The construction contractor shall avoid woodrat houses to the extent feasible by installing a minimum 10-foot (preferably 25-foot) buffer with silt fencing or other material that shall prohibit encroachment. If this buffer and avoidance is not feasible, the qualified biologist shall allow encroachment into the buffer, but preserve microhabitat conditions such as shade, cover and adjacent food sources. Additionally, if avoidance is not possible, a qualified biologist shall develop and implement a Woodrat Relocation Plan. The plan shall be developed in consultation with CDFW (and review by CCC and California State Parks) and may include: **Step 1. Live Trapping.** Trapping efforts shall not take place during low night temperatures (below 40 degrees Fahrenheit), inclement or extreme weather conditions. To reduce affects to vulnerable young during their breeding season, work shall be scheduled between August 1 and October 30. **Step 2. Dismantling.** For occupied houses, the existing woodrat house shall be dismantled and the woody debris, including cached food and nesting material, carried to the nearest suitable relocation site outside the Project footprint and used to build an artificial shelter. If no San Francisco ducky-footed woodrats are captured at a given house, it shall be dismantled by hand to ground level, and the woody debris spread to reduce rebuilding. **Step 3. Artificial Shelter Location and Installation.** Sites for artificial shelters shall be located in proximity to the original house location and no closer than 20 feet from existing woodrat houses and other artificial shelters. Choose the best available microhabitat, ideally in a location with sun and shade and if possible under the same species of tree or shrub as was present at the original house location. Relocation sites shall contain biologically-suitable habitat features (e.g. stands of poison oak, coast live oaks, and dense native brush). **Step 4. Release of San Francisco Dusky-footed Woodrat.** The occupied live-trap shall be placed against the entrance to the artificial shelter, opened, and the woodrat allowed to enter, ideally on its own accord. After the individual enters, the entrance shall be loosely but completely plugged with dirt and leaf duff to encourage it to stay, at least for the short-term. **Step 5. Monitoring.** Monitoring shall be conducted for 30 days after relocation is completed and include infrared and motion activated cameras and an occupancy assessment. **Step 6. Safety Measures.** Human exposure to woodrats and possible diseases carried by woodrats shall be minimized. **Step 5. Reporting.** A report on San Francisco dusky-footed woodrat nest monitoring shall be provided to CDFW, CCC, and California State Parks within 30 days following the end of the monitoring period and shall include the methods and results of trapping and relocation, occupancy determinations, and discussion of any remedies that may be needed.	Prior to construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
MM BIO-8(a). Minimize Construction in Sensitive Habitats[2] ▪ To the extent feasible, all trail construction activities, including access routes, staging areas, stockpile areas, and equipment maintenance are to be located outside of the limits of mapped sensitive habitats. Sensitive habitat areas shall be mapped by a qualified biologist and clearly shown on construction plans. Temporary fencing (e.g., silt fencing) shall be installed at the outermost edge sensitive habitats and shall not be disturbed except as required for trail construction. Vegetation removal shall be limited to the minimum extent necessary to achieve project objectives. Mature trees will be retained wherever feasible and limbing of trees and shrubs in coastal scrub, arroyo willow scrub and riparian forest, and coast live oak woodland should be favored in lieu of removal. When possible, during construction stumps and burls of native vegetation shall be retained to allow for re-sprouting following project completion. ▪ Arroyo willow riparian forest impacted by slope stabilization activities shall be minimized to the maximum extent feasible. Construction of retaining walls, slope contouring, and other stabilization techniques shall be limited to the footprint of the required work area. Silt fencing and other erosion control measures shall be placed immediately downslope to prevent sediments and debris from entering stream courses and degrading water quality. Bioengineering techniques (e.g. low crib walls, vegetation planting) shall be used as a slope stabilization approach, when feasible. ▪ Limbing and removal of coast live oak trees located in coast live oak forest habitat shall be minimized to maintain canopy cover, nesting and roosting habitat for bird and bat species, and understory habitat for wildlife, including woodrats and other small mammals. ▪ Wherever feasible, CFL and RTC shall implement design options to avoid construction activities in sensitive habitats by shifting the trail alignment to the adjacent farm road on the coastal side of the trail alignment from south of Davenport to Bonny Doon Beach (identified in Section 2.1.4, *Project Construction*), and shifting the trail alignment on the farm road coastward to avoid sensitive habitats.	During construction	CFL and RTC
MM BIO-8(c). Develop Project-specific Biological Resources Mitigation and Management Plan for Impacts to Biological Resources Resulting from Trail Construction and Operation A qualified (USFWS- and CDFW-approved) biologist shall prepare a Project-specific Biological Resources Mitigation and Management Plan (MMP) to compensate for direct and indirect impacts to sensitive habitats, including ESHA, and other sensitive biological resources resulting from trail construction and operation. The MMP shall compensate for permanent loss of sensitive habitats, through the creation, restoration, and enhancement of in-kind sensitive habitat, as close to impacted areas as possible within the study area, or on suitable State Parks lands immediately coastward of the alignment in consultation with State Parks. To protect against the loss of ecological functions and values, compensatory mitigation shall re-create the following features of existing sensitive habitat that would be impacted by the Proposed Project: habitat mosaic, edge habitats, and proximity to wetlands and other waters. A portion of compensatory mitigation shall re-create the linear aspect and provision for wildlife dispersal of existing habitats, where these features are potentially lost as a result of the Proposed Project. This feature shall be designed to protect against fragmentation of remaining habitat patches adjacent to the rail bed. In addition, the Biological Resources MMP shall include the following:	Prior to and during construction	CFL and RTC

[2] BIO-8(b): Construct a Boardwalk in Coastal Dune Habitat. This measure has been removed as design changes to protect dune habitat have made it unnecessary.

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▪ Description of the trail alignment including acreage of temporary and permanent impacts to coastal scrub, arroyo willow scrub, arroyo willow riparian forest, coast live oak forest, and coastal dune habitats, including the number and type of trees slated for removal. ▪ Acreage of temporary and permanent impacts to CRLF breeding and non-breeding aquatic habitat, upland, and dispersal habitat. ▪ Ecological functions and values assessment of sensitive habitats, including CRLF habitat to determine suitable mitigation ratios (at a minimum, no-net-loss) in consultation with USFWS, CDFW, and CCC. ▪ Goals of compensatory mitigation, including types and areas of sensitive habitat to be created, restored, and/or enhanced; number and type of trees to be replaced, specific functions and values of mitigation habitat types, mitigation ratios (created/restored/enhanced: impacted), and performance criteria, including: o Conservation of functions and values of CRLF critical habitat (including breeding and non-breeding aquatic habitat features, safe movement and dispersal between aquatic features and upland and dispersal habitat that meet the criteria for primary constituent elements for CRLF); o Conservation of edge habitats; o Conservation of functions and values for wildlife movement including habitat mosaics, links between creeks and safe passage across the proposed alignment, with perennial water sources, diverse food sources, cover, and shelter. ▪ Such compensatory mitigation must occur as close to impacted areas as feasible and result in no-net-loss (minimum 1:1 replacement ratio) of sensitive habitat types, or their functions and values. ▪ Location and acreage of sensitive habitat, including CRLF habitat, mitigation areas including ownership status, and existing functions and values of restored and/or enhanced sensitive habitats. ▪ Detailed sensitive habitat creation and/or restoration construction and planting techniques. ▪ Description and design of habitat requirements for sensitive wildlife known to occur in the study area and immediate surroundings (including CRLF, potential Santa Cruz black salamander, western pond turtle, western snowy plover, northern harrier, American peregrine falcon, native nesting bird species, potential roosting bat species, and San Francisco dusky-footed woodrat) ▪ Maintenance activities during the monitoring period including replanting native vegetation found within similar habitats within the same watershed and weed removal that avoid take of CRLF and other sensitive wildlife species. Trail maintenance activities would employ hand-tools only. The use of pesticides or herbicides would be prohibited. ▪ Strategies to protect remaining sensitive habitats along the trail corridor and surroundings from direct and indirect impacts from trail users and illegal camping, such as: (strategies may include o split-rail and wire fencing, o interpretive signage including specific information about sensitive habitats and species and “leave no trace” content, and o green fencing (dense vegetative buffers consisting of plant species that deter human passage such as poison oak, Pacific blackberry, and stinging nettle), and o linear replacement wetlands (see Mitigation Measure BIO-9[b]) of sufficient width (e.g., greater than 6 feet) and depth (e.g., greater than 2.5 feet) to deter crossing.		

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▪ Strategies to protect wildlife movement, both across and along the trail corridor, supported by complex and mature sensitive habitat mosaics, including perennial water sources. ▪ Consideration of experience-based management approaches, the science of recreation ecology, and social carrying capacity analysis[3] in the development of this MMP. ▪ Long-term quantitative and qualitative monitoring and reporting, including consideration of carrying capacity analysis and alternative approaches, and documenting the ability to meet or surpass performance criteria. ▪ Adaptive management strategies to: o identify shortcomings in meeting performance standards; o ensure long-term viability of existing, enhanced, restored, and/or newly-created sensitive biological resources; o enhance ecological functions and values of sensitive habitat mitigation areas, including CRLF habitat and habitat for wildlife movement; o ascertain the sufficiency of the parking lots, trail access, facilities development and management, and interpretive design features associated with the project to protect biological resources, with consideration given to adaptive management strategies identified in recreation ecology and social carrying capacity analysis references;[4] o if impacts from illegal camping and other off-trail uses result in failure to meet performance standards, adaptive management strategies shall include reducing the hours of operation of the trail and associated facilities (restrooms and parking lots) to be consistent with State Parks hours (open from 8:00 am to sunset). Mitigations, Mitigation area locations, and final replacement ratios (e.g., potentially above the minimum "no-net-loss" ratio set here) shall be determined in consultation with the relevant agencies, as follows. ▪ **U.S. Fish and Wildlife Service (USFWS).** California red-legged frog (CRLF) ▪ **California Department of Fish and Wildlife (CDFW).** Sensitive habitats, work below the break in bank of stream corridors, riparian habitat, Fully-Protected species, Species of Special Concern ▪ **California Coastal Commission (CCC).** Wetlands, Environmentally sensitive habitat areas (ESHA) ▪ **California State Parks.** Sensitive resources and habitats on State Park property The *draft* MMP shall be submitted to USFWS, CDFW, CCC, and California State Parks for review prior to formal adoption. Monitoring reports will be provided to these agencies.		
MM BIO-8(d). Implement Best Management Practices (BMP) during Construction The construction specifications shall include the following BMPs to protect water quality and biological resources during project construction activities.	Prior to and during construction	CFL and RTC

[3] Garrigos Simon, F.J., Y. Narangajavana, and D. Palacios Marques. 2004. Carrying capacity in the tourism industry: a case study of Hengistbury Head. Tourism Management 25(2): 275-283; Knight, Richard L., and Kevin J. Gutzwiller, editors. 1995. Wildlife and recreationists: Coexistence through management and research. Washington, D.C: Island Pres; Leung, Yu-Fai and Jeffrey L. Marion. 2000. Recreation Impacts and Management in Wilderness: A State-of-Knowledge Review. U.S. Department of Agriculture, Forest Service Proceedings RMRS-P-15-VOL-5. Washington, DC 2000; Manfredo, Michael J., and Richard A. Larson. 1993. Managing for wildlife viewing recreation experiences: an application in Colorado. Wildlife Society Bulletin 21:226–236; Manning, Robert E. 2002. "How Much Is Too Much: Carrying Capacity of National Parks and Protected Areas." Monitoring and Management of Visitor Flows in Recreational and Protected Areas Conference Proceedings. A. Amberger, C. Brandenburg, A. Muhar, editors. 2002. 306-313.

[4] see Footnote 3 above.

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▪ Minimize removal or disturbance of existing vegetation outside of the footprint of project construction activities [refer to Mitigation Measures BIO-8(a) and BIO-9(a)]. ▪ Limit site access and parking, equipment storage and stationary construction activities to the designated staging areas to the maximum extent feasible. ▪ Prior to staging equipment on-site, clean all equipment caked with mud, soils, or debris from off-site sources or previous project sites to avoid introducing or spreading invasive exotic plant species. When feasible, remove invasive exotic plants from the Project area. All equipment used on the premises should be cleaned prior to leaving the site for other projects. ▪ Position all stationary equipment such as motors, pumps, generators, and/or compressors over drip pans. At the end of each day, move vehicles and equipment as far away as possible from any water body adjacent to the Project site in a level staging area. Position parked equipment also over drip pans or absorbent material. ▪ Check under all equipment for wildlife before use. If any listed or special-status wildlife is observed under equipment or in the work area, do not disturb or handle it. Cease Project activities and contact the biological monitor or resource agencies for further guidance, if the animal continues to be encountered in the Project area. ▪ If security fencing is installed around the construction site, allow for passage of wildlife to maintain a link between inland and coastal habitats including stream corridors during construction activities. Prohibit the use of plastic mesh safety fencing to prevent wildlife entrapment. ▪ Avoid working at night or during rain events when special-status amphibians and mammals are generally more active. Consult weather forecasts from the National Weather Service at least 72 hours prior to performing work. ▪ Properly contain and remove all food trash that may attract predators into the work area and construction debris and trash from the work site on a regular basis. ▪ Refuel and perform all vehicle and/or equipment maintenance off-site at a facility approved for such activities. ▪ To the greatest extent feasible, stabilize all exposed or disturbed areas in the Project area. Install erosion control measures as necessary such as silt fences, jute matting, weed-free straw bales, plywood, straw wattles, and water check bars, and broadcasting weed-free straw wherever silt-laden water has the potential to leave the work site and enter the nearby streams. Prohibit the use of monofilament erosion control matting to prevent wildlife entanglement. Modify, repair, and/or replace erosion control measures as needed. ▪ Revegetate with native vegetation found within similar habitats within the same watershed to minimize erosion, prevent the establishment of invasive weeds, and accelerate the recovery of native vegetation communities. ▪ Whenever feasible, certain construction activities will be timed to avoid impacts to sensitive habitats and wildlife species, as presented in Table 3.4-5 of the EIR, and at the end of this MMRP. Ideally, most if not all vegetation clearing will be done in the fall.		
MM BIO-9(a). Minimize Construction-related Activities in Palustrine Emergent Wetlands and Aquatic/Riverine Habitats Minimize construction related activities including, but not limited to, access routes, staging areas, stockpile areas, and equipment maintenance, within or adjacent to the limits of palustrine emergent wetlands and aquatic/riverine habitats, to the extent feasible. Wetlands and aquatic/riverine areas shall be clearly shown on construction plans. Temporary fencing (e.g., silt fencing) shall be installed at the outermost edge of all features not directly affected by trail construction.	Prior to construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
MM BIO-9(b). Develop and Implement Wetland Mitigation and Monitoring Plan A qualified biologist shall be retained to prepare a Wetland Mitigation and Monitoring Plan (MMP) for all direct and indirect impacts to wetlands and aquatic/riverine habitats resulting from trail construction, resulting in no-net-loss (minimum 1 :1 replacement) of these sensitive habitat types. The mitigation area locations and replacement ratios shall be determined in consultation with the USFWS, NOAA Fisheries, USACE, Central Coast RWQCB, California Coastal Commission, and California Department of Fish and Wildlife. The Wetland MMP shall include the following: ▪ Description of the Project including acreage of temporary and permanent impacts to palustrine emergent wetlands, Coastal Act wetlands including arroyo willow scrub and arroyo willow riparian forest, and aquatic/riverine features as identified in a formal delineation of jurisdictional wetlands and other Waters of the U.S. ▪ Ecological functions and values assessment of wetlands, including a determination of regulatory status and permitting requirements to determine suitable mitigation ratios ▪ Goals of compensatory mitigation project including types and areas of wetland and aquatic/riverine habitat to be created, restored, and/or enhanced; specific functions and values of mitigation habitat types; and mitigation ratios (created/restored/enhanced : impacted) ▪ Location and acreage of wetland and riparian mitigation areas including size, ownership status, and existing functions and values of restored and/or enhanced sensitive habitats ▪ Detailed wetland and aquatic/riverine construction and planting techniques ▪ Description and design of habitat requirements for special-status plants and wildlife, including CRLF, potentially occupying wetland and aquatic/riverine habitats ▪ Maintenance activities during the monitoring period, including replanting native wetland and riparian vegetation and weed removal, that will not result in take of CRLF ▪ Long-term quantitative and qualitative monitoring and reporting, documenting ability to meet or surpass performance criteria ▪ Adaptive management strategies to ensure long-term viability and enhance ecological functions and values of sensitive habitat mitigation areas ▪ Strategies to protect remaining wetland and aquatic/riverine habitats along the trail corridor from direct and indirect impacts from trail users. Strategies may include split-rail fencing, interpretive signage, and green fencing (dense vegetative buffers) The *draft* MMP shall be submitted to USFWS, CDFW, CCC, and California State Parks for review.	Prior to and during construction	CFL and RTC
MM BIO-C(a). Include Cumulative Conservation Goals and Objectives in Project-Specific Biological Resources Mitigation and Management Plan (MM BIO-8(c)) To mitigate for cumulative impacts, the Project-Specific Biological Resources Mitigation and Management Plan (MMP) developed as Mitigation Measure BIO-8(c) shall include specific goals, objectives, and qualitative performance criteria to maintain functional connectivity between habitat patches and open spaces, including the functions and values of the existing linear feature comprised of sensitive habitats and wetlands along the rail bed, for movement, dispersal, migration, and genetic exchange of native plants and animals through the conservation of:	Prior to and during construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
▪ Sensitive habitats and edge habitats; ▪ Ecosystems services and water quality associated with wetlands, creeks, drainages, riparian habitat; ▪ Wildlife movement habitat, including resources for foraging; hydration; cover, shelter, aestivation/hybernacula; nesting and breeding; movement, dispersal, migration; with special consideration given to the sensitive and breeding species listed above; and ▪ Contiguous natural landscapes and connected hunting territories for higher order predators. The MMP shall consider following strategies: ▪ Wildlife bypasses; and ▪ Interpretive signs with "leave no trace" educational content The MMP shall include adaptive management strategies specifically addressing cumulative impacts if performance criteria are not met. The MMP shall include an evaluation of (and adaptive management as needed for) the effects of illegal camping, litter (including human foods), urine and fecal matter, and illegal off-leash dogs on biological resources.		
MM BIO-C(b). Include Maintenance and Conservation of Biological Resources in the Project Operations & Maintenance Plan To mitigate for cumulative impacts, the Project Operations & Maintenance Plan shall provide for the maintenance and conservation of biological resources along the trail alignment by maintaining fencing and vegetative barriers which protect biological resources, install and maintain additional protective fencing around areas determined biologically sensitive by a qualified biologist, and enforce hours of trail use.	Prior to and during construction	CFL and RTC
CULTURAL RESOURCES		
MM CR-1(a). Install Historical Interpretive Exhibits Prior to Trail Use Consistent with MBSST Master Plan Design Guidelines, RTC shall develop an on-site interpretive exhibit with materials concerning the history and engineering features of the former Davenport Branch Line and its character-defining features. The exhibits shall be installed at key locations along the trail to specifically highlight the importance of the Davenport Branch Line (such as the Davenport Beach and Panther/Yellowbank Beach parking lots), including its earthen embankments and association with the Santa Cruz Portland Cement Company. Interpretation of the site's history shall be supervised by an architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards, and may engage additional consultants to develop the display. There shall be at least five exhibits, including signage and salvaged materials, such as small segments of original ballast, ties, and rail, to be placed intermittently along the trail route as approved by the lead agency. The historical interpretive exhibits shall be designed in conjunction and compatible with interpretive exhibits for nature education.	Prior to construction	RTC and CFL
MM CR-2(a). Archaeological Capping at the existing Prehistoric Archaeological Sites prior to Project Construction If warranted based on consultation with the SHPO. Each site within the footprint of the Proposed Project (CA-SCR-56 and CA-SCR-58) may be capped with a geotextile and a layer of sterile fill material. A minimum of 12 inches of fill material shall be placed between any Project ground disturbance and the surface of the archaeological site (e.g., if the maximum depth of ground disturbance at a given location is 3 feet, 4 feet of fill must be placed over the site at that location). Capping shall	During construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
extend a minimum of 3 feet from the edge of Project ground disturbance but may extend further if required by the nature of Project activities at a given location. Archaeological site areas shall be marked with signage indicating that the locations are environmentally sensitive areas. Signage at these locations shall not indicate the presence of archaeological sites. Fencing shall be installed along either side of the trail to discourage off-trail activity in these locations. For resources on State Parks property, archaeological capping shall be completed in consultation with State Park and the State Historic Preservation Officer.		
MM CR-2(b). Conduct Archaeological Monitoring during Construction Prior to the commencement of construction activities, an orientation meeting shall be conducted by an archaeologist with the 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. Topics to be discussed shall include, but not be limited to, Ohlone material culture and a brief history of the Town of Davenport and Wilder Ranch. During construction, a qualified archaeologist shall be present during all earth moving activities involving excavation within native soils. Archaeological Monitoring may be reduced or halted at the discretion of the monitors as warranted by conditions such as sediments being excavated are fill, negative findings during the first 60 percent of rough grading, or encountering bedrock. If monitoring is reduced to spot-checking, spot-checking shall occur at regular intervals as determined by the qualified archaeologist or when ground disturbance will extend to depths not previously reached. Archaeological monitoring shall not be reduced on or within 50 feet of known archaeological sites. If previously unknown or undiscovered prehistoric or archaeological resources are encountered during ground-disturbing construction activities, the archaeological monitor shall request the construction operation engineer to stop work, and State Parks and the SHPO, if appropriate, shall be notified at once to assess the nature, extent, and potential significance of any prehistoric or archaeological cultural remains. Procedures to identify and test the resource shall be coordinated with State Parks and the SHPO.	Prior to and during construction	CFL and RTC
MM CR-4. Stop Work if Unanticipated Discovery of Human Remains During construction, the construction personnel shall stop work if human remains (i.e., bones) are inadvertently discovered during ground-disturbing activities. Consistent with California Health and Safety Code Section 7050.5, if human remains are found, no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the Santa Cruz County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner is required to notify the NAHC, a representative of which would determine and notify a most likely descendant (MLD). The MLD must complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. If human remains are found on State Parks Lands, they shall be treated in accordance with State Parks policies with involvement from the State Parks District Tribal Liaison.	During construction	CFL and RTC
TRIBAL CULTURAL RESOURCES		
TCR-1. Conduct Native American Monitoring during Construction	During construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
In coordination with State Parks archeologist, a Native American monitor shall be retained and remain present during ground disturbing activities within previously identified areas of high sensitivity and any archaeological excavation, and shall participate in the orientation meeting required under Mitigation Measure CR-2(b) in Section 3.5, *Cultural Resources*. In the event that cultural resources of Native American origin are identified during construction, the Native American monitor shall request the COE to halt and redirect ground disturbance away from the find. CFL, in coordination with State Parks, shall consult with a qualified archaeologist and begin or continue Native American consultation procedures. If it is determined that the resource is a tribal cultural resource, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The mitigation plan may include but would not be limited to avoidance, capping in place, excavation and removal of the resource, interpretive displays, sensitive area signage, or other mutually agreed upon measure.		
PALEONTOLOGICAL RESOURCES		
MM CR-3. Conduct Paleontological Monitoring during Construction Prior to the commencement of ground disturbing activities, a qualified professional paleontologist shall be retained to prepare and implement a Paleontological Resources Mitigation Plan (PRMP) for the Project. A Qualified Paleontologist is defined as an individual who meets the education and professional experience standards as set forth by the SVP (2010), which includes a BS or BA degree in geology or paleontology, one year of monitoring experience, and knowledge of the local paleontology and collection/salvation paleontological procedures and techniques. The PRMP shall describe paleontological monitoring procedures to be used during construction; communication protocols to be followed if a fossil discovery is made during project development; mitigation recommendations in detail, including and preparation, curation, and final reporting requirements, as described below. Once the PRMP has been prepared and prior to the start of construction, the Qualified Paleontologist or his or her designee, shall conduct Worker Education Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be fulfilled at the time of a preconstruction meeting. During construction, a qualified paleontological monitor shall be present during earth moving activities (e.g., excavation, trenching, drilling) which are 1) wider than three (3) feet; 2) deeper than the typical two (2) feet (at the locations listed in Table 2-2, Construction Estimates, in Section 2.6, *Project Construction*, of this EIR), and in previously undisturbed Santa Cruz Mudstone and Pleistocene marine terrace deposits. Monitoring is not required for the entire length of the trail. The duration and timing of the monitoring shall be determined by the Qualified Paleontologist and the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. In the event a fossil is discovered by construction personnel or the paleontological monitor anywhere in the Project area, all work in the immediate vicinity of the find shall cease and the Qualified Paleontologist shall evaluate the find before re-starting work in the area. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammals) require more extensive excavation and longer salvage periods. In this case, the paleontologist shall have the authority to temporarily direct, divert	Prior to and during construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. Shortly after halting construction in the immediate vicinity of the find, the paleontologist shall notify CFL and RTC, which shall then have the authority to determine how long to maintain the suspension of construction in the immediate vicinity of the find. Before allowing the recommencement of construction, CFL shall allow the paleontologist or his or her designee sufficient time to safely remove a representative sample of significant fossils from the find. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection (such as the UCMP), or with State Parks if identified on State Parks property, along with all pertinent field notes, photos, data, and maps. At the conclusion of monitoring and laboratory work and museum curation (if required and conducted), a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the Project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The final report shall be submitted to CFL, RTC and California State Parks, even if paleontological resources are not discovered during monitoring. If fossils were discovered during construction, then a copy of the report shall also be submitted to the designated museum repository.		
GEOLOGY AND SOILS		
MM GEO-2. Conduct Design-level Geotechnical Investigation and Implement Recommendations Prior to commencement of construction activities, a registered civil or geotechnical engineer shall prepare a Design-level Geotechnical Investigation for the selected trail alignment. The Design-level Geotechnical Investigation will include a more detailed analysis of geologic and soil conditions along the trail alignment, which at a minimum shall include the following: Additional soil test borings necessary to fully characterize geologic and soil conditions in the trail alignment, including but not limited to soil sampling at critical structure locations (such as retaining walls and reinforced soil slopes) and parking lots Specific and detailed recommendations for structural setbacks, foundation types and the related criteria to be used in their design, allowable settlement, seismic design considerations including seismically-induced settlement, retaining structures as needed, drainage improvements, and earthwork preparation Quantitative analysis of potentially liquefiable sediments in the trail alignment, including estimates of potential settlement, to assess their potential impact on foundations, slope stability, and lateral spreading potential Detailed geotechnical analysis and design standards for reinforced soil slopes, retaining walls, and other Project facilities on or near loose to very loose granular soils, including an assessment of the potential for static and seismically-induced settlement, soil preparation and compaction requirements, and foundation requirements Assessment of compaction needs for existing subgrades below buildings, site walls, and pavement sections to reduce settlement potential Geotechnical design criteria for engineered embankments or retaining walls, including lateral earth pressure values, foundation recommendations, bearing capacity, keyway dimensions and construction recommendations, appropriate slope gradients, slope setbacks, drainage requirements, and specifications and compaction requirements for engineered fill and geosynthetic reinforcement Detailed design recommendations for stabilization of coastal bluffs, including types of materials to be used, foundation	Prior to and during construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
requirements and structural connections to competent native materials, and measures to address undercutting of the bluff by wave action Drainage design recommendations to prevent discharge of stormwater unto unprotected slopes and minimize the potential for runoff to cause erosion or destabilize hillslopes (this issue may be addressed by the Design-level Drainage Analysis required by Mitigation Measure HWQ-1(d), in which case design recommendations shall be coordinated between the two analyses) Assessment of the potential for Project facilities to be damaged by strong seismic ground shaking and design recommendations in accordance with the requirements of the CBSC to minimize the potential for structural damage Additional geotechnical design recommendations as required for site preparation, grading and compaction, structure foundation design, retaining walls, slope setbacks, surface drainage, concrete slabs-on-grade, and design of structural pavement sections		
HAZARDS AND HAZARDOUS MATERIALS		
MM HAZ-3. Identify and Verify Locations of Utility Infrastructure Prior to construction, the RTC and CFL shall determine the presence and exact location of any underground utility lines that correspond to the trail alignment or could be affected by trail or parking lot construction. In addition, the presence of any above-ground utility lines in close proximity to the trail alignment and parking lots shall be determined. If any utility lines are found to be in proximity to the Proposed Project, the RTC shall contact the utility line operator about any regulations for grading and construction activities near the lines. Information concerning the size, color, and location of existing utilities must be confirmed before construction activities begin. The construction contract specifications shall require that the contractor provide updates on planned excavation for the upcoming week and identify when construction will occur near a high-priority utility. On days when this work will occur, construction managers shall attend tailgate meetings with contractor staff to review all measures – those identified in the Mitigation Monitoring and Reporting Program and in the construction specifications – regarding these excavations. The contractor's designated health and safety officer shall specify a safe distance to work near high-pressure gas lines. Excavation closer to the pipeline shall not be authorized until the designated health and safety officer confirms and documents the following in the construction records: The line was appropriately located in the field by the utility owner using as-built drawings and a pipeline-locating device The location was verified by hand by the construction contractor The designated health and safety officer shall provide written confirmation to the RTC that the line has been adequately located and can be feasibly avoided, and excavation shall not start until this confirmation has been received by the RTC. If utility relocation is required, the RTC shall coordinate with all appropriate utility providers and local agencies to integrate with other construction projects and minimize disturbance to nearby communities, as required by California Water Code §11590. The RTC shall notify the public in advance of any relocation that is anticipated to disrupt utility service. The RTC shall contact utility owners if construction causes any damage and promptly reconnect disconnected cables and lines with approval of the owners.	Prior to construction	RTC and CFL
MM HAZ-4(a). Conduct Soil Sampling and Implement Necessary Remediation	Prior to and during construction	RTC and CFL

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
Based on further coordination with Environmental Health Division (EHS), if determined necessary, the RTC shall prepare and submit Work Plan(s) for a Supplemental Soils Investigation to County of Santa Cruz Environmental Health. Following notification that County of Santa Cruz Environmental Health has received, reviewed, and accepted these Work Plan(s), the RTC shall conduct a Supplemental Soils Investigation, which shall include soil sampling at selected locations within the limits of the Project corridor under the supervision of a professional geologist or professional civil engineer to identify the concentrations of anticipated contaminants which may include: pesticides, herbicides, TPHs, heavy metals, PAHs, and other reasonably anticipated contaminants of concern. The RTC shall coordinate with County of Santa Cruz to develop and implement a program to remediate or manage known contaminated soil during construction. If necessary, any additional information gathered from the Supplemental Soil Investigation shall be used to identify locations along the corridor that may require remedial action in order to prevent exposure of construction workers, maintenance personnel, and trail users to these contaminants. The environmental data collected shall also be used to identify the appropriate disposal options for those soils or demolished materials that require off-site disposal. 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. Where possible, potentially contaminated soils and rail ballast shall be stockpiled and characterized to determine the appropriate means and location for proper disposal. The remediation/disposal program shall be approved by Santa Cruz County Environmental Health Services. RTC shall submit any required correspondence to County of Santa Cruz Environmental Health Division prior to issuance of grading permits. All proper waste handling and disposal procedures shall be followed in accordance with applicable DTSC and CalOSHA regulations. Upon completion of the Supplemental Site Investigation, the environmental consultant shall prepare a report presenting the findings of the additional assessment. The report shall include figures depicting the boring locations, summary tables of analytical data, conclusions, and recommendations.		
MM HAZ-4(b). Prepare and Implement Soils Management Plan The RTC shall ensure a Soils Management Plan (SMP) is developed by a qualified engineer and implemented in order to protect workers during ground-disturbing activities and to remove and/or mitigate exposure to hazardous-material-containing soil and ballast, where present in the trail corridor. Laboratory data for the impacted soil, identified as part of the soils and ballast assessment report prepared under Mitigation Measure HAZ-4(a), shall be used to profile excavated soil prior to transport, treatment, and recycling at a licensed treatment facility. Additional profiling of the export soils shall be performed as needed to satisfy requirements of the receiving facility. Removal, transportation, and disposal of impacted soil shall be performed in accordance with applicable DTSC and CalOSHA l laws, regulations, and ordinances. The SMP shall include health and safety information for workers and the general public with an emphasis on potential adverse health effects and how to seek proper help if an accident is suspected, and inform the various contractors and workers of the presence of shallow soil impacted with contaminants and the appropriate measures to avoid exposure to contaminants. These measures may include, but would not be limited to, the following: 1. Install temporary security fencing around the construction site and flag/cone off the areas of contaminated soils (Hot Spots) until the contaminants are removed 2. Providing all personnel entering a Hot Spot with site-specific awareness training	Prior to and during construction	RTC and CFL

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
3. Requiring that all personnel whose work will involve the excavation or disturbance of soils in and around the Hot Spot must have successfully completed a 40-hour Hazardous Worker (HAZWOPER) training 4. Requiring a HAZWOPER supervisor to be on-site at all times during the excavation or disturbance of soils in a Hot Spot 5. Prohibiting personnel who cannot prove that they are authorized to enter a Hot Spot or do not have the appropriate personal protective equipment from entering a Hot Spot 6. Prohibiting eating, drinking, smoking, chewing gum or tobacco in Hot spots, and requiring consumable items and activities be confined to designated worker break areas. In the event that contaminated soil and/or groundwater are identified where not previously anticipated during construction, the SMP shall also require that construction cease and that appropriate handling and disposal procedures be implemented. Contaminated soils and/or groundwater can be identified by discoloration or stains, distinctive odors, absence of plants and animals, subsequent erosion from the absence of plant life, or the presence of paint chips or other materials known to contaminate soils. Procedures for properly handling, storing, and disposing contaminated soils may include, but are not limited to, the following: 1. Placing contaminated soils in properly labeled drums or lined hazardous waste storage/transportation conveyance un its (i.e., roll-off waste boxes) in preparation of transportation and disposal 2. Avoiding temporary stockpiling of contaminated soils or hazardous materials 3. If temporary stockpiling is necessary: a) Covering the stockpile with plastic sheeting or tarps b) Installing a berm around the stockpile to prevent runoff from leaving the area c) Avoiding stockpiling in or near storm drains or watercourses 4. Monitoring the air quality during excavation operations at locations potentially exhibiting elevated concentrations of hazardous material 5. Collecting water from decontamination procedures and treating and/or disposing of it at an appropriate disposal site 6. Collecting non-reusable protective equipment and disposing at an appropriate disposal site		
HYDROLOGY AND WATER QUALITY		
MM HWQ-1(a). Prepare Accidental Spill Control Plan and Conduct Environmental Training prior to Construction Prior to commencement of construction activities, CFL or its contractor shall prepare a Spill Response Plan (SRP) and Spill Prevention, Control and Countermeasure Plan (SPCC) for the Project, which shall apply to the construction phase. These plans shall include procedures for quick and safe clean-up of accidental spills. The SRP and/or SPCC shall prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and shall include an emergency response program to ensure quick and safe clean-up of accidental spills and proper disposal of contaminants. Additionally, the contractor shall conduct environmental training program to communicate the risk for accidental spills, environmental concerns and appropriate work practices, including spill prevention and response measures to all field personnel prior to construction. A construction inspector or monitor shall ensure a copy of these plans are kept at construction staging areas or other location accessible and frequented by the construction crew, and shall ensure that the plans are followed during all construction activities.	Prior to and during construction	CFL and RTC

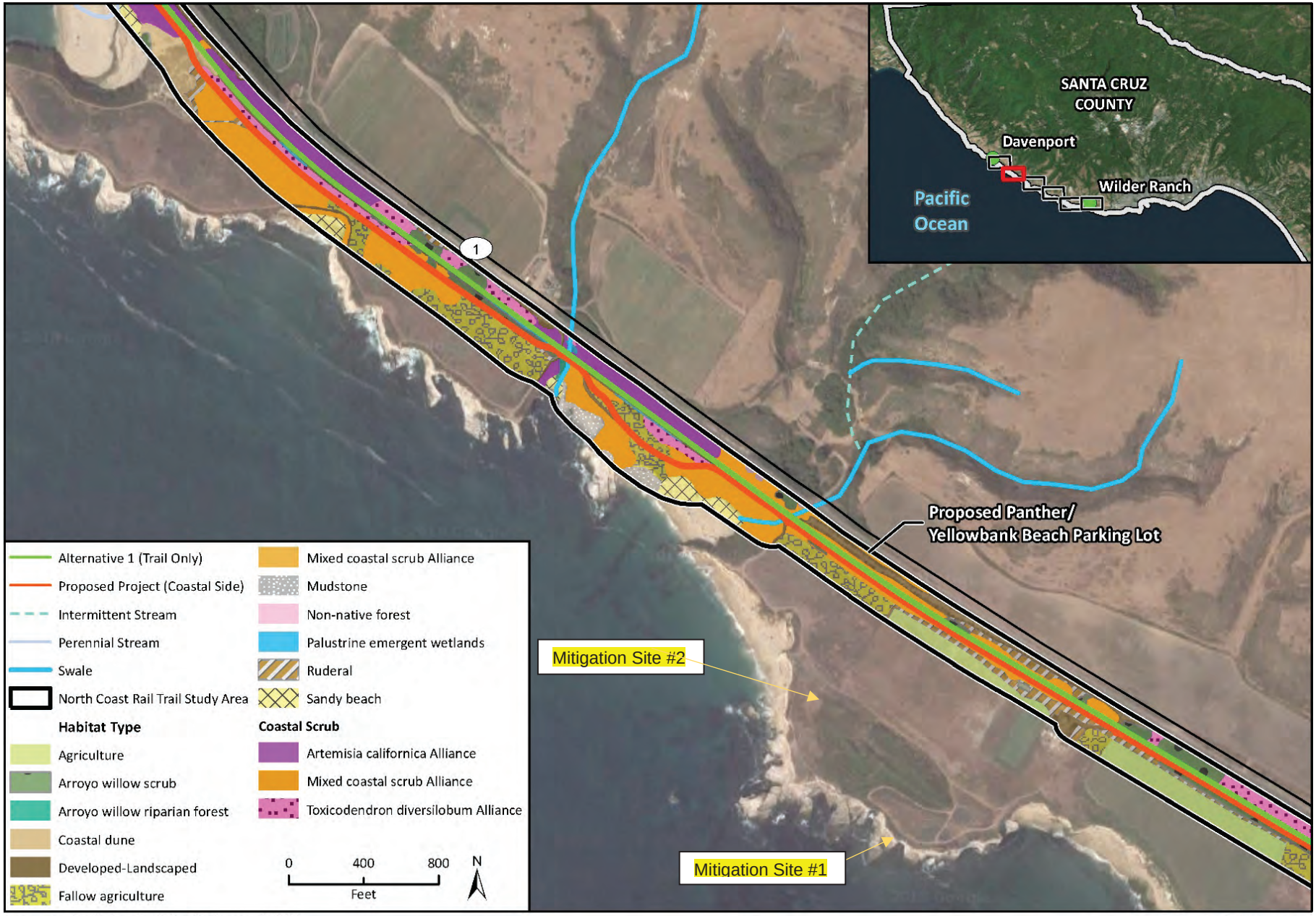
MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
MM HWQ-1(b). Maintain Vehicles and Equipment during Construction All construction vehicles and equipment, including all hydraulic hoses, shall be maintained in good working order to minimize leaks that could escape the vehicle or contact the ground. A vehicle and equipment maintenance log shall be maintained and updated on a monthly basis for the duration of Project construction. A construction inspector or monitor shall check the vehicles and equipment and ensure the logs are maintained.	During construction	CFL and RTC
MM HWQ-1(c). Conduct Design-level Drainage Analysis prior to Construction, and Implement Identified Measures to Minimize Runoff During Construction Prior to commencement of construction activities, a registered professional engineer shall conduct a design-level drainage analysis that identifies existing drainage patterns across the Project corridor, existing off-site stormwater discharge locations, and stormwater control measures to implement during construction of the project. Where feasible, the drainage analysis shall quantify the existing and predicted post-construction peak runoff rates and amounts, both on-site and off-site immediately downgradient of the Project corridor. The drainage analysis shall identify any changes to the location of down-gradient discharge of stormwater runoff and any potential impacts to off-site property that would result from those changes. The stormwater control measures to be implemented during construction shall include or be consistent with measures identified to satisfy the erosion and runoff control standards of the NPDES-required SWPPP. The identified stormwater control measures shall be installed when appropriate during the construction process, including during grading, initial site preparation, excavation, and construction as necessary to control stormwater runoff and erosion during all phases of the construction process.	Prior to and during construction	CFL and RTC
MM HWQ-1(d). Prepare Stormwater Control Plan prior to Construction and Implement Identified Stormwater Control Measures Prior to commencement of construction activities, the CFL or its contractor shall prepare a Stormwater Control Plan, prepared by a registered professional engineer, addressing the post-construction stormwater best management practices to be implemented along the Project corridor. The plan shall include the location of the stormwater control measures and details regarding their size and materials. Stormwater control measures shall be developed to maximize on-site infiltration of stormwater and minimize off-site stormwater discharge during operation of the Proposed Project. Examples of stormwater control measures include additional or expanded above-ground retention and/or detention basins, subsurface infiltration devices such as perforated pipes, permeable pavement, and vegetated swales. The Stormwater Control Plan shall be reviewed by a licensed Geotechnical Engineer to ensure conformance with the Design-level Geotechnical Study for the Proposed Project required by Mitigation Measure GEO-1. The plan shall be prepared by a registered Professional Engineer and include, at a minimum, the following: ▪ A site map identifying all structural Stormwater Control Measures requiring O&M practices to function as designed ▪ O&M procedures for each structural Stormwater Control Measure including, but not limited to, bioswales, retention/detention basins, and culverts ▪ Short- and long-term maintenance requirements, frequency of maintenance recommendations, and cost for maintenance estimations All recommended annual maintenance shall be completed by October 15 of each year of Project operation. The frequency of maintenance activities not required on an annual basis shall be specified in the Stormwater Control Plan.	Prior to and during construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
The Stormwater Control Plan shall demonstrate that with implementation and proper maintenance of the proposed stormwater control measures all NPDES post-construction stormwater requirements would be met.		
NOISE		
MM N-2(a). Provide Notification of Construction Vibration The construction contractor shall provide written notification at least three weeks prior to the start of any construction activities involving use of vibratory equipment (e.g., asphalt construction and unpaved should construction) to all residential units located within 50 feet of the construction area that will produce the vibration. The notice shall inform residents of the estimated start date and duration of daytime vibration-generating construction activities	During construction	CFL and RTC
MM N-2(b). Limit Construction to Daytime Hours The construction contractor shall limit construction activities within 150 feet of a sensitive receptor (e.g., residence) to between the hours of 8:00 a.m. to 7:00 p.m. on weekdays and 9:00 a.m. to 4:00 p.m. on Saturday or Sunday.	During construction	CFL and RTC
MM N-4. Implement Noise-Reducing Measures for Construction Equipment Used within 150 feet of Residences During construction, the construction contractor shall employ the following noise-reducing measures where use of construction equipment occurs within 150 feet of residences (considered a sensitive receptor) on Coast Road, east and west of Old Dairy Gulch, and south of Panther/Yellowbank Beach): (1) Use acoustical shelters around air compressors, generators, and any other stationary construction equipment; (2) properly muffle and maintain all construction equipment powered by internal combustion engines; (3) prohibit unnecessary idling of internal combustion engines; and (4) whenever feasible, use electrical power to run air compressors and similar power tools.	During construction	CFL and RTC
TRANSPORATION/CIRCULATION		
MM T-1. Public Outreach for Bicycling and Walking Prior to operation of the North Coast Rail Trail, the RTC shall publish informational materials, in print and/or on-line, that explain how pedestrians and bicyclists can access the trail from within the City of Santa Cruz, including from other segments of the MBSST Network and other existing paved trails. The RTC also shall coordinate with the City of Santa Cruz to install signage in a highly visible location on the MBSST that includes a map of paved bicycle and pedestrian access routes to the North Coast.	Prior to public use	RTC
MM T-3(a). Design Roadway Crossings to Minimize Safety Hazards CFL or its contractor shall design trail crossings with public roadways to minimize potential safety hazards. This shall include the following: ▪ Caution signs shall be installed along vehicular roadways preceding each trail crossing to warn motorists of trail users ▪ Right-of-way priority shall be given to the facility with the higher volume of traffic, and indicated with appropriate stop sign or yield sign given to the cross traffic Crossings with public roads 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	Prior to and during construction	CFL and RTC

MITIGATION MEASURE	Implementation Timing	Responsible Agency or Party
through a combination of measures such as minor vegetation trimming and/or removal, sidewalk/shoulder curb extensions, roadway realignment or narrowing, etc.		
MM T-3(b). Install Agricultural Vehicle and Trail Warning Signs Informational signs shall be installed along the trail, preceding agricultural road crossings, warning trail users of the presence of agricultural vehicles. Informational signs shall also be installed on the roadways preceding the trail crossings and where agricultural access points intersect with adjacent roadways, warning operators about the presence of pedestrians and bicyclists.	Prior to public use	CFL and RTC
MM T-3(c). Install Pedestrian Signage at Davenport Lot: South To minimize jaywalking behavior by new trail users and pedestrians leaving the Davenport Lot: South, informational signage shall be installed to direct pedestrians who desire to cross Highway 1 to the formalized pedestrian crossing of Highway 1 at Ocean Street, adjacent to the improved Davenport Lot: North.	Prior to public use	CFL and RTC

Exhibit 3

Figure 2 – Study Area Habitat Types

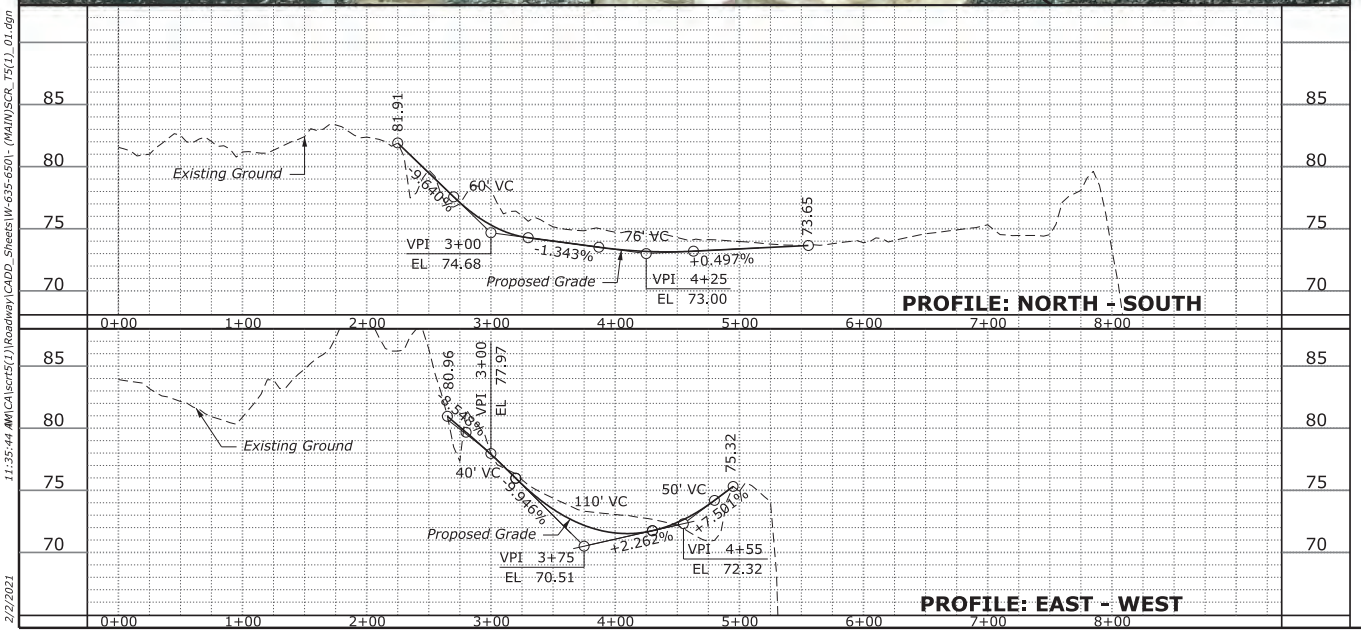


Imagery provided by Google, ESRI and its licensors © 2017.
Additional data provided by EcoSystems West, 2018.

Fig 3.4-1a-f Habitat Types

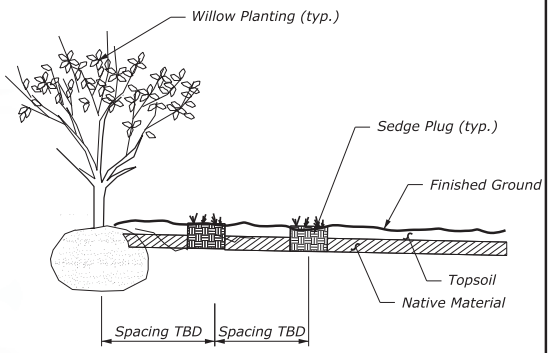

scrub/shrub
Mitigation Site #2
Mitigation Site #1
arroyo willow
PEM wetland /Willow
Cabrillo Hwy
1
© 2021 Google
Google Earth
1985
lat 36.988021° lon -122.164593° elev 0 ft eye alt 3865 ft

STATE	PROJECT	SHEET NUMBER
CA	CA FLAP SCR T5(1) & (2) MBSST	

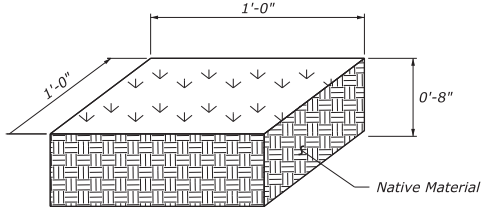


NOTE:

1. Establish Erosion Control according to Section 157. Clear the area according to Section 201. Conserve and stockpile topsoil according to Section 624.
2. Perform grading and construct berms according to Section 204. Limits of restoration, proposed finish grades, slopes are not based on precise survey data. Verify limits of disturbance, and restoration prior to beginning work.
3. The gradient and Width of wetland and the excavation and embankment slope ratio may be adjusted by the CO to assure adequate drainage and stability.



PLANTING DETAIL



SEDGE PLUG DETAIL

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

Mitigation Site #1
WETLAND MITIGATION SITE

Sheet 1 of 1

NO SCALE

STATE	PROJECT	SHEET NUMBER
CA	CA FLAP SCR T5(1) & (2) MBSST	

NOTE:

1. Establish Erosion Control according to Section 157. Clear the area according to Section 201. Conserve and stockpile topsoil according to Section 624.
2. Perform grading and construct berms according to Section 204. Limits of restoration, proposed finish grades, slopes are not based on precise survey data. Verify limits of disturbance, and restoration prior to beginning work.
3. The gradient and Width of wetland and the excavation and embankment slope ratio may be adjusted by the CO to assure adequate drainage and stability.
4. Place boulders according to Section 251. Plant willows and sedge plugs according to Section 626. Planting and boulder quantities TBD.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

MITIGATION SITE #2
STA. 129+00 TO 150+00, RT

Sheet 1 of 2

STATE	PROJECT	SHEET NUMBER
CA	CA FLAP SCR T5(1) & (2) MBSST	

NOTE:

1. *Establish Erosion Control according to Section 157. Clear the area according to Section 201. Conserve and stockpile topsoil according to Section 624.*
2. *Perform grading and construct berms according to Section 204. Limits of restoration, proposed finish grades, slopes are not based on precise survey data. Verify limits of disturbance, and restoration prior to beginning work.*
3. *The gradient and Width of wetland and the excavation and embankment slope ratio may be adjusted by the CO to assure adequate drainage and stability.*
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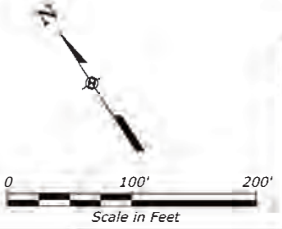


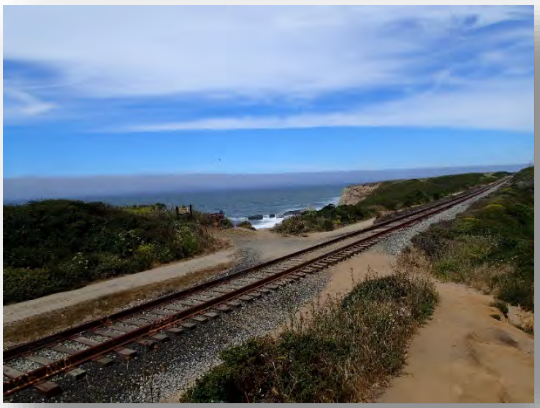
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

MITIGATION SITE #2
STA. 129+00 TO 150+00, RT

Sheet 1 of 2

Exhibit 4

NORTH COAST RAIL TRAIL



CA FLAP SCR T5(1)
SANTA CRUZ COUNTY, CA

DRAFT MITIGATION AND MONITORING PLAN

Prepared by:

U.S. Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division
Lakewood, Colorado

June 28, 2021

Prepared for:

Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

U.S. Army Corps of Engineers
San Francisco District – South Branch
1455 Market Street
San Francisco, CA 94103

U.S. Fish and Wildlife Service
1100 Fiesta Way
Watsonville, CA 95076

California Coastal Commission
455 Market Street, Suite 300
San Francisco, CA 94105

California Department of Fish and Wildlife
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534

Contents

LIST OF ATTACHMENTS

Attachment A - North Coast Rail Trail Mitigation Monitoring and Reporting Program

Attachment B - North Coast Rail Trail Mitigation Site Plan

Attachment C – Biological Opinion on Monterey Bay Sanctuary Scenic Trail, Santa Cruz, CA

Introduction

The Federal Highway Administration (FHWA) Central Federal Lands Highway Division (CFLHD), in cooperation with Santa Cruz County Regional Transportation Commission (RTC), will develop a 7.5-mile multi-use bicycle and pedestrian trail that will extend along the RTC-owned railroad corridor from Wilder Ranch State Park north to Davenport, California in unincorporated Santa Cruz County.

The North Coast Rail Trail (NCRT) is a 7.5-mile multi-use trail that will include a 12-foot paved path with striping, and parallel 2-foot unpaved path and shoulder. The trail will be located almost exclusively on the coastal side of the existing rail-road tracks, consistent with the Monterey Bay Sanctuary Scenic Trail (MBSST) Network Master Plan. The Project will include trail connections from and improvements to three existing parking areas: Davenport Beach, Bonny Doon Beach, and Panther/Yellowbank Beach. Rail crossings along the alignment will be formalized and in some locations closed. The Project will also include fencing that will be installed between the trail and agricultural fields at some locations where natural or geographic barriers do not exist to trespassing. Fencing will also be installed for safety reasons in areas with steep slopes. Fencing to separate trail users from the railroad will be implemented in a phased approach prior to operation of the rail line. Trail amenities will include benches, bike racks, informational and educational signs, restrooms, and trach and recycling containers.

This mitigation and monitoring plan has been prepared to outline the approach to the primary requirements of the U.S Army Corps of Engineers (USACE) in accordance with the South Pacific Division Regional Compensatory Mitigation and Monitoring Guidelines, as well as meet the mitigation requirements for the U.S. Fish and Wildlife Service (USFWS), California Coastal Commission, and the California Department of Fish and Wildlife. A final mitigation and monitoring plan will be submitted for regulatory agency approval prior to advertisement of the project for construction.

This Draft Mitigation and Monitoring Plan (MMP) provides an overview of the mitigation site selection and proposal. Following this is the conceptual mitigation strategy for each habitat or species that requires compensatory mitigation. Within the discussion of each habitat or species is a summary of the existing condition and level of impact, the mitigation objective, success criteria, and monitoring methodology. This plan also provides information on long-term monitoring and maintenance of the mitigation areas and an adaptive management strategy.

Attachment A provides the Project's Mitigation and Monitoring Reporting Program included in the Final Environmental Impact Report in compliance with CEQA and the Final Environmental Assessment in Compliance with NEPA for all resources including those that do not require compensatory mitigation. The MMRP provides each mitigation measure; the action required for the measure to be implemented; the time at which the monitoring is to occur; the monitoring conditions; and the agency or party responsible for ensuring that the monitoring is performed. In addition, the table includes columns for compliance verification.

Mitigation Site Selection

To mitigate for the permanent loss of habitats from development of the NCRT, areas along the coast and adjacent to the project alignment will be actively restored. FHWA and RTC propose to restore habitats that have been impacted by agricultural operations located on California Department of Parks and Recreation (referred to as CA State Parks) property in consultation with State Parks technical staff.

Two mitigation sites have been identified to date. The locations of these sites are provided in Attachment B. The area proposed for both wetland, arroyo willow shrub, and coastal scrub-shurb restoration is currently a fallow agricultural field to the southwest of the proposed Panther/Yellowbank parking lot. The wetland mitigation site, Mitigation Site #1, is located along the coast west of the Project corridor, see Attachment B. This site was selected as it appeared, based on aerial imagery and surrounding habitat, to have been a coastal wetland prior to agricultural use. Piezometers were placed in the area to monitor groundwater in the location for a 12-month period. Readings indicate groundwater is within 1-2 feet of the surface, and at the surface seasonally up-gradient of the ditch line. Comparing piezometer readings to precipitation shows that the rising groundwater table correlates to increased precipitation in the rainy season and is likely not the result of nearby agricultural irrigation. In addition, adjacent wetland habitat to the west approximately 50 feet and separated by a man-made earthen berm will provide a source of plant material for passive vegetation establishment to compliment active plantings.

Mitigation of impacts to ecologically sensitive habitats (ESHA) will be accomplished primarily through the restoration of a recently fallowed agricultural field, Mitigation Site #2 (see Attachment B). This mitigation site is adjacent to the rail corridor and adjacent to other fallow agricultural fields. The field is in close proximity to Mitigation Site #1, which allows for more efficient construction and monitoring of the location. The site is approximately 14 acres allowing for a large plot of habitat to be established. The location can provide for multiple ESHA types to be established including coastal shrub/scrub, arroyo willow scrub and potentially oak forest and arroyo willow riparian.

Both mitigation sites will provide important habitat for federally endangered California red-legged frogs (*Rana draytonii*).

Site-specific locations for sand dune, arroyo willow scrub and willow riparian, and coastal oak forest will be identified with assistance from CA State Park technical staff. The locations will be approved by regulating agencies prior to construction.

The mitigation sites are located with property owned and managed by California State Parks. Long-term protection will be afforded under existing protection associated with the State Parks system. Fallow field was removed from the available agricultural leases.

Mitigation Proposal

To mitigate for the permanent loss of habitats from development of the NCRT, areas along the coast and adjacent to the project alignment will be actively restored. FHWA and RTC propose to restore fallow agricultural areas within Wilder Ranch State Park to provide wetland and coastal scrub/shrub habitat. Attachment B provides overview plans and grading sheets for these restoration sites. The wetland restoration site, Mitigation Site #1, will result in 1 acre of emergent and 1 acre of arroyo willow scrub habitat. An adjacent fallow field, Mitigation Site #2, will be planted with 13.5 acres of coastal shrub and

scrub species and 0.5 acres of arroyo willow scrub where hydrologic conditions are suitable. Attachment B provides the location of these mitigation sites.

There are 5.12 acres (temporary impacts to developed, agricultural, non-native grasslands and fallow agricultural lands) within the Project corridor that will be restored to native species. These areas will be seeded with a mixture of coastal shrub and scrub plant species.

To mitigate the permanent sand dune impacts, removal of ice plant will occur over 0.9 acres at beach locations within CA State Parks and the County of Santa Cruz property. Areas may include Davenport Beach and Bonny Doon Beach. These areas will be identified through continued coordination with CA State Parks and the County of Santa Cruz.

A final mitigation and monitoring plan will be developed in consultation with CA State Parks technical staff and provided to appropriate regulators for approval. At this time, reference locations will be identified within the vicinity of the Project. FHWA will contract vegetation restoration specialists to conduct reference site surveys and prepare planting plans within the following guidelines:

1. A baseline assessment, including photographs, of the current physical and ecological condition of the proposed restoration, enhancement, and/or management site area. Existing vegetation, wetlands, and sensitive species shall be depicted on a map.
2. A description of the goals of the resource plan, including, as appropriate, topography, hydrology, vegetation, sensitive species, and wildlife usage, as appropriate.
3. A description of planned site area preparation and invasive plant removal.
4. A planting plan including the planting palette (seed mix and container plants), planting design, source of plant material, plant installation, erosion control, irrigation, and remediation. The planting palette shall be made up exclusively of native taxa that are appropriate to the habitat and region. Seed and/or vegetative propagules shall be obtained from local natural habitats so as to protect the genetic makeup of natural populations. Materials shall be collected from coastal habitats that are located within Wilder Ranch State Park.
5. A plan for documenting and reporting the physical and biological “as built” condition of the site area within 30 days of completion of the initial plan implementation activities. This plan will describe the field implementation of the approved resource plan in narrative and photographs and report any problems in the implementation and their resolution.

The plan will also identify the final success criteria for each habitat type. The following criteria will be applied as appropriate:

1. Species diversity, including total number of taxa, number of native taxa, and number of invasive non-native taxa.
2. Vegetation coverage, including total vegetation, native vegetation, invasive non-native taxa, and dominant species.
3. Erosion control and functional hydrology.
4. Control of invasive non-native plant taxa.
5. Maintenance of suitable habitat, and presence/abundance, for sensitive species or other individual “target” species.
6. A requirement that success be determined after a period of at least three years wherein the study site has been subject to no remediation or maintenance activities other than weeding.

An outline of the mitigation approach for each habitat type is provided below. As stated above a final mitigation and monitoring plan with final success criteria will be provided to CA State Parks and regulators prior to advertisement of the project.

Wetlands

The jurisdictional wetlands that are regulated by the US Army Corps of Engineers (USACE) and the California Regional Water Quality Board (RWQCB) within the Project area that would be affected by trail and parking lot development have been categorized as palustrine emergent wetlands. Wetlands regulated by the CA Coastal Commission include these palustrine wetlands but also arroyo willow riparian and arroyo willow scrub habitat. Palustrine emergent wetlands are discussed in this section. Arroyo willow riparian and willow scrub habitats are discussed separately in the Ecologically Sensitive Habitats (ESHA) Section below. The Project activities will result in the following impacts to palustrine emergent wetlands.

- Permanent impacts – 0.198 acres
- Long-term Temporary impacts – 0.071 acres

Objectives

The objective for wetland mitigation is to meet FHWA, USACE, SFRWQCB, and Coastal Commission mandate for no net loss of wetlands. To mitigate wetland habitat impacts for the Project, the objective is to restore wetland habitat at a 4:1 ratio. Mitigation will be achieved along the coastal bluff west of Station 140+00. The mitigation site is expected to yield 1.0 acre of palustrine emergent wetland habitat. See Attachment B.

Monitoring Requirements

The wetland mitigation site will be monitored annually for a minimum of 5 years. Monitoring success criteria will be based up Uniform Performance Standards for Compensatory Mitigation Requirements that will be defined in the Final Compensatory Mitigation and Monitoring Plan. Performance Standards will evaluate the wetland mitigation site based on hydrologic, physical, and vegetative criteria.

Standards and Performance Criteria

Vegetation Success

The ecological performance standards are to be determined. At a minimum vegetation success will be determined based on vegetative cover and species diversity.

The wetland site will be planted with plugs and stakes of willow and shrub species that have been coordinated with and approved by CA State Parks technical staff. Please see design plan sheets for the grading plan.

Potential species to be included are based on wetland delineations and habitat surveys that have occurred along the Project corridor (FHWA-CFLHD 2017; RTC 2019):

Planting Zone 1

- Santa Barbara sedge *Carex barbarae*
- Water parsley *Oenanthe sarmentosa*
- *Baltic rush* *Juncus balticus*

Planting Zone 2

- Arroyo willow *Salix lasiolepis*

Wetland Hydrology Success

Success will be achieved where wetland hydrology is present as per the technical guidelines in the 1987 Wetland Manual and 2008 Regional Supplement. Soil saturation will be present for at least 12.5 percent of the growing season for Santa Cruz County.

Hydric Soil Success

Hydric soil success will be achieved where hydric soil conditions are present (per the most recent Natural Resources Conservation Service (NRCS) definitions of hydric soil) or appear to be forming. Soil profile development will be documented during the course of the monitoring period to determine if wetland areas are exhibiting characteristics of hydric soils per current guidance. Because typical hydric soil indicators may require long periods to form, a lack of distinctive hydric soil features will not be considered a failure if hydrologic and vegetative success are achieved.

Noxious weeds

State-listed noxious weeds designated category "High" as identified in Cal.ipc.org are less than 1-percent cover.

Transect Photo Points and GPS Data

When establishing permanent monitoring transects, monitor shall also establish appropriate permanent photo points and obtain GPS (sub-meter accuracy) locations of transect beginning and ending points, photo points and any other pertinent features encountered during the monitoring period.

Qualitative Functional Assessment

A qualitative functional assessment of the wetland area will be conducted annually using appropriate CRAM. Baseline assessments will be done prior to any ground disturbance associated with construction.

Monitoring Methodology

Methodology is to be determined.

Riparian (Arroyo Willow Riparian Forest)

Tree-sized arroyo willow (*Salix lasiolepis*) dominates this riparian forest habitat type. Shining willow (*Salix lucida* ssp. *lasiandra*), alder (*Alnus* sp.), and American dogwood (*Cornus sericea* ssp. *sericea*) are commonly associated riparian trees. The native woody vine Pacific blackberry is abundant and often very dense in the understory. This habitat is common in the drainages that traverse the Project corridor. The impacts resulting from the Project to this habitat are as follows:

Permanent – 0.925 acres

Objectives

Enhance native populations of riparian species via exotic plant removal, natural recruitment and active revegetation.

FHWA and RTC propose to mitigate riparian habitat impacts at a ratio of 2:1, revegetating 1.85 acres. FHWA will work with CA State Parks technical staff to identify areas to enhance riparian habitat along drainages within Wilder Ranch State Park through willow plantings and other native riparian species.

Monitoring Requirements

The monitoring requirements will be consistent with the CA Department of Fish and Wildlife Lake and Streambed Alteration Permit. The riparian mitigation site will be monitored annually for a minimum of 5 years. Performance standards will evaluate the riparian mitigation site based on vegetative criteria.

Standards and Performance Criteria

Vegetative Success

The ecological performance standards are to be determined. At a minimum vegetation success will be determined based on vegetative cover and species diversity.

Species to be included, but not limited to, are:

- *Salix lasiolepsis*
- *Salix lucida ssp. lasiandra*
- *Alnus sp.*
- *Rubus ursinus*

Noxious weeds

State-listed noxious weeds designated category “High” as identified in Cal.ipc.org are less than 1-percent cover

Transect Photo Points and GPS Data

When establishing permanent monitoring transects, monitor shall also establish appropriate permanent photo points and obtain GPS (sub-meter accuracy) locations of transect beginning and ending points, photo points and any other pertinent features encountered during the monitoring period.

Monitoring Methodology

Monitoring methodology is to be determined.

Additional Ecologically Sensitive Habitats (ESHA)

The monitoring requirements, methodology and the standard for photo points and GPS data are applicable to all ESHA mitigation sites.

Monitoring Requirements

For all ESHA mitigation areas, the sites will be monitored annually for a minimum of 5 years. Performance Standards will evaluate the ESHA mitigation sites based on vegetative criteria.

Monitoring Standards

Transect Photo Points and GPS Data

When establishing permanent monitoring transects, monitor shall also establish appropriate permanent photo points and obtain GPS (sub-meter accuracy) locations of transect beginning and ending points, photo points and any other pertinent features encountered during the monitoring period.

Monitoring Methodology

Monitoring methodology is to be determined.

Arroyo Willow Scrub

This habitat type corresponds to the *Salix lasiolepis* alliance and association (Sawyer et al. 2009, CDFW 2018c), and to a dryland phase of the Central Coast riparian scrub (Holland 1986). Arroyo willow scrub consists of areas dominated almost entirely by dense thickets of arroyo willow, with a relatively undeveloped understory of herbs and sub-shrubs. These areas likely developed under historically wet hydrologic conditions, most likely due to persistent runoff from adjacent agricultural irrigation. However, in many areas contemporary hydrology is lacking as the majority of adjacent coastal bluffs and terraces, particularly in the northern reach of the study area, are no longer used for agriculture.

In the study area, arroyo willow scrub is located primarily along the steep embankments on either side of rail corridor, extending from Scaroni Road in the south to Davenport Beach in the north. Arroyo willow is typically a small- to medium-sized tree or arborescent shrub with multiple trunks from the base. Areas supporting this habitat type range from dense, monospecific stands to mixed assemblages of arroyo willow, poison oak, pacific blackberry, stinging nettle, and California bee plant.

The impact to arroyo willow scrub habitat resulting from the project include:

- Permanent – 2.848 acres
- Long-term Temporary – 0.582 acres

Objective

The objective is to restore arroyo willow scrub habitat on CA State Parks property adjacent to the Project corridor at a ratio of 4:1 that will result in 11.392 acres. In the area surrounding the wetland restoration site, Mitigation Site #1, 1-acre of arroyo willow scrub will be established. Within Mitigation Site #2, 0.5 acres of arroyo willow scrub will be planted. This provides 1.5 acres of creditable habitat. Additional areas for restoration and enhancement will be identified in coordination with CA State Parks technical staff.

Standards and Performance Criteria

Vegetative Success – Arroyo willow scrub

The ecological performance standards are to be determined. At a minimum vegetation success will be determined based on vegetative cover and species diversity.

Noxious weeds

State-listed noxious weeds designated category “High” as identified in Cal.ipc.org are less than 1-percent cover

Monitoring Methodology

Monitoring methodology is to be determined.

Coastal shrub/scrub

Along the Project corridor, this habitat type corresponds to a phase of northern coastal scrub habitat type (Holland 1986) and various vegetation alliances depending on dominant species composition

(Sawyer et al. 2009, CDFW 2018c), including *Artemisia californica*, *Baccharis pilularis*, *Rubus,* and *Toxicodendron diversilobum*. Impacts to coastal shrub/scrub resulting from the Project are as follows:

- Permanent – 4.619 acres
- Long-term Temporary – 1.574 acres

Objectives

The objective for mitigation is to establish coastal shrub/scrub habitat within and adjacent to the project corridor at a ratio of 3:1. The habitat will be dense with mostly a closed canopy, with openings of a mix of native grasses and forbs. The total creditable mitigation will be 13.86 acres. The project will result in 5.12 acres of area that will be planted or seeded within the Project area with a mix of coastal scrub/shrub species. In addition, 8.74 acres of the fallow agricultural field will be restored through planting of coastal shrub/scrub species.

Performance Criteria

Vegetation Success – Coastal shrub/scrub

Performance criteria for coastal shrub/scrub habitat is based on enhancement and restoration projects undertaken by the University of Santa Cruz in similar habitats (UCSC 2008, UCSC 2010). Due to the past agricultural use of the area adjacent to the project corridor and the challenge of restoring these systems (Corbin et al. 2004, Stromberg et al. 2007), high coverages of coastal scrub are not expected. Success criteria for coastal shrub/scrub are identified in Table 4 and are based on research regarding recovery of coastal areas exposed to high agricultural use.

Table 4. Tiered Success Criteria Scale

Monitoring Year	Percent Cover shrubs
Year 1	10
Year 3	25
Year 5	40

Cover values of 40% of shrubs will be reached by year 5 after planting. Potential species to be included are based on habitat surveys conducted along the Project corridor (RTC 2019):

- *Artemisia californica*
- *Baccharis pilularis*
- *Rubus*
- *Toxicodendron diversilobum*

Noxious weeds

State-listed noxious weeds designated category “High” as identified in Cal.ipc.org are less than 1-percent cover

Monitoring Methodology

Monitoring methodology is to be determined.

Sand Dunes

Coast dune habitat in the study area is limited to a small area immediately southeast of Bonny Doon Beach, where aeolian sand deposits have partially covered the existing railroad tracks. This habitat type corresponds to northern foredunes (Holland 1986), and to the *Ambrosia chamissonis* Association of the *Abronia latifolia-Ambrosia chamissonis* Alliance (Sawyer et al. 2009, CDFW 2018c). At this location, beach bur (*Ambrosia chamissonis*) is the sole dominant. The impact to sand dunes resulting from the project include:

- Permanent impacts – 0.253 acre
    - Vegetated dune – 0.089 acre
    - Non-vegetated dune – 0.164 acre

Objectives – Sand Dunes

The objective is to reduce non-native plant species within 1.518 acres of dune habitat within CA State Parks or Santa Cruz County property adjacent to the Project corridor. This will provide enhancement to sand dunes at a 6:1 ratio. The invasive plant, Iceplant (*Carpobrotus edulis*), Cal-IPC "High" rank, will be a high priority for removal.

Performance Criteria

Vegetation Success

The ecological performance standards are to be determined. At a minimum vegetation success will be determined based on vegetative cover and species diversity.

Noxious weeds

State-listed noxious weeds designated category "High" as identified in Cal.ipc.org are less than 1-percent cover

Monitoring Methodology

Monitoring methodology is to be determined.

Coast Live Oak Forest

In the study area, coast live oak forest closely corresponds to the Quercus agrifolia Alliance and Quercus agrifolia/Toxicodendron diversilobum Association (Sawyer et al. 2009, CDFW 2018c), and to the central coast phase of the coast live oak forest type (Holland 1986). The overstory is comprised entirely of coast live oak (Quercus agrifolia) with a dense herbaceous understory dominated by the non-native, weedy vines cape ivy and English Ivy (Hedera helix). Other common understory associates include red elderberry (Sambucus racemosa), poison oak, Pacific blackberry, stinging nettle, and poison hemlock. The impacts to coast live oak forest habitat resulting from the Project include the following:

- Permanent impacts – 0.417 acres

Objective

The objective is to restore coastal live oak forest on CA State Parks property adjacent to the Project corridor at a ratio of 2:1 that will result in 0.724 acres. If enough acreage can not be identified for restorations, additional coastal oak forest to be enhanced through treatment of non-natives and

invasive species will be identified in coordination with CA State Parks technical specialists. The amount to be enhanced will be determined in consultation with the CA Coastal Commission.

Performance Criteria

Vegetative Success

The ecological performance standards are to be determined. At a minimum vegetation success will be determined based on vegetative cover and species diversity.

Noxious weeds

State-listed noxious weeds designated category "High" as identified in Cal.ipc.org are less than 1-percent cover

Monitoring Methodology

Monitoring methodology is to be determined.

California Red-legged Frogs (*Rana draytonii*)

The Project area occurs within designated critical habitat for CRLF. The frogs are known to occur in the Project area occupying wetland habitat in ditches along the railroad tracks and using the adjacent upland areas for dispersal. FHWA-CFLHD initiated consultation with the U.S. Fish and Wildlife Service (USFWS) in November 2017. The USFWS issued a Biological Opinion for the Project regarding CRLF on June 10, 2021. The BO is provided in Attachment C. The terms and conditions and conservation measures included in the BO will be implemented as required by the permit.

Impacts to red-legged frogs from development of the NCRT are provided in Table 6.

Table 6: Red-legged Frog Impacts by Habitat Type

Habitat Type	Permanent (ac)	Temporary (ac)
Aquatic Total	0.33	0.19
Upland Total	3.83	0.94
Dispersal total	10.95	3.07

Objectives

The wetland mitigation site will function as aquatic habitat. Design criteria used to evaluate potential sites is based upon CRLF breeding habitat comprised of ponds or other inundated areas that are used by frogs between December 31 and July 31. If the wetland retains ponded water through early to mid-summer the pond may also provide breeding habitat. This would be considered a functional lift of habitat compared to the quality of wetland habitat found within the Project area.

The restoration of coastal habitat within 14 acres of fallow agricultural field adjacent to the trail alignment will provide upland and dispersal habitat for the frogs. Establishing plants that provide a diversity of species and structure will improve the available habitat for frogs along the Project corridor.

Monitoring Requirements

The wetland and coastal scrub/shrub mitigation site will be monitored annually for a minimum of 5 years. Performance Standards will evaluate the mitigation sites based on vegetative and wildlife criteria.

Standards and Performance Criteria

Wildlife

CRLF use of the mitigation sites will be noted during vegetation monitoring efforts. At the end of each monitoring period, the number of CRLF observed using the mitigation sites will be prepared and included in annual monitoring reports.

Vegetation Success

The ecological performance standards are to be determined. At a minimum vegetation success will be determined based on vegetative cover and species diversity.

Noxious weeds

State-listed noxious weeds designated category "High" as identified in Cal.ipc.org are less than 1-percent cover

Transect Photo Points and GPS Data

When establishing permanent monitoring transects, monitor shall also establish appropriate permanent photo points and obtain GPS (sub-meter accuracy) locations of transect beginning and ending points, photo points and any other pertinent features encountered during the monitoring period.

Monitoring Methodology

Monitoring methodology is to be determined. Specific methods for measuring vegetation cover in the mitigation areas will be defined by a qualified restoration ecologist.

Monitoring for visual presence of California red-legged frogs (*Rana draytonii*; CRLF) will be conducted two times each year during the winter dispersal and breeding months to confirm use of the restored habitats by frogs. Visual Encounter Survey methods for CRLF will be conducted according to US Fish and Wildlife Services (USFWS) most recent guidance.

The USFWS (2005) recommends that surveys begin during January and should be completed by the end of September. Multiple survey visits conducted throughout the survey-year (January through September) increases the likelihood of detecting the various life stages of the CRLF. For example, adult frogs are most likely to be detected at night between January 1 and June 30, somewhere in the vicinity of a breeding location, whereas, sub-adults are most easily detected during the day from July 1 through September 30.

Habitat Connectivity

Many undeveloped or natural areas serve as core habitats for a variety of plant and wildlife species. Core habitat areas support the viability of rare plant or animal populations or they consist of exemplary natural communities. Providing functional connectivity between core habitats through corridors is essential to sustaining healthy wildlife populations and allowing for the continued dispersal of native plant and wildlife species. Within and near the study area, Wilder Ranch State Park, the Coast Dairies property, Jade Ranch, and Moore Creek Preserve would be considered core habitats.

Within this larger context, the Project corridor provides functional connectivity between the surrounding core habitats, habitat patches, and linear habitats for the following reasons:

- The creeks, drainages, and riparian habitats between Wilder Ranch State Park and Davenport are linear features that provide abundant resources and opportunities for movement between Highway and the coast.
- Coastal scrub upland habitat patches serve as supportive natural landscapes between the core habitats in Wilder Ranch State Park and across Highway 1.
- The rail corridor is also a linear feature that runs essentially perpendicular to the creeks and drainages, serving as a spatial link *between* linear features, habitat patches, and core habitats across or through the agricultural fields. Links *between* riparian corridors can be vital for genetic exchange.
- The rail corridor also allows opportunistic wildlife species to safely access the wild-rural-urban interface, such as the agricultural fields adjacent to the Project corridor, and to benefit from the additional foraging resources they offer.

Objectives

To be defined by a qualified wildlife biologist and restoration ecologist.

Monitoring Requirements

To be defined by a qualified wildlife biologist and restoration ecologist.

Standards and Performance Criteria

Wildlife

To be determined by a qualified wildlife biologist.

Vegetation Success

The ecological performance standards are to be determined.

Monitoring Methodology

Monitoring methodology is to be determined. Specific methods for measuring functional connectivity within the Project area and mitigation sites will be defined by a qualified wildlife biologist.

Mitigation Work Plan

Construction of the multi-use trail will occur when funding is secured and is anticipated to take 12 months. The mitigation sites will be built in conjunction with the trail construction in order to utilize suitable topsoil salvage material and salvaged plant materials, and to reduce construction and mobilization costs.

Monitoring Requirements

FHWA-CFLHD and RTC are responsible for meeting the success criteria within the mitigation sites until permits can be closed. FHWA-CFLHD and RTC will be responsible for maintenance and monitoring of the mitigation sites with the use of contracted specialists, until permit close-out.

The goal of the mitigation approach is to achieve success criteria in all habitat types within five years. Weed management of all sites will occur yearly for five years. As such FHWA-CFLHD will be responsible for monitoring of the sites over a five-year period, or until success criteria have been met. After success criteria are achieved management and maintenance of the sites will become the responsibility of CA State Park and will be managed in accordance to their resource management strategies.

The schedule of site monitoring is recommended to be two times annually, once in December–February timeframe and the second to be determined in coordination with a qualified restoration ecologist and with CA State Parks technical staff. The first visit would be documenting use of the site by CRLF and collection of other relevant information to be used in the final annual monitoring report. The second visit should be focused on vegetative transect sampling at all mitigation sites, CRLF visual assessments to document use of frogs in the mitigation sites, along with collection of other relevant information to be used in the final annual monitoring report.

In addition to the above proposed monitoring of the biological resources within the mitigation areas, monitoring will also be conducted to evaluate the effects of human impacts on the mitigation sites. Use of the Project corridor may lead to illegal camping, litter (including human foods), urine and fecal matter, and illegal off-leash dogs which may adversely impact biological resources. The final mitigation and monitoring plan will include a monitoring protocol to assess whether impacts are occurring and at what level.

Adaptive Management Plan

If monitoring indicates that a portion of the site is not moving toward meeting success criteria, FHWA-CFLHD and RTC shall prepare an analysis of the cause or causes of failure, and if deemed necessary by the regulating agencies, propose remedial action for approval. If the site has not met the success criteria at the end of the five-year monitoring period, FHWA-CFLHD and RTC will continue their monitoring obligations until the regulatory agencies give final project confirmation.

In the event that a portion of the site does not function and does not appear that it will meet established success criteria for vegetation, a plan of action will be developed. The reason for not meeting the criteria will be evaluated and corrected. If significant measures are needed, the planting strategy will be reevaluated, including an assessment of soil condition, hydrology, site preparation, planting techniques, and materials. FHWA-CFLHD and RTC will coordinate with regulating agencies to determine appropriate remedial actions. The plan will identify those measures (e.g., replanting or reseeding, etc.) appropriate to remediate the situation.

The adaptive management plan will also include strategies to prevent human impact of the mitigation sites if monitoring indicates that illegal use of the sites is occurring. Strategies may include, but are not limited to, signage restricting access, increased education regarding public closure of the areas, additional trail surveillance and enforcement, and/or low fencing.

Financial Assurances

FHWA-CFLHD and RTC will be the financially responsible party for the success of this mitigation site.

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